ABSTRACT BOOK

VIRTUAL

23RD INTERNATIONAL AIDS CONFERENCE

6 - 10 JULY 2020

AIDS2020

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Track E: Implementation Research, Economics, Systems and Synergies with other Health and Development Sectors
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Track F: Political Research, Law, Policy and Human Rights
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Abstract submission

Over 6,200 abstracts were submitted to the 23rd International AIDS Conference *(AIDS 2020: Virtual)*.

The Scientific Programme Committee (SPC) is very thankful for all the abstract submissions received. While the SPC found many very high-quality abstracts among the *AIDS 2020: Virtual* submissions, due to limitations in the conference programme, more abstracts were rejected than accepted – with an overall acceptance rate of 39%.

All abstracts went through a blind peer-review process done by over 1000 abstract reviewers. These reviewers are international experts in the field of HIV, including members of SPC and track members. Each abstract was reviewed by three to four reviewers. The abstracts were reviewed for the quality and originality of the work. Late-breaking abstract reviews included an additional assessment of the late-breaking nature of the research.

All reviewers were instructed to abstain from scoring any abstract on which they were an author or co-author, had a financial or personal conflict of interest, or did not have the appropriate expertise to evaluate. Each abstract was scored numerically against five pre-determined criteria, which were equally weighted to get a final score. The final score ranged from one (the lowest) to six (the highest). Any abstracts that received less than three reviews or where there was a scoring discrepancy between reviewers were additionally reviewed by the SPC.

Statistics for Abstracts

Regular abstracts submitted	6239
Regular abstracts accepted	2314
Oral abstracts	202
Poster discussion abstracts	127
Poster exhibition abstracts	1985
Late-breaking abstracts submitted	324
Late-breaking abstracts accepted	90
Late-breaking oral abstracts	29
Late-breaking poster abstracts	61
Total abstracts submitted	6563
Total abstract accepted	2404

Region and gender breakdown of presenting authors of all accepted abstracts:

Gender

Female:	55%
Male:	43%
Transgender female:	0.05%
Transgender male:	0.5%
Non-binary or gender non-conforming:	1%

Region

Africa:	32%
Asia & the Pacific Islands:	15%
Europe:	12%
Latin America & Caribbean:	7%
USA & Canada:	34%

Abstract Mentor Programme

The Abstract Mentor Programme (AMP) was introduced at the 15th International AIDS Conference (AIDS 2004), with the objective to help young or less experienced researchers improve their abstracts before submitting them, in order to increase the chance of their work being presented at conferences. Over the years, the AMP has proven to increase the motivation of early career researchers, as well as the number of abstract submissions received from resource-limited countries.

This year, 161 mentors reviewed 225 draft abstracts submitted by 163 researchers. 210 out of 225 AMP mentees submitted an abstract to the conference and 69 got accepted (33 %).

We would like to thank all volunteer abstract mentors, listed below, who supported early-career HIV researchers improve the quality of their abstracts.

Adebola Adedimeji
Ahmed Cordie
Ahmet Cagkan
Akif Khawaja
Akshay Sharma
Alberto Bosque
Ali Mirzazadeh
Ali Judd
Allison Groves
Anita De Rossi
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Tsz Ho Kwan
Tubonye Harry
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Victor Abiola Adepoju
Vincent Oliver
Virginia Zalazar
Virginie Supervie
Yusuff Adebisi

International Abstract Review Committee

The 23rd International AIDS Conference, and the first virtual edition of the International AIDS Conference (AIDS 2020: Virtual) received more than 6,200 abstract submissions, which went through a blind, peer-reviewed process carried out by an international panel of reviewers who play a critical role in designing a strong scientific programme.

More than 1,000 specialists from around the world volunteered their time and expertise to serve as peer reviewers, helping to ensure that the abstracts presented were selected on the basis of rigorous review and were of the highest scientific quality.

We extend our special thanks to the large pool of abstract reviewers for the time they dedicated to the success of the conference:

Abu Abdul-Quader, United States
Elaine Abrams, United States
Lisa Abuogi, United States
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Medha Khandekar, India
Kath Khangpiboon, Thailand
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Oanh Khuat Thi Hai, Vietnam
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Ndunge Kiiti, United States
William Kilembe, Zambia
Peter Kilmarx, United States
Jerome Kim, Korea, Republic of
Joshua Kimani, Kenya
April Kimmel, United States
Rosemary Kindyomunda, Uganda
Ariel King, France
Sabine Kinloch, United Kingdom
Frank Kirchhoff, Germany
Tetiana Kiriazova, Ukraine
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Table of Contents

Oral Abstract Sessions

OAA01	Controlling HIV: lessons from controllers	1
OAA02	Cutting edge HIV therapeutics	3
OAA03	HIV vaccine development: How to forge ahead	6
OAA04	New insights into the HIV reservoir	9
OAB01	Adolescents and young people	11
OAB02	ARV, cure and testing strategies	14
OAB03	Antiretrovirals session 1	16
OAB04	Antiretrovirals session 2	18
OAB05	TB	20
OAB06	Weight and metabolic changes & ART	24
OAB07	Youth and children/pediatrics/women	26
OAC01	Adolescent girls and young women: evaluations including DREAMS evaluation	29
OAC02	Can we achieve UTT? What can UTT achieve?	31
OAC03	Harm reduction: Are we making progress?	34
OAC04	I Test, You Test, We All Test: Multiple Roads to the First 90	36
OAC05	Next steps in PrEP	39
OAC06	Pleasure, prevention, or fear: Far reaching effects of online messaging and mHealth interventions	42
OAC07	PMTCT 2020: Successes in mothers and children	45
OAC08	PrEP at Scale	47
OAD01	Breaking the silence of stigma: Innovative approaches	50
OAD02	Gender dynamics and HIV transmission	53
OAD03	HIV & Society: Community and structural approaches for HIV prevention, treatment and care	55
OAD04	Panoramic view of drug use and HIV	58
OAD05	Powering HIV testing: Towards the target	60
OAD06	PrEP 360: PrEP around the world	63
OAD07	The whole person: Addressing all aspects of health of people living with HIV	65
OAD08	TikTok: Time's running out for adolescent and young people's health	68
OAD09	Young @ heart: Ageing and HIV	70
OAE01	Across the cascade: Research methods in implementation science	73
OAE02	Breaking the cycle: from aid to sustainable development	75
OAE03	Health for all: UHC and social protection	77
OAE04	Innovation in initiation, treatment and care: Differentiated Service Delivery	80
OAE05	It's raining men: How to effectively engage men into care	82
OAE06	Money makes the world go around: Domestic financing for an effective HIV response	85
OAE07	PrEP-ing for success: Adaptations for improving PrEP uptake	87
OAE08	Take the wheel: Communities in the driving seat of HIV service delivery	89
OAF01	Demystifying data: Methodologies and monitoring for evidence-based approaches	92
OAF02	Equal before the law: effective strategies to protect human rights	94
OAF03	Living in the shadow: Stigma, social justice and sexual violence	96
OAF04	The defense shall not rest: Rights, rhetoric and reality	99

Poster Discussion Sessions

PDA01	HIV, co-infection and co-morbidities	102
PDA02	Kill or be killed: HIV vs host immune responses	104
PDB01	Achieving virologic suppression	107
PDB02	Neurocognitive and mental health	109
PDB03	Opportunistic infections	112
PDB04	Resistance	114
PDC01	Emerging success stories in PrEP in MSM and TGW in Asia	117
PDC02	Gaps in our response: Who are we missing?	120
PDC03	Mortality and tuberculosis: What are we doing to prevent them?	123
PDC04	Untangling the web of sexual reproductive health and sex differences in prevention	126
PDD01	From within: Effective strategies for community mobilization and demand creation	129
PDD02	Harnessing the power of technology and innovative methodology	132
PDD03	Sexual concurrency and sexual networks	135
PDD04	Still a long way to go: HIV care for mothers and children	138
PDD05	The Big Cs: Circumcision, condoms and contraception	141
PDE01	Communities at the forefront: Integrating communities in HIV programming	144
PDE02	Different methods, better results: Differentiated service delivery in HIV testing and prevention	146
PDE03	From faith to MTV: Expanding the reach of HIV services	149
PDE04	How data is leading innovation: Evidence informed programmes	152
PDE05	Money doesn't grow on trees: Affordability and cost-effectiveness in the HIV response	154
PDF01	Queer Eye: A focus on gender dimensions in HIV programming	158
PDF02	Rights are Right: Ensuring rights based approaches	160

Poster Exhibition

Track A – Basic and translational research

PEA0001-0009	Viral origins, evolution and diversity	163
PEA0010-0013	HIV biology (entry, replicative cycle, transcriptional expression and regulation)	167
PEA0014-0018	Viral fitness, persistence and resistance	169
PEA0019-0020	HIV controllers (including post-treatment controllers) and long-term non-progressors	172
PEA0021-0023	Innate immunity	173
PEA0024	Humoral immunity (including broadly neutralizing antibodies)	174
PEA0025-0028	Cellular immunity	175
PEA0029-0032	Mucosal immunity	177
PEA0033-0038	HIV transmission and dissemination	178
PEA0039-0046	Systemic immune activation and inflammation	181
PEA0047-0048	T cell depletion and reconstitution, and immune ageing	184
PEA0049-0050	Microbiomes and microbial translocation	185
PEA0051-0053	Correlates of HIV susceptibility and disease progression (biomarkers and genetics)	186
PEA0054-0056	Viral mechanisms of HIV/SIV persistence and latency	187
PEA0057-0060	Identification and characterization of HIV reservoirs	189
PEA0061	Eliminating/silencing latency	191
PEA0062	Gene therapy	191
PEA0063-0064	ARVs, small molecules and immunomudulating agents	192
PEA0065	Novel antivirals and formulations	193
PEA0066	Nucleic acid-based HIV therapies	193
PEA0067-0072	HIV and co-morbidities	194
PEA0073-0077	HIV and co-infections (TB, viral hepatitis, other)	197
PEA0078	Novel assays of immune responses	199
PEA0079-0082	Novel approaches to assess viral load and ARV resistance/tropism	199
PEA0083-0087	ARV pharmacodynamics and pharmacokinetics	201
PEA0088	Neuropathogenesis	204

Track B – Clinical research

PEB0088-0089	Acute and early infection	205
PEB0090	Impact of co-factors (e.g., viral clade, tropism, genetic factors) on disease progression	206
PEB009-0098	Morbidity, mortality and life expectancy in clinical research	206
PEB0099-0110	HIV testing and retesting (e.g., point-of-care diagnostics)	211
PEB0111-0115	Viral load and CD4 monitoring	216
PEB0116-0122	Resistance to ART	219
PEB0123-0125	Diagnostics of co-infections and co-morbidities	223
PEB0126-0127	Biomarkers for the prediction of morbidity and mortality	225
PEB0128-0143	Tuberculosis: Prevention, diagnosis, treatment	226
PEB0144-0147	Opportunistic infections (excluding TB): Bacterial, non-TB mycobacterial, viral and parasitic infections	234
PEB0148-0153	Viral hepatitis C	236
PEB0154-0157	Other viral hepatitis (e.g., A, B, D, E)	239
PEB0158-0169	STIs (including HPV)	241
PEB0170-0173	Neurologic disorders	246
PEB0174-0175	Depression and other psychiatric manifestations	248
PEB0176-0178	Malignancies (AIDS and non-AIDS)	249
PEB0179-0187	Cardiovascular disease	251
PEB0188-0190	Bone disease	256
PEB0191-0192	Renal disease	257
PEB0193	Metabolic, lipid and endocrine complications (including lipodystrophy)	258
PEB0194-0203	Weight gain	258
PEB0204-0207	Hepatic complications (e.g., NASH)	264
PEB020-0210	Mental health and HIV	266
PEB0211-0216	Ageing with HIV (including polypharmacy and frailty)	267
PEB0217-0223	Other ART complications and adverse reactions	270
PEB0224-0227	Other non-communicable diseases	274
PEB0228	Co-morbidities and ART complications in key populations	275
PEB0229-0233	ART in acute, first- and second-line therapies	276
PEB0234	ART in highly treatment-experienced persons	278
PEB0235-0359	Regimen simplification and switch studies	279
PEB0242-0247	Pharmacokinetics/pharmacodynamics/ pharmacogenomics and therapeutic drug monitoring	282
PEB0248-0249	Drug interactions	286
PEB0250-0259	Antiretroviral drug resistance	287
PEB0260-0265	Long-acting agents and other drug delivery systems (e.g., injectables, implants, microneedle patches)	292
PEB0266-0270	Adherence	295
PEB0271	Ethical issues in clinical trials and treatment strategies	297
PEB0272	Cure interventions	298
PEB0273	Nutrition	298
PEB0274-0275	Sex-specific issues of ART efficacy, adverse reactions and complications	299
PEB0276-0282	Pregnancy (clinical management issues and pharmacokinetics)	300
PEB0283-0286	Contraception	303
PEB0287-0290	Diagnosis of HIV disease in paediatric and adolescent populations	305
PEB0291	Pharmacokinetics/pharmacodynamics/ pharmacogenomics and therapeutic drug monitoring in paediatric and adolescent populations	307
PEB0292	Drug formulations for infants and children	307
PEB0293-0294	Clinical trials in paediatric and adolescent populations	308
PEB0295-0301	ARV management strategies in paediatric and adolescent populations	309
PEB0302-0310	Adherence in paediatric and adolescent populations	312
PEB0311-0358	TB/HIV co-infection in paediatric and adolescent populations (including treatment and prevention)	317
PEB0312-0315	HIV complications and co-morbidities in paediatric and adolescent populations	317
PEB0316-0319	HIV-associated co-infections and malignancies in paediatric and adolescent populations	319
PEB0320-0321	Behavioural health outcomes in paediatric and adolescent populations	322
PEB0322-0329	Mental health and neurocognition in paediatric and adolescent populations	323
PEB0330-0335	HIV-exposed uninfected children	327

PEB0336-0340	Transition of adolescents into adult care	330
PEB0341-0344	Clinical issues in men who have sex with men	333
PEB0346	Clinical issues in transgender people	334
PEB0347-0352	Clinical issues in people who use drugs	335
PEB0353-B0357	Clinical issues in other vulnerable populations, including unstable settings (migrants) and incarcerated settings	338

Track C – Epidemiology and prevention research

PEC0358	Natural history, morbidity patterns and survival	342
PEC0359-0365	Epidemiology of HIV in the general population	342
PEC0366-0380	Epidemiology of HIV in men who have sex with men	345
PEC0381-0385	Epidemiology of HIV in infants and children	352
PEC0386-0391	Epidemiology of HIV in adolescents	354
PEC0392-0395	Epidemiology of HIV in women	357
PEC0396-0419	Epidemiology of HIV in other key vulnerable populations (e.g., people who inject drugs, women, transgender women, sex workers, prison populations, older groups)	359
PEC0420-0756	Risk factors for acquisition, infectivity and transmission of HIV	369
PEC0436-0440	Epidemiology of AIDS events (e.g., AIDS-related opportunistic infections and cancers)	377
PEC0441-0448	Epidemiology of non-AIDS infections and communicable diseases (e.g., viral hepatitis, STIs)	379
PEC0449-0454	Epidemiology of non-AIDS non-communicable diseases (e.g., non-AIDS cancers, CVD)	383
PEC0455-0458	Describing the spread of HIV through molecular epidemiology	386
PEC0459-0473	Surveillance in key population groups	388
PEC0474-0477	Determining the incidence of HIV	395
PEC0478-0480	Novel methods/algorithms for detecting acute and recent HIV infections	397
PEC0481-0483	Monitoring acute HIV infections	398
PEC0484-0487	Measuring the epidemic through population-based surveys (including the undiagnosed fraction)	400
PEC0488-0493	Measuring the population impact of prevention and treatment interventions	402
PEC0494	Measuring the population-level impact of policy-level HIV interventions	404
PEC0495-0499	Monitoring and evaluation of health systems along the HIV cascade	405
PEC0500-0502	Surveillance of drug resistance	407
PEC0503-0504	Describing the spread of HIV through geographical information systems	409
PEC0505-0515	Advances in public health surveillance and new approaches	410
PEC0516-0520	Measuring and evaluating quality of service provision and health outcomes through public health surveillance	415
PEC0521-0529	Modelling the potential impact of prevention strategies on the HIV epidemic	418
PEC0530-0535	The role of social and sexual networks in the spread of HIV	422
PEC0536-0538	The role of syndemics	425
PEC0539	Understanding the spread of HIV through behavioural studies	427
PEC0540-0541	Modelling future healthcare needs	427
PEC0542-0544	Identifying optimal service models	428
PEC0545-0564	Reaching and recruiting key populations for HIV services (online, offline, online-to-offline)	429
PEC0565-0594	Innovative HIV testing strategies (peer-led testing, peer-mediated testing, self-testing with and without online/offline support, use of fourth-generation and recency assays)	438
PEC0595-0605	Demonstration and pilot projects for PrEP, PEP, male circumcision	451
PEC0606-0649	Scale up of PrEP	457
PEC0650-0656	Scale up of PEP and male circumcision	477
PEC0657-0661	Integrating STI, sexual and reproductive health and HBV and HCV services in HIV prevention programmes	481
PEC0662-0686	Developing tailored and comprehensive services for specific key and vulnerable populations	483
PEC0687-0694	Sexuality, gender and prevention technologies (including condoms, treatment as prevention, male circumcision, pre-exposure prophylaxis)	495
PEC0695-0700	Access to harm reduction interventions	499
PEC0701-0706	Optimizing vertical transmission prevention programmes	501
PEC0707-0708	Combination prevention strategies	504
PEC0709-0711	Innovative behavioural interventions	505
PEC0712-0713	Structural interventions	507
PEC0714-0719	Other new prevention tools	508
PEC0720-0757	Measuring and enhancing retention and adherence in HIV prevention programmes	511
PEC0740-C0745	Key population-led prevention programmes (from reach, recruit, test, treat, prevent and retain)	520
PEC0746	Public-private partnerships	523
PEC0747-C0751	Community involvement and good participatory practice in epidemiological and prevention research	523
PEC0752-0753	Harnessing big data for epidemiological research/digital epidemiology	526
PEC0754	Harnessing new technology for understanding epidemic dynamics	527
PEC0755	Ethical and human rights issues in research and development	527

Track D – Social and behavioural research

PED0755-0756	Community engagement in research and research dissemination	528
PED0757-0760	Knowledge translation and dissemination of research and programme outcomes	529
PED0761-0762	Mixed methods, integrated approaches and synergies in HIV research and intervention	531
PED0763-0764	Qualitative and ethnographic methods in HIV research	532
PED0765	Role of social and behavioural science in biomedical responses	532
PED0766-0770	Social and behavioural concepts and theories	533
PED0771	Host cellular factors and latency	535
PED0772-0773	Strengthening social and behavioural data collection and analysis	536
PED0774-0779	Adaptation to living with HIV for individuals, families and communities	537
PED0780-0792	Ageing with HIV: Evolving and additional needs and responses	540
PED0793-0805	Confronting stigma: Lessons learned	545

PED0806-0809	Experiences and impacts of antiretroviral therapy	551
PED0810-0828	Growing up with HIV: Specific needs and interventions for children and adolescents	553
PED0829-0831	HIV and the workplace: Policies, responding to stigma and/or discrimination, unemployment, return to work and rehabilitation	562
PED0832-0838	Living with HIV and co-infections and/or co-morbidities	563
PED0839-0840	Pain management and palliative care	566
PED0841-0848	Peer support: Lessons learned, access to services and health outcomes	567
PED0849-0863	Positive health, dignity, psychological well-being and mental health	570
PED0864-0868	Prevention interventions and their effects on the lives and relationships of people living with HIV	577
PED0869-0877	Sexual and reproductive health, fertility, family planning, pregnancy and abortion	580
PED0878-0899	Conceptualizing social and structural factors and their impacts	583
PED0900-0904	Dynamics of social status and power: Sex, gender, age, race/ethnicity, sexual orientation and disability	593
PED0905-0906	Economic transitions and social and cultural changes affecting HIV and the HIV response	595
PED0907-0913	Humanitarian crises and HIV	596
PED0914-0917	Intergenerational and/or transactional sex	600
PED0918-0919	Media, cultural and religious representations of HIV and of key populations	602
PED0920-0922	Migration and HIV	602
PED0923-0926	Political and structural factors	604
PED0927-0929	Prisons and other closed settings	606
PED0930-0935	Sexual- and/or gender-based violence and exploitation (including in conflict settings)	607
PED0936-0954	Societal stigma towards people living with HIV and key populations	610
PED0955-0956	Socioeconomic differences: Poverty, wealth and income inequalities	618
PED0957-0959	Violence and conflict: Political, social, structural, interpersonal and family-based	619
PED0960-1012	Gay, bisexual and other men who have sex with men	620
PED101-1021	Intersectional identities and multiple vulnerabilities to HIV and co-infections	643
PED1022-1323	Other populations vulnerable in specific contexts	648
PED1032-1056	People who use drugs (including by injection)	653
PED1057-1325	Sex workers	664
PED1086-1118	Transgender people	677
PED1119-1140	Young key populations	691
PED1141-1147	Adolescents, sexuality and relationships	701
PED1148-1156	Gender issues and gendered relationships	704
PED1157	Gender-transformative approaches	708
PED1158	Sexual concurrency and sexual networks	708
PED1159-1162	Sexualities and sexual cultures: Meanings, identities, norms and communities	709
PED1163-1174	Access to and models of integrated HIV and other services, such as harm reduction, SRHR, TB, NCDs and mental health	710
PED1175-1180	Access to appropriate healthcare services (including for co-infections and co-morbidities)	716
PED1181-1186	Antiretroviral therapy (including treatment as prevention)	719
PED1187-1201	Awareness, information and risk perception regarding HIV transmission and prevention	721
PED1202-1203	Combination HIV prevention	727
PED1204-1210	Community mobilization and demand creation	728
PED1211-1324	Community-based approaches (including empowerment, outreach and service delivery)	731
PED1230-1231	Comprehensive sexuality education	740
PED1232	Condoms and lubricants	741
PED1233-1234	Couples- or family-centred approaches	741
PED1235	Development and poverty alleviation	742
PED123-1239	Financial incentives, micro-finance and other economic approaches	743
PED1240	Harm reduction	745
PED1241-1259	HIV testing (including HIV self-testing)	745
PED1260-1270	Interventions to reduce stigma and discrimination	753
PED1271-1277	Other behavioural approaches	758
PED1278-1291	Pre-exposure prophylaxis	762
PED1292-1297	Prevention of vertical transmission	769
PED1298	Risk compensation: Conceptualization, assessment and mitigation	771
PED1299-1300	School-based sexual education, life skills and gender equality education	772
PED1301-1308	Strategies to recruit and retain populations (e.g., from hot spots)	773
PED1309	Traditional and complementary healthcare approaches	776
PED1310-1316	Use of technology, such as M-health	777
PED1317-1322	Voluntary medical male circumcision	780

Track E – Implementation research, economics, systems and synergies with other health and development sectors

PEE1323-1330	National financing analyses and initiatives	785
PEE1331-1334	Transitional financing	788
PEE1335-1339	International assistance, frameworks and funding mechanisms	790
PEE1340	Financing HIV within UHC frameworks	792
PEE1341-1349	Approaches to achieving sustainability	793
PEE1350-1353	Economic evaluation and affordability assessments	797
PEE1354-1355	Financing HIV drug access: The economics of generics and differential pricing structures	799
PEE1356-1360	Funding for HIV programmes and services	800
PEE1361-1362	Evidence from integration of health services	802
PEE1363	Approaches to financing across sectors	803
PEE1364-1377	Assessments of cost effectiveness: Provider and community perspectives	804
PEE1378-1380	Economics of affordability	811
PEE1381-1385	Supporting effective linkages between maternal and HIV services	812
PEE1386-1389	Approaches to effective HIV/SRH integration	815
PEE1390-1399	Approaches to effective HIV/TB service delivery	817
PEE1400-1406	Supporting resilient health systems	821
PEE1407-1409	Making health systems work for adolescents	824

PEE1410-1418	Community participation in systems for health	826
PEE1419-1425	Delivering paediatric HIV services	829
PEE1426-1735	Approaches to minimizing loss in the prevention/treatment cascade	833
PEE1444-1454	Getting policies into practice	841
PEE1455-1464	Systems serving underserved populations	846
PEE1465-1483	HIV services in healthcare and/or community settings	850
PEE1484	Evidence on making task shifting work	859
PEE1485-1488	Integrating mental health and wellness in HIV programming	859
PEE1489-1494	Public-private partnerships	862
PEE1495-1527	Approaches to scale and the optimization of service delivery	865
PEE1528-1541	Methods to improve service quality, support and tailoring of services	879
PEE1542-1550	PrEP: Lessons learned from delivery	886
PEE1551-1580	Testing and treatment at scale: Issues and lessons	890
PEE1581-1587	HIV self-testing for HIV and linkages to prevention and care	904
PEE1588-1598	Approaches to viral load monitoring at scale	907
PEE1599-1602	Innovations and lessons for supporting adherence	913
PEE1603-1611	Adolescent and youth programming	915
PEE1612-1615	Key populations in humanitarian settings and fragile contexts (including migrants)	919
PEE1616	Mental health and HIV	921
PEE1617-1619	People living with HIV and TB	921
PEE1620-1736	Differentiated service delivery	923
PEE1641-1656	Strategies to increase uptake of retention in HIV services	933
PEE1657-1661	Combination programming on social drivers of HIV (including education, violence and workplaces)	941
PEE1662-1666	Delivering gender-transformative programmes and tackling violence against women and girls: Programmatic lessons	943
PEE1667-1669	Social protection: New evidence and programmatic lessons	945
PEE1670-1672	Innovations in behavioural data collection and use	946
PEE1673-1685	Innovative approaches to track individuals	948
PEE1686-1705	Innovative uses of data to strengthen systems and programmes	954
PEE1707-1725	Approaches to using data to improve programming	963
PEE1726-1730	Evaluating large-scale programmes: Approaches to rigorous evaluation	972
PEE1731-1733	Effective approaches to linking population and programme data to inform HIV programming	975
PEE1734	Monitoring and reporting in the SDG era	976

Track F – Political research, law, policy and human rights

PEF1735-1736	Laws and policies on reproduction (including coerced sterilization and abortion)	978
PEF1737-F1742	Laws and policies on HIV transmission	979
PEF1743	Laws and policies on employment, work and residence permits	981
PEF1744-1745	Age of consent laws regulating access to HIV testing and treatment and other services	982
PEF1746-1750	Human rights violations against people living with HIV	983
PEF1751-F1761	Laws, policies and practices impacting access to HIV testing, prevention, treatment, care and support	985
PEF1762-1768	Laws and policies regulating access to drugs and medical devices (including intellectual property and trade regimes, competition law and price regulation)	990
PEF1769	Conceptualizing political drivers and their impacts	993
PEF1770	Political violence and armed conflict	993
PEF1771-1772	Forced displacement	994
PEF1773-1775	Humanitarian crises	994
PEF1776-1777	Sexual- and/or gender-based inequalities, inequities and violence	996
PEF1778	Development and poverty alleviation	996
PEF1779	Access to education	997
PEF178-1781	Criminalization, incarceration and living in closed settings	997
PEF1782-1783	Law enforcement and public health	998
PEF1784-1787	Availability and access to harm reduction (including OST and NSP)	999
PEF1788	Safe housing, social protection and other care and support for people affected by HIV	1001
PEF1789	Access to appropriate healthcare services (including for co-infections and co-morbidities)	1001
PEF1790-1793	Accountability on the HIV response	1002
PEF1794-1807	Human rights of people living with HIV and key and vulnerable populations	1003
PEF1808-1809	Gender equity and diversity	1009
PEF1810-1817	Sexual and reproductive health and rights	1010
PEF1818-1901	Children's rights and HIV	1014
PEF1819	Representations of stigma: Social attitudes, media and public debate	1014
PEF1820	Implications and backlash to the grouping of and label of "key populations" on reaching HIV response targets	1015
PEF1821-1822	Experiences and impacts of homophobia and transphobia	1015
PEF1823	Human rights programmes	1016
PEF1824-1830	Legal advocacy tools and strategies	1017
PEF1831-1835	Stigma towards key populations	1019
PEF1836-1839	Discrimination towards key populations	1022
PEF1840-1844	Punitive laws and enforcement practices (including criminalization of HIV and criminalization of key populations)	1023
PEF1845	Challenging criminalization of sexuality, gender identity and bodily autonomy as drivers of HIV programme exclusion	1026
PEF1846	Investing in regional HIV programmes and regional key population movements	1026
PEF1847-1850	Ethical aspects and standards in research (including clinical trials)	1027
PEF1851-1864	Policies regarding HIV services and programmes	1029
PEF1865-1871	Policies addressing social and economic determinants of vulnerability	1035
PEF1872-1873	Policies addressing HIV in the workplace and/or educational institutions	1038
PEF1874-1876	Policies related to treatment access (including intellectual property policy)	1039
PEF1877-1880	Policy analysis and indicators of policy effectiveness	1040

PEF1881-1887	Monitoring and evaluation of policies and their impact on people living with HIV and key populations	1042
PEF1888-1890	Policies that enable increased demand, uptake and retention of key populations for HIV services and programmes	1045
PEF1891	Integration of HIV with other health services (including co-infections and NCDs)	1046
PEF1892-1897	Foregrounding accountability within the HIV response	1047
PEF1898-1900	Implications of UHC on key populations' access to HIV programming/services	1050

Publication Only Abstracts

Publication Only

PUB001-003	All tracks	1052

Late Breaker Abstracts

Late Breaker Oral Abstract Sessions

OAALB01	Track A late-breaker abstracts	1054
OABLB01	Track B late-breaker abstracts	1056
OACLB01	Track C late-breaker abstracts	1058
OADLB01	Track D late-breaker abstracts	1061
OAELB01	Track E late-breaker abstracts	1063
OAXLB01	Co-Chairs' Choice	1066

Late Breaker Poster Exhibition

LBPEA01-06	Track A late-breaker posters	1069
LBPEB07-16	Track B late-breaker posters	1071
LBPEC17-29	Track C late-breaker posters	1077
LBPED30-41	Track D late-breaker posters	1083
LBPEE42-53	Track E late-breaker posters	1088
LBPEF54-61	Track F late-breaker posters	1094

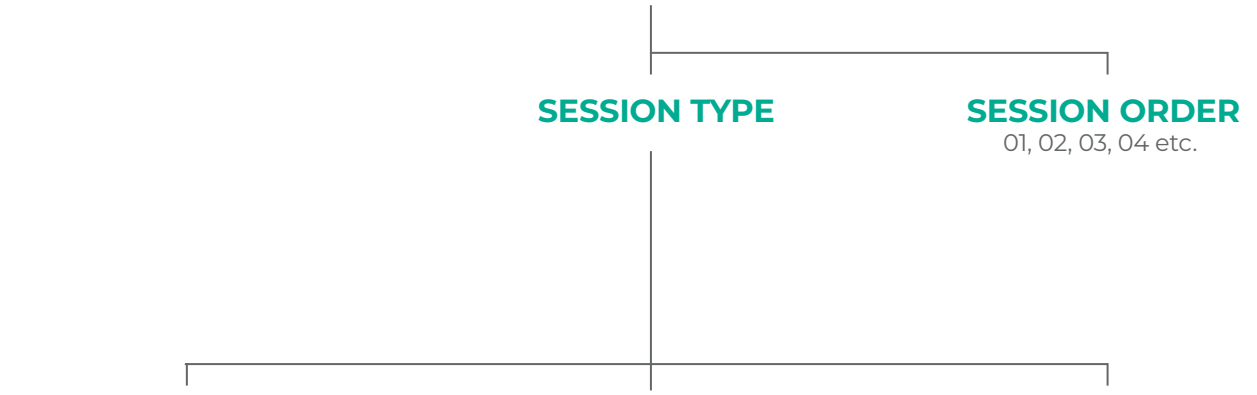
Author Index

1098

SESSION CODING FOR AIDS 2020 PROGRAMME

EXAMPLE 1: **OAA01** = **OA** (SESSION TYPE) – **A** (TRACK) – **01** (SESSION ORDER)

EXAMPLE 2: **PEA0001** = **PE** (PRESENTATION TYPE) – **A** (TRACK) – **0001** (ABSTRACT ORDER)



ORAL ABSTRACT SESSIONS EXHIBITION

OAA (TRACK A)
OAB (TRACK B)
OAC (TRACK C)
OAD (TRACK D)
OAE (TRACK E)
OAF (TRACK F
OAX (Cross-Track Breaker)
OALB (Late Beaker)

ORAL POSTER DISCUSSION SESSIONS

PDA (TRACK A)
PDB (TRACK B)
PDC (TRACK C)
PDD (TRACK D)
PDE (TRACK E)
PDF (TRACK F)

POSTER

PEA0000 (TRACK A)
PEB0000 (TRACK B)
PEC0000 (TRACK C)
PED0000 (TRACK D)
PEE0000 (TRACK E)
PEF0000 (TRACK F)
LBPE000 (Late Breaker)

ORAL ABSTRACT SESSIONS

OAA01 CONTROLLING HIV: LESSONS FROM CONTROLLERS

OAA0102

LOW LEVELS OF INTACT PROVIRAL DNA IN HIV ELITE CONTROLLERS ASSOCIATE WITH CELL-ASSOCIATED HIV RNA AND PROTECTIVE HLA ALLELES

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BACKGROUND: The levels of intact and defective HIV provirus and their biological correlates in large cohorts of individuals who control HIV the absence of therapy ("elite controllers") are unknown.
METHODS: We used the intact proviral DNA assay (IPDA) to estimate the levels of intact and defective HIV provirus in cryopreserved PBMCs from 74 highly curated HIV elite controllers. We evaluated associations with clinical parameters, cell-associated unspliced HIV RNA measured using quantitative PCR, and the presence of protective HLA alleles (B*27, *57, and *58). Many individuals had no detectable intact proviruses. As DNA shearing is a known limitation of the IPDA, and as corrections traditionally require having detectable levels of intact HIV DNA, we applied the shearing index correction based on the lowest observed non-intact concentration.
RESULTS: Of the 74 controllers, 41 (55.4%) had undetectable levels of intact provirus. This is a greater proportion compared with a cohort of ART-suppressed individuals that we have previously reported (7/81, 8.6%; p<0.001). Detectable levels of intact provirus ranged from 10.5 to 3429.5 copies/10^6 cells. The median level of 3' defective provirus was 80.9 (IQR 0-210), 5' defective provirus was 38.5 (IQR 0-137.1), and combined defective provirus was 137.4 (IQR 89.0-391.0) copies/10^6 cells. The median ratio of intact/defective provirus was 0.17 (0-0.5), which is comparable to what we previously reported among those on ART (0.15, 0.05-0.33). Across all controllers, both the estimated intact provirus and combined defective provirus level directly correlated with higher levels of cell-associated RNA (r=0.41, p=0.0014; r=0.50, p<0.001, respectively). Furthermore, individuals without detectable provirus were more likely to have at least one protective HLA allele (69% vs 40%, p=0.014). When the analysis was performed using the traditional shearing correction methods, individuals without detectable provirus had higher CD4/CD8 ratios (1.14 vs 0.90, p=0.021).
CONCLUSIONS: Elite controllers have low levels of intact provirus, but the level of transcriptional activity is directly correlated with the frequency of intact virions. Protective alleles are associated with no detectable levels of intact HIV, arguing that potent and stringent T cell mediated control of the reservoir is possible.

OAA0103

IN-DEPTH CHARACTERIZATION OF FULL-LENGTH ARCHIVED HIV GENOMES IN LONG-TERM POST-TREATMENT AND NATURAL HIV CONTROLLERS (ANRS CODEX/IVISCONTI COHORT)

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BACKGROUND: Post-treatment controllers (PTCs) and natural HIV controllers (HICs) are models of HIV remission but their mechanisms of control are different. We characterized HIV blood reservoir to better understand this control.
METHODS: The reverse transcriptase (RT) gene viral diversity and the near-full-length proviral landscape of 9 PTCs were compared to those of 13 HICs (6 aviremic-HICs and 7 blipper-HICs) and of individuals under efficient antiretroviral therapy initiated either at the primary infection (PHI, n=6) or during the chronic phase (CHI, n=6), by single genome amplification and deep-sequencing. Bioinformatic tools were developed to identify genetic defects.
RESULTS: Overall, more than 25000 RT sequences and 510 full-length genomes were studied. The proviral diversity was lower in the PTC, PHI and aviremic-HIC groups than in the blipper-HIC and CHI groups. The proportion of intact genomes was lower in the CHI (median [IQR]: 2 [0-8]%) than the PHI (23 [13-34]%) group but similar among others, despite a high inter-individual variability (HICs: 0 [0-28]%, PTCs: 4 [0-14]% 9.2 years [7.4-12.5] after treatment interruption). No difference was observed in the amounts of intact proviruses between groups. A subsequent sample taken four to six years later for three PTCs revealed no evolution of the proviral quasispecies and defects. The higher total HIV-DNA loads in CHI were due to higher amounts of defective proviruses. HICs harbored lower proportions of hypermutated proviruses than the other three groups, suggesting that APOBEC3G/3F does not play a prominent role in them. A deletion in the *nef* gene was observed in every proviral sequence of two HICs, suggesting a role of these attenuated strains in the viral control in these HICs.
CONCLUSIONS: For the first time, we show the presence of intact proviruses and a stable and low viral diversity in PTCs after treatment interruption, reflecting a low residual replication over years. The absence of difference in the proviral landscape between PHIs and PTCs after treatment interruption suggests that post-treatment control is mainly linked to non-viral factors, contrary to some cases of natural control. The difference of defective (but not intact) proviruses amounts between groups suggests a role of these forms in the pathogenesis of HIV infection.

OAA0104

SUPPRESSION OF HIV-1 LINKED LONG NON-CODING RNAS IN VIREMIC HIV-1 POSITIVE INDIVIDUALS IS ASSOCIATED WITH ONGOING VIRAL REPLICATION

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BACKGROUND: Long non-coding RNAs (lncRNAs) are recently established as a new layer in the HIV-host response with the identification of several lncRNAs directly affecting HIV infection in vitro. However, their impact on HIV-1 infection and replication in vivo remains largely unexplored and proves a necessity to further understand their clinical importance. Therefore, this cross-sectional study has assessed expression levels of HIV-1 linked lncRNAs in cohorts of infected individuals with different levels of virological control to determine their association with the HIV-1 reservoir and host restriction factors.

METHODS: The expression levels of five established HIV-linked lncRNAs (MALAT1, NEAT1, NRON, GAS5 and linc01426) were evaluated by qPCR in peripheral blood mononuclear cells from 14 healthy individuals and 104 HIV-1 positive individuals subdivided into five pre-defined cohorts: recent seroconverters (n=19), ART-naïve progressors (n=12), ART-naïve long term non-progressors (n=17), early (n=24) and late ART-treated HIV-1 positive individuals (n=32). The levels of HIV-1 markers were assessed via digital PCR assays for cell-associated HIV RNA, total HIV-1 DNA and 2LTR circles, together with qPCR profiling of host markers: IFIT and MX1. Next, lncRNA expression changes in these cohorts were determined via pairwise multiple comparisons testing (Kruskal-Wallis with Nemenyi test) and associations with HIV-1 reservoir markers or host factors were explored via spearman correlation analysis.

RESULTS: The expression of all five lncRNAs was significantly downregulated in ART-naïve progressors with high HIV-1 viral load (all $p<0.0003$) and their expression levels were negatively correlated with viral load and total HIV-1 DNA (all $p<0.01$), indicating that the depletion of these lncRNAs is associated with ongoing viral replication and larger reservoir size. Only one lncRNA, GAS5, showed a negative correlation with HIV-1 usRNA ($p=0.009$), suggesting that individuals with lower levels of GAS5 have more ongoing viral transcription. Furthermore, one lncRNA NRON demonstrated a negative correlation with MX1 levels ($p=0.001$), suggesting that interferon-induction after infection is a possible driving factor for this lncRNA.

CONCLUSIONS: The present data characterized lncRNA expression in-depth for the first time across HIV-1 cohorts to address their link with the HIV-1 reservoir and gained further evidence on their importance in HIV-1 infection with possible implications for clinical follow-up or future therapeutic strategies.

OAA0105

ASSESSING THE T CELL COMPARTMENT OF THE EXTREMELY RARE PHENOTYPE OF ELITE CONTROL IN CHILDREN

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BACKGROUND: Although important progress on prevention of mother-to-child transmission has been achieved, the incidence of HIV-infected children is still a burden in low-income countries. An intervention that leads to remission can be an important instrument in the epidemic control. However, due to the unique features of the immune system in children, strategies tailored in adults might not be applicable to this age group. Adults who spontaneously control viraemia (elite controllers) have been extensively investigated as a natural model of remission. This phenotype has not been studied in children, since paediatric elite controllers (PEC) are extremely rare, approximately 10-fold lower than in adults.

METHODS: In this study, we investigated the T cell compartment and the HIV-specific response of four PEC, 13 non-progressors, 10 progressors and 8 HIV-exposed uninfected (EU) individuals matched by age. Peripheral mononuclear cells samples were analysed by flow cytometry.

RESULTS: The CD4 T cell immunophenotype in PEC, non-progressors and EU is similar, with a high naïve cells percentage and low expression of HLA-DR, CD38, PD-1 and CCR5. Clustering analysis shows a clear pattern of PEC grouping together with EU for activation markers on total, central memory and effector memory cells. The CD8 T cell compartment in PEC, however, shows increased frequency of more differentiated subsets and higher activation, but lower PD-1 expression. Upon stimulation with HIV peptides pools Gag-specific CD8+ and CD4+ T cells were more polyfunctional in PEC than in the non-progressors and progressors. Unexpectedly, across all the groups studied, IFN-γ expression on CD4 T cells negatively correlated with viral load.

CONCLUSIONS: Viraemic control in the paediatric population is only achieved after years of infection, compared to weeks in adults. Very low levels of immune activation in PEC and non-progressors are important to maintain normal-for-age CD4 counts and preserve CD4 T-cell function until antiviral immune activity has developed sufficiently to reduce viraemia. Although robust HIV-specific CD8+ T cell responses are present among PECs, unlike adult EC these children are not enriched with the well-described protective HLAs. Other mechanisms yet to be determined are also likely contributing to viraemic control among PECs.

OAA0106

VIROLOGICAL AND IMMUNOLOGICAL EVALUATION OF INDIVIDUALS WITH SPONTANEOUS PERSISTENT VIRAL CONTROL WITHOUT ART

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BACKGROUND: HIV elite controllers (EC) maintain undetectable viral loads (<20 HIV RNA copies/ml) and normal CD4/CD8 counts without ART. Despite WHO guidelines recommending ART irrespective of CD4 count and viral load, there remains a lack of consensus on best EC management. We have applied molecular and immunological assays to better understand mechanisms of natural viral control and possible negative immunological consequences.

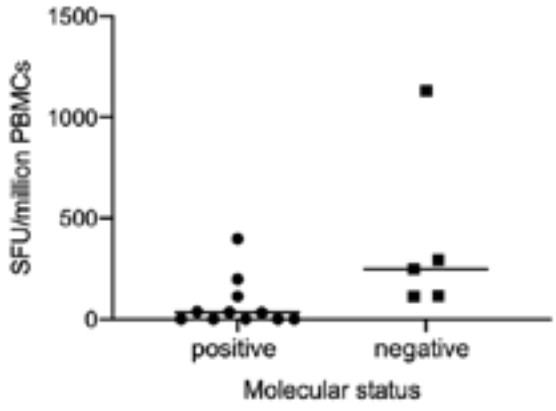
METHODS: A prospective study of 17 ECs attending a tertiary referral clinic (2017-2019) in London, measuring the following:

NRTIs plasma concentrations by LC-MS; nucleic acids by single copy assays RNA /ml and DNA/105 PBMCs, targeting gag, pol and int genes; CD4, CD8, CD25 and HLA-DR by flow cytometry; HIV specific CD8 T-cell responses using a pool of gag, env, nef and vif peptides in IFN-γ ELISPOT; plasma cytokines (IL-2,IL-6, TNF-α, MIP-1β, CRP) by mesoscale Vplex.

RESULTS: EC had a median age 42y (IQR=37-54), 10 were female and NRTIs were not detected.

HIV nucleic acid was not detected in 5 (molecular-negative) but detected in 12 (molecular-positive); HIV RNA in 9/12 (median 5cpm, range=2-17), HIV DNA in 7/12.

	CD4 cells/uL	CD8 cells/uL	CD4:8 ratio	T-cell activation
Molecular Positive Median (IQR)	1015 (751-1369)	553 (372 -817)	1.9 (1.3-2.5)	CD4+CD25+% 23 (18-32) CD8+CD25+% 8.5 (6.7-11) CD4+HLA-DR+% 7 (5.7-10) CD8+HLA-DR+% 19 (15-31)
Molecular Negative EC Median (IQR)	785 (658-1138)	779 (436 -911)	1.5 (0.8-2.5)	CD4+CD25+% 22 (11-24) CD8+CD25+% 6 (4.5-11) CD4+HLA-DR+% 8 (5-8) CD8+HLA-DR+% 16 (10-24)



[Figure. HIV specific CD8 T cell responses]

All had CD4 and CD8 counts within normal range and 16 had CD4:CD8 ratio >1. Neither T-cell activation markers nor plasma cytokine concentrations differed significantly between groups.

The frequency of CD8 responses was significantly higher (p=0.01) in molecular-negative (median=248 SFU/106 PBMCs, IQR= 115-293) than molecular-positive EC (median = 33 SFU/106 PBMCs, IQR=0-75).

CONCLUSIONS: EC can be sub-classified as molecular-positive and molecular-negative. Higher frequency of HIV-specific CD8 responses in molecular-negative suggests this may be important in the level of control. In this cohort, irrespective of detection of nucleic acids, there is no evidence of increased T-cell activation or inflammation. Further studies are essential to determine the role of lifelong ART in such EC.

OAA02 CUTTING EDGE HIV THERAPEUTICS

OAA0202

SMAC MIMETIC PLUS TRIPLE COMBINATION BISPECIFIC HIVXCD3 DART® MOLECULES IN SHIV.CH505-INFECTED, ART-SUPPRESSED RHESUS MACAQUES

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BACKGROUND: "Kick-and-kill" HIV cure strategies involve latency reversal followed by immune-mediated clearance of infected cells. Our prior work demonstrated strong latency reversal of SIV by AZD5582, a SMAC mimetic targeting the non-canonical NF-kB pathway. Here, we combined AZD5582 with bispecific HIVxCD3 DART molecules to reduce viral reservoirs in SHIV-infected, ART-suppressed rhesus macaques (RMs).

METHODS: 13 RMs were infected with SHIV.C.CH505.375H.dCT. Triple ART (TDF+FTC+DTG) was initiated at 16 weeks. After 42 weeks, 8 ART-suppressed RMs received a cocktail of 3 HIVxCD3 DART molecules with rhesusized Fc domains having A32, 7B2 or PGT145 anti-HIV-1 envelope specificities. For 10 weeks, DART molecules were administered weekly (1 mg/kg each) followed 2 days later by AZD5582 (0.1 mg/kg). Five RMs served as controls. Reservoir size was measured by cell-associated SHIV-DNA and -RNA and quantitative virus outgrowth.

RESULTS: Peak viremia (106-107 copies/mL) occurred 2 weeks after infection; 2 weeks of ART suppressed viral loads to below detection (<60 copies/mL). Three RMs showed transient control of viremia <60 copies/mL before ART. DART molecule serum levels declined after 3-5 doses coincident with development of anti-drug antibodies, but Cmax levels >100 ng/mL (sufficient for near-maximal redirected killing of infected CD4+ cells in vitro) were maintained for

8-9 doses. AZD5582 did not increase on-ART viremia or cell-associated SHIV-RNA in blood or lymph node CD4+ T cells. SHIV-DNA levels in blood or lymph node CD4+ T cells did not decline after treatment. Similarly, no differences were observed between experimental and control groups for SHIV-DNA in GI tract or spleen CD4+ T cells, or replication-competent virus in lymph node or spleen CD4+ T cells.

CONCLUSIONS: DART molecules did not reduce reservoir size in animals on ART, likely due to inadequate latency reversal. Lack of latency reversal in this system may be related to low pre-ART viral loads (<105 copies/mL) and low pre-LRA reservoir size (<102 SHIV-DNA copies/million blood CD4+ T cells), which we have found to predict AZD5582-induced on-ART viremia in SIV-infected, ART-suppressed RMs. Future studies to assess efficacy of Env-targeting DART molecules to reduce viral reservoirs may be more suited to settings with greater viral burden.

OAA0203

INFECTION OUTCOME IN RT-SHIV INFECTED MACAQUES TREATED EARLY WITH ANTIRETROVIRAL THERAPY ALONE OR IN COMBINATION WITH THE TLR7 AGONIST VESATOLIMOD

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BACKGROUND: Early antiretroviral therapy (eART) preserves immune function and limits virus diversification but is not curative in people due to rapid viral reservoir establishment. We modeled in macaques the effect of a potent eART regimen [emtricitabine/tenofovir alafenamide (FTC/TAF) and long-acting cabotegravir/rilpivirine (CAB-LA/RPV-LA)] with or without the TLR7 agonist vesatolimod (VES).

METHODS: Eight rhesus macaques infected intrarectally with RT-SHIV initiated treatment with human-equivalent doses of oral FTC/TAF (20 and 1.5 mg/kg daily) and intramuscular CAB-LA/RPV-LA (50 and 200 mg/kg monthly) at 6 [range=5-8] days post-infection (dpi). Group I (n=4) was treated for 12 months. Group II (n=4) was treated for 4 months and also received weekly VES (0.15 mg/kg). Two untreated animals were used as controls. Plasma viremia was monitored by RT-PCR (limit of quantification=50 copies). Antibody responses to p66, gp130, gp41, nef, gp36, gp140, and p27 were measured using an SIV/HIV Bio-Plex assay. The wilcoxon rank sum test was used to compare medians.

RESULTS: Peak viremia in the eART-only and eART+VES groups were similar (3.4 [range=2.7-4.3] and 4.2 [3.7-4.4] log10 RNA copies/ml, p=0.111) and lower than the untreated controls (6.8-7.0 log10RNA copies/ml). Virus replication from treatment initiation until virus suppression was similar in the eART-only and eART+VES animals (AUC=42.6 [31.6-59.7] and 45.0 [38.4-51.07] RNA copies/ml/day, p=0.886), although eART+VES suppressed replication earlier (18 [14-22] vs. 13 [11-13] dpi, p=0.029). All macaques from the eART-only group had undetectable viremia during treatment and remain aviremic 10 months after treatment interruption. Serologic responses in untreated controls were observed for the full panel tested. In contrast, responses in the eART and eART+VES groups were limited to gp140, albeit they developed at different rates (14 [14-17] vs. 36.5 [33-40] days post-infection, respectively, p=0.029). The eART-VES animals are currently undergoing treatment interruption.

CONCLUSIONS: Using a relevant macaque model of mucosal RT-SHIV infection we show that potent early ART leads to prolonged viral control after treatment interruption. Serologic responses, limited to gp140, were consistent with efficient virus control. The combination of eART and VES quickly suppressed viremia and delayed serologic responses. Further characterization of immune function and virus dynamics will shed light on the immunomodulatory effect of VES during acute infection.

OAA0204

TYROSINE KINASE INHIBITORS PROMOTE ANTIVIRAL RESISTANCE IN CD4+ T CELLS AGAINST HIV-1 INFECTION EVEN AFTER TREATMENT WITHDRAWAL

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BACKGROUND: Our group described previously that tyrosine kinase inhibitors (TKIs) used against chronic myeloid leukemia (CML) show antiviral effect against HIV-1 by interfering with SAMHD1 phosphorylation, HIV-1 proviral integration and transcription and also decreasing viremia and reservoir size in NSG mice engrafted with human CD34+ cells. By blocking T-cell proliferation induced with homeostatic cytokines, TKIs might also impede reservoir replenishment, delaying viral rebound after controlled treatment interruption. Finally, TKIs showed immunomodulatory properties that may be preserved after treatment interruption (TI) due to deep molecular response (DMR) against cancerous cells.
Objective: To evaluate whether PBMCs from CML patients on TI are still resistant to HIV-1 infection.

METHODS: PBMCs from patients with CML on TI (Off-TKI) (n=17) and healthy donors (n=30) were analyzed by flow cytometry. Proviral integration was analyzed by Alu-qPCR and viral protein synthesis was quantified by chemiluminescence. Ex-vivo infection was performed with NL4-3_renilla strain.

RESULTS: 1) Off-TKI patients were 57% male, 43% female; mean age of CML diagnosis 61±5.5 years; mean lymphocyte count 2.4±0.3x103/ml; previously treated with imatinib, nilotinib and/or dasatinib for 5.3±0.4 years; mean time off treatment 13.7±3.5 months. 2) CD4+T cells from Off-TKI patients showed 2.1-fold reduced levels of phosphorylated (p)SAMHD1 in non-activated conditions, and CD4+CD25+CD69+ decreased 2.6-fold, regarding healthy controls. After activation with PHA/IL-2, CD4+pSAMHD1+ and CD4+CD25+CD69+ populations were similar in Off-TKI and controls. 3) Ex-vivo HIV-1 infection of PBMCs from Off-TKI decreased 12.4- and 5.2-fold proviral integration and viral proteins synthesis, respectively. 4) Expression of Natural Killer (NK) ac-

tivation marker CD56 increased 5-fold in CML patients off treatment. Populations of cytotoxic cells CD56+CD16+CD107a+ and CD8±TCRgd+ increased 5- and 3-fold in Off-TKI, respectively.

CONCLUSIONS: CD4+ T cells from CML patients on TI showed response to activating stimuli, with normal levels of pSAMHD1 and activation markers. However, these cells were resistant to HIV-1 infection, even though patients withdrew treatment with TKIs more than 1 year ago. Cytotoxic cell populations with antiviral effect were detected in these patients. These results suggest that TKIs could be used temporarily as cART adjuvants in HIV-infected patients to modulate the immune response in order to interfere with reservoir replenishment and reactivation.

OAA0205

COMBINING A CONDITIONAL SUICIDE GENE WITH CCR5 KNOCKOUT FOR ANTI-HIV GENE THERAPY

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BACKGROUND: The recent success of the Berlin and London patients has attracted the attention of the scientific community worldwide to achieve an HIV cure for a wider group of patients. However, mathematic modeling has suggested that strategies targeting CCR5 alone will fail unless combined with a suicide gene. Hence, we developed a combined suicide gene therapy approach to target viral entry along with a conditional cytotoxic gene to specifically eliminate HIV-infected cells.

METHODS: We developed a 2-step gene therapy approach involving the delivery of TKSR39 gene via vector 1 (integrating lentivirus) and CCR5 knock-out combined with tat expression via vector 2 (non-integrating vector). Vector 1 incorporated an internal ribosomal entry site (IRES) followed by the GFP sequence to allow for sorting of the transduced cells. This TZM-TKSR39 CCR5 KO cell line was thoroughly characterized for resistance to HIV infection and specific killing of HIV-infected cells in the presence of ganciclovir.

RESULTS: TZM-TKSR39 cells developed in the lab previously were transduced with CCR5 sgRNA packaged lentiviral particles. Through sorting, enrichment of the CCR5 KO population was achieved and potential CCR5 KO candidates were obtained by single cell cloning. HIV infection of TZM-TKSR39 CCR5 KO cells resulted in negligent infection with R5 tropic HIV while still allowing infection with X4 tropic HIV. CCR5 deletion was further confirmed via a T7 endonuclease PCR. Moreover, the cells were susceptible to ganciclovir mediated cell killing after an X4 tropic virus infection.

CONCLUSIONS: Our study provides proof of principle for an HIV gene therapy to modify stem cells from an HIV infected patient to achieve a cure. Our combined gene therapy approach prevents viral entry via CCR5 knockout. However, in the event of X4 virus emergence, specific cell killing of infected cells can be achieved via ganciclovir. This approach is highly regulated and capable of targeting both X4 and R5 variants and has the potential to create an HIV proof immune system.

OAA0206

GENE THERAPY WITH AN ANTI-*TAT* GENE CAN STRONGLY BLOCK HIV-1 TRANSCRIPTION AND VIRUS REPLICATION IN MOUSE MODELS OF INFECTION

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BACKGROUND: Nullbasic (NB) is a mutant protein of the HIV-1 transcriptional activator protein, Tat. Our research has demonstrated that NB is a nontoxic, first-in-class antiviral agent that inhibits HIV production and viral spread in human T cells by independent mechanisms: 1) it inhibits the transcriptional activation function of Tat, 2) it disrupts HIV mRNA trafficking by interfering with the viral Rev regulatory protein, 3) it inhibits HIV reverse transcription. We have shown that with stable expression in cells, NB inhibits HIV replication in human cells and it also inhibits HIV reactivation from latently infected cells.

METHODS: We used retroviral gene therapy vectors to deliver a Nullbasic-ZsGreen1 fusion protein or ZsGreen1 to human CD4+ T cells, which were purified and transplanted into NOD-SCID or BALB/c-Rag2-/-γc-/- (RAG2) mice. The mice were infected with HIV-1 and virus replication was followed for up to 8 week. As an adjunct method, we also trialled layered double hydroxide nanoparticles (LDH NPs) to deliver NB protein to primary human CD4+ T cells.

RESULTS: Both mouse models showed that Nullbasic inhibited virus replication. In Rag2 mice, Nullbasic-ZsGreen1 delayed replication and lowered viral titres by ~10-15 fold. Increased virus replication inversely correlated with Nullbasic-ZsGreen1 expression in CD4+ T cells. Interestingly, NOD-SCID mice had CD4+ T cells that showed robust expression of Nullbasic-ZsGreen1 and up to 7,000-fold inhibition of HIV-1. We observed that 100% of CD4+ T cells can be treated with NB-LDH NPs. NB was detected in treated cells for three days.

CONCLUSIONS: Interest in strategies leading to a functional cure for HIV-1 infection by long-term or permanent viral suppression is growing. Here, we show that a mutant form of the HIV-1 Tat protein, referred to as Nullbasic, inhibits HIV-1 transcription in infected CD4+ cells *in vivo*. Analysis shows that stable expression of Nullbasic in CD4+ cells could lead to durable anti-HIV-1 activity. Nullbasic, as a gene therapy candidate, could be a part of a functional-cure strategy to suppress HIV-1 transcription and replication.

OAA03 HIV VACCINE DEVELOPMENT: HOW TO FORGE AHEAD

OAA0302

MULTIVARIANT HIV-1 INFECTION IN INFANTS WITH BROADLY NEUTRALIZING PLASMA ANTIBODIES: IMPLICATION FOR POLYVALENT VACCINES

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BACKGROUND: An effective HIV-1 vaccine that can curtail the AIDS pandemic is the need of the hour. Several second-generation broad and potent neutralizing antibodies (bnAbs), mostly targeting distinct conserved regions of the viral envelope glycoprotein (env), have been isolated and shown to have a protective effect. Due to the extensive antigenic diversity of HIV-1, bnAbs develop in a subset of infected individuals over 2-3 years of infection. Interestingly, infected infants have been shown to develop plasma bnAbs frequently and as early as one-year post-infection, with features atypical than adult bnAbs, suggesting the factors governing bnAb induction in infants are different than those in adults. Understanding the antigenic features in infants with early bnAb responses will provide key information on the antigenic triggers driving B cell maturation pathways towards the induction of bnAbs.

METHODS: Plasma neutralization activity and bnAb susceptibility profiles were assessed by TZM-bl based neutralization assays. HIV-1 RNA was isolated from plasma samples of infants, and full-length envelope genes were amplified, sequenced and cloned for the generation of pseudoviruses. Viral diversity, recombination, and phylogeny analysis were performed using MEGAX, RAPR, HIV AnalyzeAlign and SimPlot. Antigenic characterization of candidate vaccine strains was done using surface binding assays, ELISAs and on-cell sDC4 triggering assay.

RESULTS: Herein, we evaluated the presence of plasma bnAbs in 51 infants of Indian origin perinatally infected with HIV-1 clade C and identified the viral factors associated with early bnAb responses. A strong association of multivariant infection in infant elite neutralizers with development of plasma nAbs targeting diverse autologous viruses was observed. We observed the plasma nAbs in infants with multivariant infection to target both variants, suggesting env specific antibodies generated in context of two distinct viral variants can target epitopes on both envelopes. In addition, several viral strains capable of serving as potential vaccine candidates were identified from infant elite neutralizers.

CONCLUSIONS: Our data provides information supportive of polyvalent vaccination approaches for pediatric HIV-1 vaccination.

OAA0303

INTRADERMAL MVA VACCINATIONS PROVIDE SUPERIOR PROTECTION COMPARED TO INTRAMUSCULAR MVA VACCINATIONS AGAINST A HOMOLOGOUS TIER 2 SHIV CHALLENGE

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BACKGROUND: The composition of antigen presenting cells is different in different compartments and thus the route of immunization can markedly influence the magnitude and quality of evoked immune response and thereby vaccine efficacy. Here, we tested the influence of intradermal (ID) and intramuscular (IM) routes of MVA immunization on HIV vaccine efficacy.

METHODS: We immunized two groups of rhesus macaques (n=10/group) with DNA/MVA/Protein vaccine regimen. DNA and MVA vaccines expressed SIV Gag and membrane anchored trimeric HIV BG505 envelope (Env). Soluble BG505-SOSIP.664 trimer protein plus 3M-052 adjuvant encapsulated in nanoparticles was used as a protein boost. While both groups received DNA immunizations intradermally and protein immunizations subcutaneously, they differed only in the route of MVA immunization where one group received MVA via ID and the other via IM route.

RESULTS: Both groups (ID and IM) showed strong binding antibody response to BG505-SOSIP.664 gp140 in serum/vaginal secretions, and some animals generated autologous neutralizing antibody response against BG505.664 Env but these were comparable between the groups. IFNg+ SHIV-specific CD8 T cell responses were marginally higher (not significant) in the IM group. However, the MVA-ID vaccination induced significantly higher proliferating CD4 T cells in blood consisting of effector memory (CD45RA-CCR7-), circulating Tfh (CXCR5+), and non-Th1 (CXCR3-) cells compared to MVA-IM. Similarly, the GC-Tfh and GC-B cells in the LNs were higher in the MVA-ID group. Following 10 weekly BG505-SHIV intravaginal challenges, protection was evident only in the MVA-ID group (vaccine efficacy of 73% per exposure, p=0.006 with 40% of the animals completely protected), but not in the MVA-IM group. Analysis of DC and monocyte activation in blood after MVA immunization revealed markedly higher activation of non-classical (CD16+ CD14-) monocytes and CD11c+ DCs in the MVA-IM group not in the MVA-ID group. Analysis of RNA transcriptome in blood after MVA immunization revealed marked induction of inflammasome pathway in the MVA-IM group but not in MVA-ID group.

CONCLUSIONS: These results demonstrate that MVA-ID vaccination is superior to MVA-IM vaccination for protection against HIV and the route of MVA vaccination markedly influences the quality of T helper response and innate activation that are associated with difference in protection outcome.

OAA0304

PRIMING WITH DNA EXPRESSING TRIMERIC V1V2A244 ALTERS THE IMMUNE HIERARCHY AND FAVORS THE DEVELOPMENT OF V2-SPECIFIC HIV ANTIBODIES IN RHESUS MACAQUES

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BACKGROUND: The RV144 clinical vaccine trial showed that reduced risk of HIV infection is correlated with non-neutralizing antibody (Ab) responses targeting the V1V2 region of the HIV gp120 Env, making this region an important vaccine target. To induce V2-specific Abs, we tested the immunogenicity of a vaccine regimen that includes priming with DNA expressing the trimeric epitope-scaffold V1V2A244 immunogen.

METHODS: The vaccine regimen included 2 DNA primes followed by 3 DNA + protein co-immunization boosts. The "V1V2 group" (N=4) was primed with V1V2A244-2J9C DNA (Jiang, J Virol 2016; Zolla-Pazner, J Virol 2016) and the "gp145 group" " (N=4) was primed with gp145 DNA expressing membrane-bound trimeric Env and soluble gp120. The booster vaccine in both groups consisted of gp145 DNA and GLA-SE-adjuvanted gp120. The V1V2 group also received V1V2A244 DNA in the boost. Antibodies were monitored after the prime and the boost.

RESULTS: The V1V2 group developed robust Ab responses recognizing heterologous trimeric V1V2-scaffold proteins and cyclic V2 from different clades (B,C,E), whereas only low levels of V2 Abs were induced by the gp145 DNA vaccine. The V1V2 DNA-induced Abs also potently recognized gp120 by ELISA and trimeric clade A/ECM244 and clade CCH505 Env anchored on the cell surface of stably transduced HEK293 cells detected by flow cytometry. Peptide mapping showed greater Ab breadth within the V2 region in the V1V2 group, with Abs specific for the V2 peptide RDKKQKVHALFYKLDIVPIE (HXB2 AA166-185), a critical target identified in RV144, which was only found by immunization with the V1V2A244 DNA. Importantly, Ab responses to a V2 peptide with the K169V mutation were drastically reduced, mimicking the specificity of monoclonal and polyclonal Abs induced in RV144 (Liao, Immunity 2016; Zolla-Pazner, PLoS One 2013). The magnititude and breadth of the V2-specific responses were higher in V1V2 group with lower V3 responses.

CONCLUSIONS: Our results demonstrate that priming with DNA expressing trimeric V1V2 focuses the Ab response on the V1V2 region of gp120, inducing cross-clade reactive Abs. This regimen alters the hierarchy of immunodominant Env epitopes, providing a selective advantage for induction the V1V2 Abs associated with protection from SHIV and HIV.

OAA0305

SEQUENCE AND STRUCTURE GUIDED HIV-1 CLADE C TRIMERIC IMMUNOGEN DESIGN TO INDUCE NEUTRALIZING AND V1V2 DIRECTED ANTIBODY RESPONSES

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BACKGROUND: About 50% of global HIV-1 infections are due to clade C viruses and there is a great need for the development of stabilized natively-like trimeric clade C gp140 protein immunogen for inducing neutralizing antibodies by vaccination. The C.1086 based gp140 trimer would be of interest as the monomeric gp120 version of this protein is currently being used in a Phase 2a/b clinical study (HVTN702). The unstabilized C.1086 K160N (to improve binding to bnAb PG9) gp140 protein does not induce autologous neutralizing antibodies.

METHODS: Structure and sequence guided screening of 1086.C mutants and characterization by size-exclusion chromatography, NE-EM, improved antibody binding profile, immunogenicity in rabbits, characterization of the serum.

RESULTS: To develop a stable trimer, we adopted recent structure guided strategies to design SOSIP, NFL (Native Flexible Linker) and UFO (Uncleaved Full-Length Optimized) forms of the protein. The NFL and UFO versions yielded higher trimeric fractions than the SOSIP counterpart which predominantly formed aggregates. UFO design was further selected based on improved binding to V1V2 specific bnAb PG16 than C.1086_NFL. Sequence guided mutational analysis of the V2 hotspot region (V2HS,165-181) highlighted K166R to markedly improve binding to the V1V2 trimer-specific bnAb PGT145. Additional structure guided modifications were adopted to improve the stability of the envelope. Variants at V2HS showed significant enhancement in binding to multiple V1V2 directed bnAbs. Alterations of residues at position 173 of the V2HS region was found to influence the immune responses. Following immunization in rabbits, one of the variants at 173 position improved Tier-2 neutralization titres, recognition of membrane anchored envelopes and influenced V1V2 (displayed on gp70 scaffold) from envelopes across diverse clades. One of the neutralizers was able to induce antibodies targeting the V1V2 region which competed with known trimer specific V2 directed bnAbs. We are currently analyzing the neutralization specificity of the serum. Encouragingly, one of the immunogens elicited strong autologous neutralization titer (100-800) in macaques.

CONCLUSIONS: The stabilized C.1086 K160N UFO trimer protein can induce tier-2 neutralizing antibodies and enhance binding antibodies specific to gp70-V1V2 and membrane anchored trimeric Env. We are currently understanding mechanisms by which changes at position 173 would influence the immune responses.

OAA0306

PROTECTIVE EFFICACY OF A VACCINE INDUCING GAG/VIF-SPECIFIC CD8+ T BUT NOT CD4+ T CELLS AGAINST REPEATED INTRARECTAL LOW-DOSE SIVMAC239 CHALLENGES

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BACKGROUND: Virus-specific CD4+ T-cell responses are crucial for induction of effective CD8+ T-cell responses against virus infection. Vaccine-induced CD4+ T cells, however, can be preferential targets for HIV/SIV infection. Recent studies have indicated the detrimental effect of vaccine–induced CD4+ T cells on HIV vaccine efficacy (J Virol 88:14232, 2014; Sci Transl Med 11:eaav1800, 2019), supporting a rationale for vaccine design inducing HIV-specific CD8+ T-cell responses without HIV-specific CD4+ T-cell induction but with non-HIV antigen-specific CD4+ T-cell help. Based on this concept, we have developed a novel immunogen, CaV11, consisting of tandemly-connected overlapping 11-mer peptides spanning viral Gag capsid (CA) and Vif. This CaV11 immunogen is expected to selectively elicit Gag/Vif-specific CD8+ T cells with inefficient Gag/Vif-specific CD4+ T-cell induction, because the ideal length of CD4+ T-cell epitopes is longer than 11 mers, whereas CD8+ T-cell epitopes are 8-11 mers. In the present study, we evaluated the protective efficacy of a CaV11-expressing vaccine against repeated intrarectal low-dose SIV challenges in rhesus macaques.

METHODS: Twelve rhesus macaques received four times of intramuscular CaV11-expressing DNA vaccination at weeks 0, 1, 3 and 4 and four times of intranasal and intramuscular CaV11-expressing Sendai virus vectors (SeV-CaV11) at weeks 6, 7, 12 and 18. These twelve vaccinated and seven unvaccinated macaques were intrarectally challenged with low-dose (200 $TCID_{50}$) SIVmac239 repeatedly every 2 weeks starting from 6 weeks after the last vaccination.

RESULTS: All the vaccinated animals efficiently induced Gag/Vif-specific CD8+ T-cell responses with inefficient Gag/Vif-specific CD4+ T-cell responses after SeV-CaV11 vaccination. After eight times of SIV challenge, six of the seven unvaccinated macaques were infected, whereas eight of the twelve vaccinated were protected from SIV infection. Kaplan-Meier analysis indicated a significant difference between unvaccinated and vaccinated (P = 0.0341 by Log-rank test).

CONCLUSIONS: The present study for the first time indicates the potential of canonical CD8+ T cells induced by Env-independent vaccination to protect HIV acquisition, suggesting that CD8+ T-cell induction by using this immunogen design is a promising HIV vaccine strategy.

OAA0307

CO-IMMUNIZATION OF DNA AND PROTEIN IN THE SAME ANATOMICAL SITES INDUCES SUPERIOR PROTECTIVE IMMUNE RESPONSES AGAINST SHIV CHALLENGE

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BACKGROUND: We compared immunogenicity and protective efficacy of an HIV vaccine comprised of DNA (env and gag) and Env proteins by co-administration of DNA and Protein in the same muscle or by separate administration of the DNA and Protein components in contralateral sites.

METHODS: Female rhesus macaques (20 animals/group) were immunized with a 6-valent vaccine including DNA plasmids expressing membrane-anchored gp145 Env sequentially isolated from a HIV-1 infected individual (CH505). The DNA was delivered by IM injection followed by in vivo electroporation. The vaccine also included a gp120 Env protein component matching the sequences encoded by the plasmid DNA and adjuvanted in GLA-SE. The DNA and protein vaccine components were administered in the same anatomical sites ('Co-administration') or in contralateral sites ('Separate Administration') After 6 vaccinations in 4-month intervals, the macaques were challenged by weekly intravaginal exposures with low dose T/F tier-2 SHIV CH505 stock.

RESULTS: Only macaques in the co-administration vaccine group were protected against SHIV CH505 acquisition, with a 67% risk reduction per exposure after 15 weekly IVAG challenges. Macaques in the co-administration group developed higher Env-specific humoral and cellular immune responses. Non-neutralizing Env antibodies, ADCC and antibodies binding to Fc-gamma Receptor IIIa were associated with decreased transmission risk. These data suggest that simultaneous recognition, processing and presentation of DNA + Env protein in the same draining lymph node play a critical role in the development of protective immunity.

CONCLUSIONS: Co-immunization of DNA+Protein in the same muscle is superior for inducing protective immune responses against repeated tier-2 SHIV challenge. The advantage of co-immunization vaccine regimens targeting immunogens to the same draining LN could also be beneficial to other vaccine modalities and other pathogens.

OAA04 NEW INSIGHTS INTO THE HIV RESERVOIR

OAA0402

CONTRIBUTION OF MONOCYTES AND CD4 T CELL SUBSETS IN MAINTAINING VIRAL RESERVOIRS IN SIV-INFECTED MACAQUES TREATED EARLY AFTER INFECTION WITH ANTIRETROVIRAL DRUGS

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BACKGROUND: Although early antiretroviral therapy (ART) suppresses viral replication, ART discontinuation results in viral rebound, indicating early viral seeding and absence of full eradication. Therefore, identified the nature of infected cells and sanctuaries that contribute to viral rebound are crucial for HIV cure.
METHODS: Rhesus macaques (RMs) were infected intravenously with SIVmac251 (20 AID50). Some of them were treated with ART at day 4 post infection. RMs were sacrificed at different time point post-infection during natural infection (no ART), under ART (ART) and after ART interruption (ATi). Lymphoid tissues, including spleen, mesenteric and axillary/inguinal LNs, and intestine (colon, ileum, and jejunum parts) were recovered immediately after euthanasia. By flow cytometry, CD4 and monocyte cell subsets were sorted. Viral load and cell-associated viral DNA and RNA were quantified by RT-PCR as well as productive infectious viruses.
RESULTS: We demonstrated that, in the absence of ART, monocyte cell subsets harbor viral DNA and RNA, and viruses produced after stimulation are infectious. We also demonstrated that TEM and TFH cells are the main preferential SIV target cells producing infectious SIV after T cell activation. We provided evidence that early ART, administrated at day 4 post-infection, efficiently prevents viral dissemination. Furthermore, our results highlighted that early ART prevents infection of monocyte cell subsets in different tissues whereas ART did not prevent the establishment of viral reservoirs in TEM and TFH cells from visceral tissues including spleen and mesenteric LNs. We also observed that early ART drastically reduced inflammation. Consistent with previous reports, ART interruption is associated with viral rebound in less than 2 weeks, leading to viral dissemination and targeting both monocyte and T cell subsets.
CONCLUSIONS: Altogether, our results demonstrated that early ART prevents viral infection of monocytes but is unable to prevent infection of two major CD4 T cell subsets. Given the rapid dynamics of viral rebound after ATi, our results in RMs suggests that ART is actively suppressing viral production in infected cells, but once interrupted, these cells refill the pool of cells which are the main targets for SIV.

OAA0403

CELL PROLIFERATION CONTRIBUTES TO THE INCREASE OF GENETICALLY INTACT HIV OVER TIME

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BACKGROUND: Effective HIV eradication strategies require an understanding of the mechanisms maintaining persistent HIV during therapy. Therefore, we examined the role of memory cell proliferation in maintaining genetically-intact proviruses over 4 years of effective therapy.
METHODS: Naïve (N), central (CM), transitional (TM) and effector (EM) memory CD4+ T-cells were sorted from the peripheral blood of two participants on long-term ART. Additional sequences from naïve, CM HLA-DR+/DR-, TM HLA-DR+/DR- and EM HLA-DR+/DR- T cells were obtained 4 years later. Full-length individual proviral sequencing was used to characterise proviruses as intact or defective. Clusters of ≥2 100% genetically identical proviral sequences - indicative of host cell proliferation – were identified.
RESULTS: A total of 287 and 448 sequences were isolated from the first and second time-points, and 34 (12%) and 90 (20%) were considered intact. At both times the frequency of intact genomes differed between cell subsets, EM>TM>CM/N. In each subset, HLA-DR+ memory T-cells contained more intact provirus than HLA-DR- memory T-cells. The proportion of identical sequences was significantly higher in intact proviruses compared to defective at the second time-point (85% vs 41%, p=0.03), but not the first. However, when the cell of origin was taken into account there was no significant difference in the proportion of 100% identical intact and defective genomes (p=0.133). There was a significant correlation at the second time-point between the proportion of identical sequences overall and the proportion of intact proviruses (R2=0.58-67, p=0.02-0.04). The majority (44/51, 86%) of sequences observed at both time-points (over four years) were found in cells of the same memory phenotype.
CONCLUSIONS: Genetically intact proviruses were found most frequently in the more differentiated EM cells. However, the frequency of intact proviruses was increased in each memory cell subset when the cell expressed HLA-DR, highlighting the role of cellular activation in maintaining the reservoir. Moreover, the correlation between cellular proliferation and intact provirus highlights the importance of host cell proliferation in maintaining HIV over time. These findings demonstrate the importance of limiting cellular activation, differentiation and proliferation in strategies aimed at reducing the reservoir.

OAA0404

MULTIPLE SANCTUARY SITES FOR INTACT AND "DEFECTIVE" HIV-1 IN POST-MORTEM TISSUES IN INDIVIDUALS WITH SUPPRESSED HIV-1 REPLICATION: IMPLICATIONS FOR HIV-1 CURE STRATEGIES

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BACKGROUND: The rapid viral rebound observed following treatment interruption, despite prolonged time on ART with plasma HIV-RNA levels <40 copies/ml, suggests persistent HIV-1 reservoirs outside of blood. The purpose of the present study was to characterize post-mortem tissues for HIV-1 DNA and RNA in an effort to identify potential sanctuary sites in the body.

METHODS: Autopsy specimens were collected from 8 donors with suppressed HIV-1 replication at the time of death (blood HIV-RNA levels <5 copies/1 µg host-genomic RNA). In addition to blood, tissue specimens were collected from lymph nodes, spleen, GI-tract, CNS, lung, heart, kidney, liver pancreas and testes. Levels of HIV-DNA and HIV-RNA were determined using quantitative PCR. HIV-1 proviruses were analyzed by 5'LTR-to-3'LTR PCR single-genome amplification of near full-length HIV-1 and direct amplicon sequencing.

RESULTS: HIV-DNA and HIV-RNA species were detected in all 8 donors and ranged from <5 to 943 copies/2 µg gDNA and <5 to 102 copies/1 µg gRNA. While HIV-1 provirus and cell-associated HIV-RNA could be found in all donors, no universal tissue hotspots were found across the donors. A total of 1,329 HIV-1 provirus sequences were obtained (average 222, range 50-745, per donor). Intact proviruses represented 5.1% (range 0-22.5%) of provirus in the blood and tissues. Lymph nodes had the greatest number of intact proviruses. "Defective" proviruses containing lethal genetic alterations or large internal deletions showed wide-spread tissue distributions. The relative abundance varied by donor and much of the proviral DNA was associated with clonal expansions. Expanded provirus clones represented 43% (range 22-67.4%) of all HIV-1 proviruses detected. Of note, similar findings were found in 3 donors with active HIV-1 replication (blood HIV-RNA levels ≥5 copies/1 µg gRNA, range: 15-3,550) at the time of death.

CONCLUSIONS: We have demonstrated wide-spread tissue distributions of HIV-1 proviruses and viral RNA in an autopsy study of individuals with suppressed HIV-1 replication. There were no universal hot spots with concentrations of HIV-1 proviruses and/or viral RNA in tissues. These data demonstrate persistent HIV-1 transcription at the tissue level, absence of common tissue sanctuary sites, and thus highlight the difficulties in designing effective HIV-1 cure strategies.

OAA0405

HIGH-THROUGHPUT CHARACTERIZATION OF HIV LATENT RESERVOIR DEMONSTRATES INTEGRATION INTO GENES ASSOCIATED WITH INFLAMMATION, CELL CYCLE, AND NUCLEAR ENVELOPE ASSEMBLY, ENRICHMENT IN ACCESSIBLE CHROMATIN, AND LARGE AMOUNTS OF DEFECTIVE PROVIRUS

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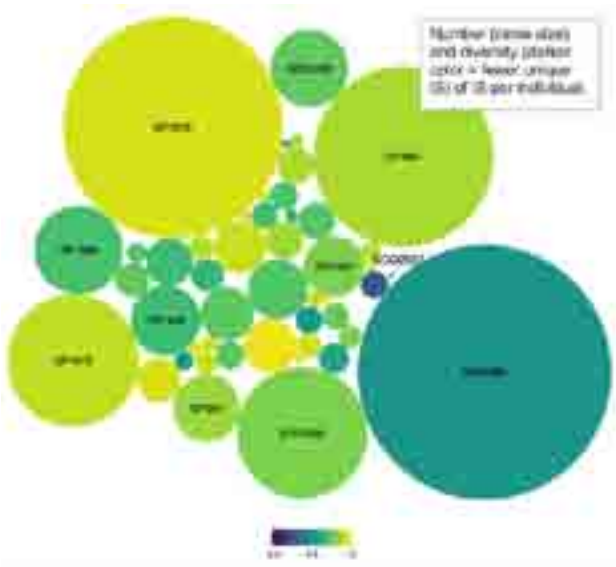
BACKGROUND: HIV integration is a key step in the viral replication cycle. Prior *in vivo* studies have demonstrated that integration in specific genes may impact reservoir size and dynamics.

METHODS: HIV integration sites (IS) were identified from bulk CD4-enriched cryopreserved PBMCs from HIV+ ART-suppressed individuals. Publicly available chromatin accessibility data (ATAC-seq, DNase-seq) and gene sets (MSigDB) were analyzed in relation to IS data. Intact HIV DNA was estimated using a ddPCR assay detecting 5 regions of the HIV genome.

RESULTS: Participants in this cross-sectional study were mostly male (96%, n = 50) with median age 45y, nadir CD4+ T cell count 364 cells/mm^3, pre-ART HIV RNA 4.7 $\log_{10}$copies/mL, 4.7y on ART, and 1.4 years to ART initiation. We identified 38,214 unique IS with 80% in genes, and over-representation of gene sets associated with chromatin accessibility, inflammation, and nuclear envelope assembly. Although only 5% of IS (SD = 1.9%) were in known open chromatin regions, this exceeds the average amount of accessible chromatin in the genome. Most IS were seen 1-2 times; 26 individuals had clone sizes >3. The largest expanded clone was found in a participant (SCO2557) with low CD4 nadir and poor immune recovery (CD4<200); the associated IS was in the *PIR* gene involved in NF-kB signaling. The only female participant (SCO2568) had expanded clones in *RBM6* and *CUL9*, encoding tumor suppressor proteins, and low CD4 nadir, but subsequent immune recovery. Across participants, the majority of proviral DNA was found to be defective.



CONCLUSIONS: In the largest *in vivo* HIV integration study to date, we observed enrichment of IS in open chromatin, genes regulating cell cycle, inflammation, and nuclear envelope assembly. We showed that the majority of HIV DNA is defective viral sequences and highlight two unique clinical cases warranting further longitudinal studies in participants with poor immunologic recovery and in female participants.

OAA0406

THE SIZE OF HIV RESERVOIR IS ASSOCIATED WITH TELOMERE SHORTENING AND IMMUNOSENESCENCE IN EARLY ART-TREATED HIV-INFECTED CHILDREN

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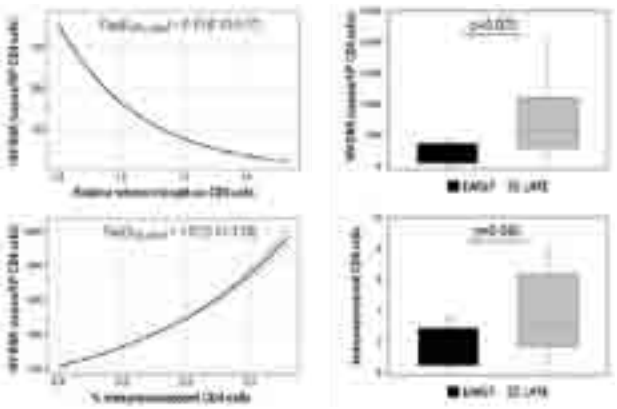
BACKGROUND: HIV infection is linked to premature senescence, with increased risk of aging-associated illnesses. Early ART has been associated with a reduced HIV reservoir in HIV-perinatally infected children (PHIV), but its impact on the senescence process is an open question. Telomeres are critical for cellular replicative potential and their shortening is a marker of cellular senescence and aging process. We investigated the relationship between immunosenescence and HIV reservoir in PHIV enrolled in a multicenter cross-sectional study (CARMA, EPIICAL consortium).
METHODS: 37 PHIV, who started ART <2 years of age and had undetectable viremia for at least 5 years, were enrolled in this study. HIV-DNA copies on CD4 cells and relative telomere length and levels of T-cell receptor rearrangement excision circle (TREC, marker of thymic output) on CD4 and CD8 cells were quantified by qPCR. Senescent and activated CD4 and CD8 cells were estimated by flow cytometry. To explore the associations between cellular parameters, HIV reservoir and age at ART initiation, data were analyzed using a multivariable Poisson regression (adjusted for baseline % CD4, plasmaviremia, age at reservoir measurement, and age at ART initiation as interaction term).
RESULTS: HIV reservoir was significantly (p<0.001) associated with immunosenescence (1.23[1.21-1.26]) and telomere shortening (0.15[0.13-0.17]) in CD4 cells, and immune activation (3.67[3.49-3.85]) and TREC levels (1.08[1.06-1.11]) in CD8 cells. These associations decreased by 1%, 10%, 6% and 6%, respectively, for each month ART was delayed. Early treated PHIV (ART initiation ≤6 months of age) displayed significantly lower HIV-DNA level (89[56-365] *vs* 552[303-1001] copies/10^6 cells) and % CD4 senescent cells (1.0[0.5-2.7] *vs* 2.9[2.0-6.3]) than late treated ones (see Figure).
CONCLUSIONS: This is the first demonstration that HIV reservoir is directly associated with telomere shortening and immunosenescence on CD4 cells. Early ART initiation restricts the size of viral reservoir and the premature immunosenescence in PHIV.



[Figure]

OAB01 ADOLESCENTS AND YOUNG PEOPLE

OAB0102

NEUROCOGNITIVE CORRELATES OF ALCOHOL AND CANNABIS USE PROBLEMS AMONG ADOLESCENTS AND EMERGING ADULTS LIVING WITH HIV: ATN 129

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BACKGROUND: Substance use represents an important health issue for youth living with HIV (YLWH). Accordingly, identifying neurocognitive factors influencing substance use among YLWH is vital. We tested associations between three often-tested neurocognitive factors -- inhibitory control (Flanker task), risk-taking (Balloon Analogue Risk Task, BART), and delay discounting (Money Choice Questionnaire, MCQ) -- and alcohol and cannabis use among YLWH aged 17-24. We adjusted for working memory, processing speed, and episodic memory, areas commonly affected by HIV disease.
METHODS: Participants enrolling for a U.S.-based comparative effectiveness trial for alcohol-using YLWH from 2014-2017 reported on demographics and completed computerized neurocognitive tasks: Flanker Task (NIH Toolbox), MCQ, BART, as well as Working Memory (NIH Toolbox List Sorting), Processing Speed (Visual Patterns; NIH Toolbox), and immediate recall on the Hopkins Verbal Learning Test-Revised. Alcohol and cannabis use frequency and associated problems were summarized using the ASSIST's substance use involvement score (log-transformed).
RESULTS: Of the 179 participants (mean age, 21.4), 18 reported perinatal HIV infection. Most identified as Black (82%), and gay or bisexual males (72%). Overall, comparatively lower processing speed and immediate recall, though not working memory, were observed in this sample relative to age-matched norms. Linear models, adjusting for age, gender, and recent cannabis use, showed

greater alcohol substance involvement was associated with lower Flanker (b=-.01, p=.03) and BART (b=-.01, p=.05), but not MCQ. Adding HIV-related covariates (working memory, processing speed, immediate recall, and whether perinatally-infected), only Flanker remained significant (b=-.01, p=.03). Among the 151 cannabis-using participants, models adjusting for age and gender showed greater cannabis substance involvement was associated only with lower Flanker scores (b=-.00, p=.03).

Adding in the above HIV-related covariates, Flanker remained significant (b=-.00, p<.05). Scoring one standard deviation lower on Flanker was associated with a 1.23 point and 1.15 point increase on substance involvement scores (range: 0-39) for alcohol and cannabis, respectively.

CONCLUSIONS: Greater alcohol and cannabis involvement was consistently associated with lower ability to inhibit attention to irrelevant stimuli, but not with risk-taking (adjusted for HIV-related covariates) or delay discounting. This highlights the importance of inhibitory control and executive functioning more generally for substance use prevention among YLWH.

OAB0103

CONSTRUCT VALIDITY SUPPORTS USE OF A NOVEL, TABLET-BASED NEUROCOGNITIVE ASSESSMENT FOR ADOLESCENTS AND YOUNG ADULTS AFFECTED BY PERINATAL HIV FROM VULNERABLE COMMUNITIES IN THE UNITED STATES

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BACKGROUND: Neurocognitive impairment is common among adolescents and young adults (AYA) living with perinatally-acquired HIV (PHIV) and perinatal HIV-exposure without HIV-infection (PHEU). However, current assessment methods are time-consuming, require specialized forms, equipment and highly trained personnel to administer and score which precludes their use in many contexts. NeuroScreen is a novel, highly automated, relatively brief (25 minutes), easy-to-use by any staff, tablet-based neurocognitive assessment tool that provides real-time results, with potential to make neurocognitive assessments more available. This study examined how well (i.e., construct validity) the NeuroScreen app measures the neurocognitive domains of processing speed, working memory and executive functioning in AYA with PHIV and PHEU based on established gold-standard, paper-and-pencil tests of those domains.

METHODS: Participants came from an ongoing longitudinal study (CASAH) of AYA with PHIV and PHEU from vulnerable communities in New York City. To assess validity, at their last follow up, 62 AYA (33 PHIV, 29 PHEU) completed eight NeuroScreen tests of processing speed, working memory, executive functioning, as well as the gold-standard Trail Making Tests A and B (TMT A [processing speed] and B [executive functioning]), and WAIS-IV Digit Span Forwards and Backwards [working memory]) . Pearson correlation coefficients were computed between the paper-and-pencil and NeuroScreen tests.

RESULTS: Median age of participants was 24 years (IQR 22-26); 64% were male, 46% Latinx, and 44% African-American. The paper-and-pencil and NeuroScreen tests of processing speed, working memory, and executive functioning were all significantly correlated with each other, respectively (Table 1).

Gold-Standard Tests → NeuroScreen Tests ↓	TMT A[a] Correlation Coefficient	Digit Span Forwards[b] Correlation Coefficient	Digit Span Backwards[b] Correlation Coefficient	TMT B[c] Correlation Coefficient
Trail Making 1[a]	0.28*	-0.21	-0.33**	0.26*
Trail Making 3[a]	0.33**	-0.21	-0.18	0.27*
Visual Discrimination 1[a]	-0.53***	0.41***	0.33**	-0.48***
Visual Discrimination 2[a]	-0.63***	0.37**	0.36**	-0.59***
Number Speed[a]	0.59***	-0.32*	-0.29*	0.58***
Number Span Forwards[b]	-0.48***	0.66***	0.64***	-0.48***
Number Span Backwards[b]	-0.48***	0.50***	0.70***	-0.48***
Trail Making 2[c]	0.47***	-0.28*	-0.27*	0.63***

*Note: *p<0.05, **<0.01, ***p<0.001;*
test of: [a]processing speed, [b]working memory [c]executive functioning

[Table 1. Pearson Correlation Coefficients between Gold-standard (paper-and-pencil) and NeuroScreen tests]

CONCLUSIONS: Results provide support for use of NeuroScreen with this population. Given its significant associations with gold-standard tests, as well as ease-of-use, automation, and real-time results, NeuroScreen has great potential as a scalable assessment tool for clinical and research practice – providing access to much needed neurocognitive assessments for AYA at risk for neurocognitive deficits from HIV and other vulnerabilities.

OAB0104

HIGH LEVELS OF MENTAL HEALTH RESILIENCE AMONG ADOLESCENTS LIVING WITH HIV IN THAILAND AND CAMBODIA

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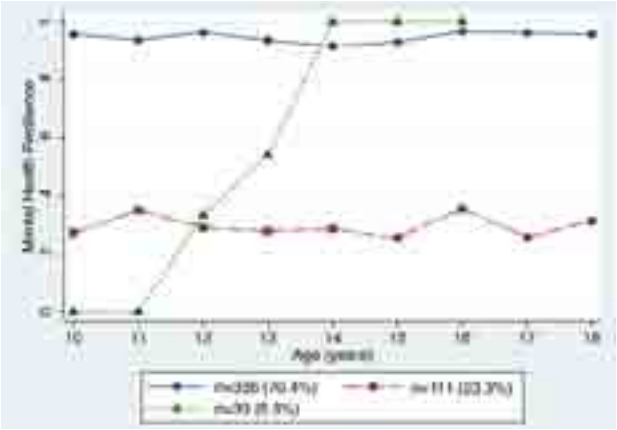
BACKGROUND: Adolescents affected by HIV (i.e., perinatally acquired HIV [PHIV] and HIV-exposed but uninfected [HEU]) are at risk for mental health (MH) problems; many, however, do not have MH problems. We used group-based trajectory modeling to identify resilient MH trajectories and their predictors.

METHODS: PHIV, HEU and HIV-unexposed, -uninfected (HUU) Thai and Cambodian adolescents from the RESILIENCE Study underwent four yearly MH assessments. Resilient MH was defined as no MH problem at any study visit on the Child Behaviour Checklist, Children's Depression Inventory (<18 years) or Center for Epidemiological Studies-Depression Scale (≥18 years). Resilience trajectory assignment was made through maximum likelihood estimation and Bayesian Information Criterion. Multinomial logistic regression examined baseline predictors of trajectories.

RESULTS: 477 adolescents (201 PHIV, 131 HEU and 145 HUU; females 56%), median age 13 years (IQR 11-15) at enrollment, were evaluated over a median of 3 (IQR 2-4) visits. Analyses revealed a 3-trajectory classification (Figure 1). Group 1 (n=336) had consistently high resilience (91-97% of visits with no MH problems). Group 2 (n=111) had consistently low resilience (25-35% of visits with no MH problems). Group 3 (n=30) had increasing resilience from ages <11 to 15. Adolescents in Group 2 were more likely to: be PHIV than HUU (relative risk ratio [RRR] 1.46 (95%CI 1.00 – 2.12)), have lost any parent (RRR 1.74 (95%CI 1.25 – 2.43), and live with someone with MH problems (RRR 1.92 (95%CI 0.80 – 4.65)) than adolescents in Group1. Household income and sex were not associated with group membership.



[Figure 1. Group based trajectories of mental health resilience (blue circle = Group 1; red square = Group 2; green triangle = Group 3)]

CONCLUSIONS: Most adolescents in the RESILIENCE Study exhibited MH resilience, including those with PHIV. The strongest predictors of low MH resilience were PHIV, losing any parent, and living with a person with MH problems. MH interventions for AYA experiencing parental loss and other adverse family events may increase the likelihood of resilient MH outcomes as youth age.

OAB0105

DEPO-PROVERA WORSENS BONE LOSS WITH TDF-CONTAINING ART INITIATION IN YOUNG WOMEN

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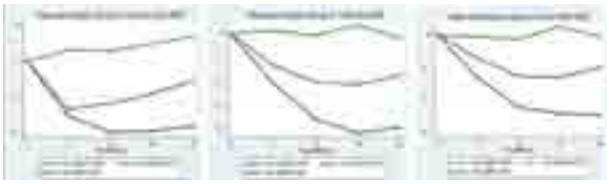
BACKGROUND: Antiretroviral therapy (ART) initiation with tenofovir disoproxil fumarate (TDF) is associated with bone mineral density (BMD) loss. Among women of reproductive age, depot medroxyprogesterone acetate (DMPA, Depo Provera) also negatively impacts BMD. Our goal was to determine the combined BMD effects of DMPA and TDF initiation in young women over two years, compared to a matched HIV-uninfected group.

METHODS: Women were recruited from 11 HIV care centers and general health facilities around Kampala, Uganda and classified based on their combination of HIV status, TDF use and DMPA use. We compared 3 groups: women initiating TDF-containing ART with (HIV+/DMPA+/TDF+) and without DMPA (HIV+/DMPA-/TDF+) and an HIV-uninfected control group not taking DMPA (HIV-/-DMPA-/TDF)-. All HIV+ women were ART-naïve at baseline. BMD assessments of lumbar spine(LS), total hip(TH) and femoral neck(FN) were done using dual energy x-ray absorptiometry at 6-monthly intervals. We used repeated measures analyses to compare rate of change, calculated as percent (%) change in BMD/ year.

RESULTS: Between March 2015 and October 2017, we enrolled 265 HIV-infected women initiating TDF-containing ART (159 DMPA users, 106 non-hormonal users), and 69 uninfected. Median age was 26 years. Baseline BMD was not significantly different from that of HIV-uninfected controls. Annualized rates of BMD loss were higher in HIV-infected women with greatest loss occurring in DMPA users compared to HIV-infected non-hormonal users, or uninfected controls at all sites: 4.0%(-4.4, -3.6) vs. -1.8%(-2.2, -1.4) vs. 0.8%(0.4, 1.1) at LS, -2.1%(-2.3, -1.9) vs. -0.9%(-1.1, -0.6) vs. –0.0%(-0.4, 0.3) TH, and -2.5%(-2.8, -2.2) vs. -1.0%(-1.3,-0.7) vs. 0.1%(-0.3, 0.5) FN respectively. These changes were significantly different between the three groups, all p-values <0.05 (figure).



[Figure: Mean percent change in BMD among HIV infected DMPA, and no-hormonal users initiating TDF based ART compared to uninfected controls]

CONCLUSIONS: Concomitant DMPA use was associated with a doubling of BMD loss in young women initiating TDF-containing ART. Newer treatment bone sparing regimens like tenofovir alafenamide-based ART may mitigate BMD loss and early aging among HIV-infected women.

OAB0106

OPTIMIZATION TO DOLUTEGRAVIR-BASED ART IN A COHORT OF VIRALLY SUPPRESSED ADOLESCENTS IS ASSOCIATED WITH AN INCREASE IN THE RATE OF BMI CHANGE AND ODDS OF BECOMING OVERWEIGHT

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BACKGROUND: Antiretroviral therapy (ART) regimens that contain Dolutegravir (DTG) have been reported to be associated with increases in body mass index (BMI). However, this relationship has been poorly elucidated in adolescents, especially those in Sub-Saharan Africa.

METHODS: BMI measurements in a retrospective observational cohort of 605 virally suppressed (< 200 copies/ml[3]) adolescents living with HIV and enrolled in care at a clinical site in Eswatini, were analyzed between 1 year prior to DTG initiation and up to 1 year after DTG initiation. 295 females and 310 males had an average of 6.4 visits and a total of 4,040 visits within the study period. Two random-effects linear spline models, with knots at DTG initiation, were used to model the rate of change in BMI and the odds of becoming obese or overweight, as defined by WHO BMI-for-age cutoffs, while adjusting for sex, DTG companion drugs, previous ART regimens, and age at DTG initiation.

RESULTS: In the first model, the rate of change in BMI was 0.316 kg/m^2 per year prior to DTG initiation while the rate of change after DTG initiation was 0.941 kg/m^2 per year ($p < 0.0001$). The second model reported no change in the odds of becoming overweight or obese prior to DTG initiation (OR = 0.998, p = 0.136). After DTG initiation, the odds of becoming overweight or obese increased by approximately 1% every day (OR = 1.010, p = 0.015). Patients on TDF-3TC-DTG compared with ABC-3TC-DTG had higher BMIs on average, as did females compared with males. BMI did not vary significantly by previous ART regimens (nevirapine or efavirenz).

CONCLUSIONS: The results suggest that DTG initiation is associated with an increase in the rate of BMI change and an increase in the odds of becoming either overweight or obese in adolescents living with HIV. Further investigation is required to assess how DTG impacts BMI in adolescents following a longer duration of treatment. Future work in a larger sample of this cohort is planned to estimate a predictive tool to identify adolescents who are most likely to become overweight or obese after being optimized to DTG.

OAB02 ARV, CURE AND TESTING STRATEGIES

OAB0202

LATE-ONSET OPPORTUNISTIC INFECTIONS WHILE ON ART IN LATIN AMERICA

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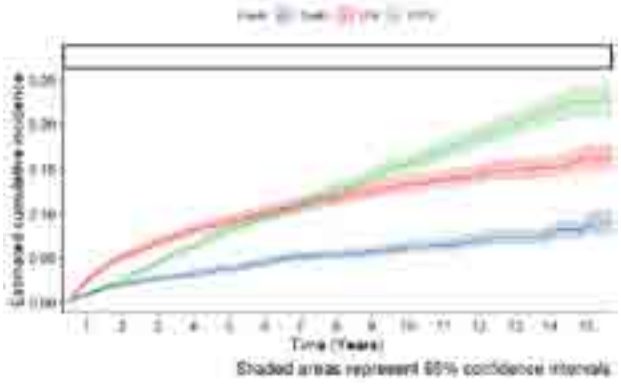
BACKGROUND: Incidence of late-onset (occurring after 6 months of antiretroviral therapy [ART] start) AIDS-defining opportunistic infections (LOIs) and factors associated to them are largely unknown in resource-limited settings. The aim of this study was to describe the incidence and risk factors of LOIs in 5 sites from Latin America as part of the Caribbean, Central and South America network for HIV epidemiology (CCASAnet).

METHODS: We included all adults ART-naive patients enrolled at CCASAnet sites in Argentina, Brazil, Chile, Honduras, and Mexico from 2001-2015 who remained in care after 6 months of ART. We excluded patients with unavailable prior AIDS status. Among those who developed a clinical outcome, we report median time to LOI, death and LTFU. Using a Fine and Gray competing risk model (treating death and LTFU as competing events) we estimated the cumulative incidence of each outcome over time and calculated sub-distribution hazard ratios.

RESULTS: 5966 patients were elegible. Median follow-up was 5.5(IQR 3.01-9.06) years. 1837(31%) patients had a clinical outcome (701[38%] were LOIs). Estimated cumulative incidence at 5 years was of 9% for LOIs, 8% for LTFU, and 4% for death (fig1). Commonest LOIs were tuberculosis (27%), esophageal candidiasis (13%), and P. jirovecii pneumonia (12%). Median time to event was 2.5 years for LOIs, 3.4 for death, and 4.5 for LTFU. Having an AIDS defining-event during the first 6 months of treatment (HR:1.97[1.57-2.46]) , lower CD4 count at ART start (HR:1.33[1.33-1.33] for CD4:100vsCD4:300), and starting ART earlier years (HR:1.35[1.33-1.37] for 2005vs2015) were significantly associated with a higher risk of LOI.



[Figure 1: Cumulative incidence estimates for LOI, Death and LTFU]

CONCLUSIONS: In our cohort, LOIs continued to occur late during follow up. Risk factors were similar to those usually associated with early opportunistic infections. Closer long term follow up may be

warranted in patients with lower CD4 at ART start and those initiating during the earlier years of the cohort.

OAB0203

EFFECTS OF IMMUNE-CHECK POINT INHIBITORS ON ANTI-HIV SPECIFIC IMMUNE RESPONSES AND HIV-RESERVOIR IN PEOPLE LIVING WITH HIV (PLHIV) AND CANCER

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BACKGROUND: Immune checkpoint inhibitors (ICPi) are a major advance in cancer treatment. Whether they can act as a latency reversal agent towards an HIV cure is yet unknown, with still sparse immune-virological data.
METHODS: OncoVIRIM is a biological sub-study of the ongoing ANRS CO-24 OncoVIHAC prospective multicenter cohort including virally suppressed PLHIV treated with anti-PD1 for cancer. Blood samples were obtained at baseline and before different cycles (cycles 2, 3/4, 9, 15/18, 27/36, 51). Were evaluated by flow cytometry: T cell counts (CD3, CD4, CD8), T cell differentiation and activation markers (CD45RA, CCR7, CD27 and CD69, CD27, CD38, Ki67, HLA-DR), ICP expression, and HIV-specific T cells measured by intracellular cytokine staining (ICS) ; by PCR: ultrasensitive plasma HIV-RNA and total cell associated HIV-DNA.
RESULTS:

	Median baseline (range)	Median delta (D) or median fold change (FC) from C2 to D0 (n=)	Median delta (D) or median fold change (FC) from last point to D0 (n=)	p between C2 and D0 (Wilcoxon signed-rank test)	p between last point and D0 (Wilcoxon signed-rank test)
CD4 HLA-DR+	3,48% (0,52-6,17)	2,91 (D, n=10)	-0,26 (D, n=12)	0,0039	0,5693
CD8 PD1+	28,8% (20-42)	-24,1 (D, n=10)	-23,335 (D, n=11)	0,0195	0,001
CD8 CTLA4+	0,05% (0.01-0.25)	-0,015 (D, n=10)	0,0005 (D, n=12)	0,625	0,6621
CD8 TIM3+	5,66% (2-17)	-0,27 (D, n=10)	1,115 (D, n=12)	0,7695	0,2734
HIV-specific-CD8+	1,42% (0,1-6,52)	0,0025 (D, n=5)	0,0003 (D, n=6)	0,8125	0,8468
HIV-RNA	20 cp/mL (1-47)	1 (FC, n=6)	1 (FC, n=7)	0,75	0,8539
HIV-DNA	218 cp/10^6 cells (40-620)	0,486 (FC, n=6)	0,501 (FC, n=7)	0,625	0,4375

Fourteen patients had been enrolled (median age 61 years), from January 2018 to June 2019. The median follow-up was 6 months (range 1-18), 4 patients stopped treatment and 6 died. The median baseline CD4 cell count value was 373/mm3 (range 90-888), CD4/CD8 ratio was 0.8 (range 0.1-2.1). At C2 and at last time point, there was no significant change in CD4 and CD8 cell counts or in T cell subsets distribution. However, proportions of HLA-DR+ CD4 T cells increased by 85% at C2 without change in other activation markers. PD1 expression dramatically decreased by 95% at C2 without change in CTLA4 and TIM3 expression overtime. Frequencies of HIV-specific-CD8 T cells remained stable overtime, but with higher PD1 expression on IFN-γ+ HIV-specific-CD8 T cells compared to non-HIV-specific-CD8 T cells at baseline (70% vs 38%, p=0.0012). HIV-RNA and DNA remained stable overtime (final median values: 10.5 cp/mL and 80 cp /10^6 cells).
CONCLUSIONS: In a context of HIV infection and cancer, these preliminary data on a limited number of patients suggest that ICPi used in monotherapy do not significantly impact the clinical biology of HIV infection.

OAB0204

A NEW TOOL FOR ACHIEVING THE FIRST GOAL OF UNAIDS 90-90-90 TARGETS - HIV SELF-TESTING WITH URINE

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BACKGROUND: In view of insufficient HIV diagnosis in China, there is an urgent need of self-testing. In August 2019, the first HIV self-testing kit (colloidal gold) using urine specimen was approved by CFDA, which largely promoted the progress of HIV self-testing in China. To provide scientific evidence for large scale application, the performance of HIV self-testing with urine was evaluated in multicenter studies.
METHODS: To evaluate the concordance of urine and blood colloidal gold kit, paired blood and urine specimen were collected from all 827 newly diagnosed HIV infected individuals and 214 healthy individuals in Dehong prefecture in 2018. To evaluate the performance of HIV self-testing with urine in untrained individuals, 1066 individuals participated in a multicenter study of HIV self-testing with questionnaire and testing in Beijing, Kunming and Zhenzhou including 92 from HIV positive people, 423 from key populations, and 551 from general population.
RESULTS: The HIV antibody detection concordance of colloidal gold kit with urine and blood was 98.07% (811/827) in HIV positive individuals and 100% (214/214) in healthy people. In the survey, 98.2% of untrained participants thought that they could complete HIV self-testing with urine independently, and 97.84% thought that the experience of HIV self-testing with urine was good. Overall, the antibody detection concordance between self-testing by untrained individuals and professional testing was 99%. And the detection error rate was 0.66%, 6.86%, and 2.16% in strong positive samples, weakly positive samples, and negative samples, respectively. The main causes of testing error included inaccurate volume of sample and inaccurate reacting time. The erroneous result was related with education level while it was unrelated to age, gender and location.
CONCLUSIONS: Our multicenter studies indicated that the innovative HIV self-testing product using urine is acceptable, easy to use, and has good detection concordance with professional testing using blood. As a new testing strategy in China, HIV self-testing with urine provides an acceptable, convenient, and safe tool for people pursuing personal testing with better privacy, which will make important contribution to achieve the first goal of the UNAIDS 90-90-90 targets.

OAB0205

VESATOLIMOD, A TOLL-LIKE RECEPTOR 7 (TLR7) AGONIST, INDUCES DOSE-DEPENDENT IMMUNE RESPONSES IN HIV CONTROLLERS

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BACKGROUND: An inadequate antiviral immune response occurs in People with HIV (PWH), requiring lifelong antiretroviral therapy (ART). Therefore, therapeutics designed to promote immune-mediated ART-free remission are under clinical evaluation. Vesatolimod (VES) is an oral, selective, small molecule TLR7 agonist shown to be safe and well tolerated in PWH. Dose-dependent inductions of circulating serum cytokines and immune cell activation have been observed with VES treatment in HIV-negative volunteers and PWH on ART. In addition, VES was associated with a modest delay in viral rebound and decrease in viral set-point in HIV controllers in a placebo-controlled Phase 1b trial. We further investigated the immune mechanisms of this effect.

METHODS: We enrolled 25 HIV controllers (pre-ART viral load 50-5000 c/mL) on ART. Seventeen participants were administered bi-weekly VES 4-8 mg (dose escalated within-individual) for 10 doses, and eight participants received placebo. Participants were evaluated during an analytic treatment interruption (ATI) phase for up to 24 weeks to analyze the treatment effect on viral rebound. Peripheral blood mononuclear cells (PBMCs) and plasma were collected at baseline and on-treatment (prior to ATI) for pharmacodynamic (PD) measurements and evaluation of HIV-specific immune responses.

RESULTS: Compared to placebo, VES induced a dose-dependent increase of interferon stimulated mRNAs (ISGs: ISG15, MX1, and OAS1) and cytokines/chemokines (ITAC, IP-10, IL1ra and IFN-a), peaking 24 hours post-dose and returning to baseline by 7 days post-dose. The ISG inductions plateaued at 6 mg with mean increase from baseline of 19-, 8- and 6-fold for ISG15, MX1, and OAS1, respectively. The minimal dose of VES where consistent and detectable cytokine/chemokines occurred was at 6 mg, with mean concentrations of 49, 368, 1834, and 0.6 pg/ml for ITAC, IP-10, IL1ra, and IFN-a, respectively. HIV-specific T cell responses as assessed by intracellular cytokine staining (ICS) increased from baseline in some VES-treated participants.

CONCLUSIONS: The PD and mechanistic activity of VES in PWH may play an important role in HIV cure innovations that include other agents such as CD8+ T-cell-inducing vaccines and monoclonal antibodies.

OAB03 ANTIRETROVIRALS SESSION 1

OAB0302

ANALYSIS OF PROTOCOL DEFINED VIROLOGIC FAILURE THROUGH WEEK 48 FROM A PHASE 2 TRIAL (P011) OF ISLATRAVIR AND DORAVIRINE IN TREATMENT-NAÏVE ADULTS WITH HIV-1 INFECTION

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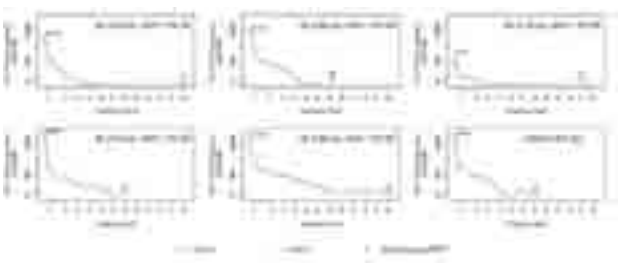
BACKGROUND: Islatravir (ISL,MK-8591) is the first nucleoside reverse transcriptase translocation inhibitor (NRTTI) in development for treatment and prevention of HIV-1 infection. The objective of this analysis is to show detailed data of participants who discontinued with protocol-defined virologic failure (PDVF) from the phase-2 trial of islatravir (ISL) and doravirine (DOR).

METHODS: Randomized, double-blind, dose-ranging trial participants initially received ISL(0.25, 0.75, or 2.25 mg) with DOR(100 mg) and lamivudine(3TC, 300 mg) or fixed-dose combination of DOR, 3TC, and tenofovir disoproxil fumarate(DOR/3TC/TDF) daily. Participants receiving ISL achieving HIV-1 RNA<50 copies/mL at week-20 or later stopped 3TC at next visit. PDVF was conservatively defined as rebound with confirmed HIV-1 RNA≥50 copies/mL after suppression any time during the trial or non-response with failure to achieve HIV-1 RNA<50 copies/mL by week-48. Participants with PDVF were required to discontinue from the trial.

RESULTS: 121 participants received study drug and were included in analyses. At week-48, 89.7% (26/29), 90.0% (27/30), 77.4% (24/31) of randomized participants achieved HIV-1 RNA<50 copies/mL in the 0.25, 0.75, and 2.25mg ISL groups, respectively, compared to 83.9%(26/31) with DOR/3TC/TDF. Six participants had PDVF; 2 rebounders each in the 0.25 and 0.75 mg ISL groups, 1 non-responder in the 2.25mg ISL group and 1 rebounder in the DOR/3TC/TDF group. All confirmatory HIV-1 RNA Levels were <80copies/mL (Figure1); none met criteria for resistance testing. Despite changing to new regimens, three of six participants (1 each from the 0.25 and 0.75 mg ISL groups and 1 from the DOR/3TC/TDF group) continued to have low-level viremia during 42-day post-discontinuation assessment.

CONCLUSIONS: Rates of PDVF were low and all participants who discontinued due to PDVF had HIV-1 RNA levels below the clinically significant level of 200 copies/mL. The observed low-level viremia was comparable to levels detected in other treatment-naïve studies.



OAB0303

ADHERENCE AND FACTORS ASSOCIATED WITH VIROLOGIC SUCCESS IN HIV-1 INFECTED ADULTS WITH TUBERCULOSIS RECEIVING RALTEGRAVIR OR EFAVIRENZ IN THE ANRS 12300 REFLATE TB2 TRIAL

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BACKGROUND: Few studies have explored the use of integrase strand transfer inhibitors in HIV-1 infected adults with tuberculosis. The Reflate TB2 trial failed to show non-inferiority of raltegravir 400mg BID compared to efavirenz 600mg QD at week 48. We aimed to identify factors associated with virologic success, including adherence.

METHODS: ANRS 12300 Reflate TB2 was an open-label randomized trial conducted in Brazil, Côte d'Ivoire, France, Mozambique and Vietnam. ART-naïve HIV1-infected adults on tuberculosis treatment were randomized (1:1) to receive raltegravir 400mg BID or efavirenz 600mg QD with TDF 300mg QD and 3TC 300mg QD. We assessed adherence using pill counts. Poor adherence was defined as pill count ratio <95%. We assessed determinants of virologic success (HIV-1 RNA ≤50cp/ml at 48 weeks) using logistic regression.

RESULTS: 460 patients were enrolled (Brazil 43, Côte d'Ivoire 172, France 4, Mozambique 130, Vietnam 111; 230 in each trial arm): median age 35 (IQR 29-43) years, 40% female, median CD4 103 (IQR 38-239) cells/µL, median plasma HIV-1 RNA 5.5 log/mL (IQR 5.0–5.8) with 340 (74%) patients having HIV-1 RNA >100,000c/mL. Median pill count ratios over the study duration were 96.9% (IQR 89.4 - 100.0) and 100.0% (IQR 94.3 - 104.5) in the raltegravir and efavirenz arms, respectively, and poor adherence was seen in 96 (43%) and 60 (27%) patients, in the raltegravir and efavirenz arms, respectively (p-value <0.001 for both). Overall, virologic success was achieved in 289/453 (64%) patients (excluding French), including 139/228 (61%) from raltegravir arm and 150/225 (67%) from efavirenz arm. In univariate analysis, gender, HIV-1 RNA, and adherence were associated with virologic success. In a multivariate model forcing country and study arm, female gender (OR: 1.77; 95CI 1.16-2.72), HIV-1 RNA <100,000c/mL (OR 2.29; 95%CI 1.33-3.96) and [100,000c/mL – 500,000c/mL (OR 1.62; 95%CI 1.02-2.57) versus >500,000c/mL, and pill count ratio ≥95% (OR 2.38; 95%CI 1.56-3.52) were independently associated with virologic success.

CONCLUSIONS: In the Reflate TB2 trial, higher adherence, lower baseline HIV-1 RNA levels and female gender, but not treatment arm, were associated with virologic success. Lower treatment adherence to the raltegravir BID regimen might explain the failure to show non-inferiority to the efavirenz regimen.

OAB0304

REDUCING ART TO LESS THAN 3-ARV REGIMEN LINKED TO INCREASED SYSTEMIC INFLAMMATION

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BACKGROUND: We assessed the long-term consequences of changing triple therapy (3DR) to 2-drug regimens (2DR) or PI-based monotherapy (1DR) on virological failures, clinical events, and systemic inflammation.

METHODS: We selected ART-naive patients initiating triple ART from 2004 to 2018 in the Spanish AIDS Research Network (CoRIS) who achieved virologic suppression (VS) in the first 48 weeks of ART and either remained on 3DR or were switched to 2DR (3TC+bPI; 3TC+DTG; DTG+RPV, CAB+RPV) or 1DR (bDRV or bLPV). We calculated cause-specific cumulative incidence curves and used multivariate Cox proportional hazards models adjusted for potential confounders to estimate hazard ratios for the endpoints: 1) severe non-AIDS events (NAE), 2) AIDS or AIDS-related death, 3) all-cause death, 4) virological failure, 5) composite endpoint of virological failure/serious NAE/death. In a nested study, we compared IL-6, CRP, D-dimers and IFABP trajectories during VS using multivariate mixed models and linear splines.

RESULTS: From 14458 patients, 8416 met the inclusion criteria; 7665 remained on 3DR, 424 switched to 2DR and 327 to 1DR. The median time from enrolment to censoring was 4.9, 6.9 and 8.4 years in the 3DR, 2DR and 1DR groups, respectively (P<0.001).

No between-group differences in the risk of endpoints 1-3 were detected. ART reduction after 24 months of therapy was associated with greater risk of virological failure (P=0.003) and greater risk of the composite endpoint (p=0.005), both driven by higher risk with 1DR but not with 2DR.

We analyzed 710 samples from 174 subjects (3DR, N=90; 2DR, N=61; 1DR, N=23). Compared to 3DR, 2DR was associated with increases of IL-6 (p=0.01), CRP (p=0.003) and D-dimers (p=0.001) after year 3 from VS. A similar pattern was observed for the comparison between 3DR and 1DR, (only significant for D-dimers trajectories, p=0.002).

CONCLUSIONS: In this large cohort of virally suppressed individuals, 1DR was associated with a greater risk of virological failure, with no significant differences between 2DR and 3DR. However, maintaining 3DR was associated with a more favorable long-term anti-inflammatory profile than switching to 2DR or 1DR. The potential clinical implications of these findings on the development of non-AIDS events deserve further investigation.

OAB0305

ISLATRAVIR SAFETY ANALYSIS THROUGH WEEK 48 FROM A PHASE 2 TRIAL IN TREATMENT NAÏVE ADULTS WITH HIV-1 INFECTION

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BACKGROUND: Islatravir (ISL, MK-8591) is the first nucleoside reverse transcriptase translocation inhibitor (NRTTI) in development for treatment of HIV-1 infection. We previously showed that ISL-based regimens had similar efficacy to DOR/3TC/TDF in a phase 2 trial in treatment naïve adults. Here we present a detailed safety analysis of the week 48 results.

METHODS: In this randomized, double-blind, dose-ranging trial, participants were initially assigned to receive ISL (0.25, 0.75, or 2.25 mg) with doravirine (DOR, 100 mg) and lamivudine (3TC, 300 mg) or a fixed-dose combination of DOR, 3TC, and tenofovir disoproxil fumarate (DOR/3TC/TDF) once daily. Participants receiving ISL with HIV-1 RNA<50 copies/mL at Week 20 or later stopped taking 3TC at their next visit and continued DOR+ISL at initial dosage; most participants stopped 3TC at Week 24. For the current analysis, we conducted a detailed review of adverse events (AE) examining the initial 24-weeks, the 24-week period after 3TC removal, and the cumulative 0 through 48-week study period.

RESULTS: 121 participants received drug and were included in the analyses. Similar AE rates between treatment arms were observed across all arms of the trial for each time period. No dose-dependent difference in the safety profile of ISL was observed. AEs were more frequent in the first 24 weeks of the trial as compared to the second 24-week period for all treatment arms (Table1).

	Weeks 0-24		24 weeks after 3TC removal for ISL Groups		Weeks 0-48	
	Combined ISL	DOR/3TC/ TDF QD	Combined ISL	DOR/3TC/ TDF QD	Combined ISL	DOR/3TC/ TDF QD
Number of Participants, N	90	31	86	28	90	31
≥ AE, n (%)	60 (66.7)	20 (64.5)	51 (59.3)	16 (57.1)	66 (73.3)	24 (77.4)
Drug-related AE, n (%)	5 (5.6)	6 (19.4)	3 (3.5)	1 (3.6)	7 (7.8)	6 (19.4)
Serious AE, n (%)	2 (2.2)	1 (3.2)	2 (2.3)	1 (3.6)	3 (3.3)	2 (6.5)
Discontinued due to AE, n (%)	0	0	2 (2.3)	1 (3.6)	2 (2.2)	1 (3.2)
AEs of Moderate or Severe Intensity, n (%)	21 (23.3)	11 (35.5)	21 (24.4)	10 (35.7)	32 (35.6)	15 (48.4)

Overall, diarrhea (most mild and transient) was more frequently reported for DOR/3TC/TDF (16.1%) as compared to ISL groups (combined 6.7%) while headache (most mild and transient) was more common in ISL groups (combined 11.1%) as compared to the DOR/3TC/TDF group (6.5%).

CONCLUSIONS: ISL was well tolerated regardless of dose through 48 weeks of treatment. Most AEs were mild and transient and did not result in study discontinuation.

OAB04 ANTIRETROVIRALS SESSION 2

OAB0402

DOLUTEGRAVIR- VERSUS LOW-DOSE EFAVIRENZ-BASED REGIMEN FOR THE INITIAL TREATMENT OF HIV-1 INFECTION IN CAMEROON: WEEK 96 RESULTS OF THE ANRS 12313 – NAMSAL TRIAL

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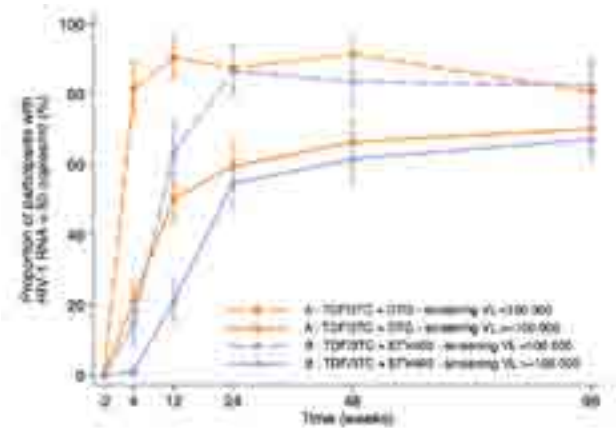
BACKGROUND: The updated WHO 2019 guidelines for ARV treatment recommend a Dolutegravir (DTG)-based regimen as the preferred first-line regimen and low-dose Efavirenz (EFV400) as an alternative option. The non-inferior efficacy of DTG compared with EFV400 was prevoiously reported at W48. We report here the W96 data.

METHODS: NAMSAL is a phase 3 randomized, open label, multicentre trial conducted in Yaoundé. HIV-1 infected ARV-naive adults with HIV-RNA viral load (VL)>1000 copies/mL were randomized (1:1) to DTG 50 mg or EFV 400 mg once daily, both with tenofovir disoproxil fumarate (TDF)/lamivudine (3TC). Randomization was stratified by screening VL and by site. The primary endpoint was the proportion of patients with VL<50 copies/mL at W48 and extended at W96 (10% non-inferiority margin).

RESULTS: 613 participants (DTG arm: 310; EFV400 arm: 303) received at least one dose of study medication. In the ITT analysis at W96, the proportion of patients with HIV RNA <50 copies/mL was 73.9% (229/310) and 72.3% (219/303) respectively (difference, 1.3%; 95% CI, -5.8 to 8.3; p-value <0,001).



[Figure 1:]

Figure 1 shows the viral suppression according to Baseline VL. The per-protocol analysis showed similar results. Virological failure (WHO definition) was observed in 27 participants (DTG: 8; EFV400: 19), 3 were switched from DTG to EFV600 (May 2018 WHO signal). No resistance mutations to DTG was observed, unlike the EFV400 with 18 resistances (NNRTI+/-NRTI) in the 19 confirmed failure

cases. Weight gain was greater in DTG arm (median weight gain: 5.0/3.0 Kg; incidence of obesity 12.3%/5.4%). 18 AE were observed (DTG: 8; EFV400: 10); one single participant in DTG arm had missing data.

CONCLUSIONS: W96 results confirm the non-inferior efficacy of the DTG-based regimen and the no emergence of resistance to DTG. Virological success rate remains lower in patients with a high initial VL in both arms. We observed a continuous weight gain in the DTG arm.

OAB0403

POOLED ANALYSIS OF 4 INTERNATIONAL TRIALS OF BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (B/F/TAF) IN ADULTS AGED >65 OR OLDER DEMONSTRATING SAFETY AND EFFICACY: WEEK 48 RESULTS

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BACKGROUND: As life expectancy for people with HIV increases, optimizing antiretroviral therapy to fit the needs of older adults, including those with co-morbidities and multiple medications, is paramount. B/F/TAF is a small single-tablet regimen with few drug-drug interactions, a high barrier to resistance and may provide a beneficial option for older patients.

METHODS: In this pooled analysis of 4 international trials (Studies 1844, 1878, 4030 and 4449) of virologically suppressed (HIV-1 RNA<50 copies/mL), treatment-experienced adults, we evaluated the efficacy and safety of switching to B/F/TAF for participants ≥65 years. Primary endpoint was HIV-1 RNA<50 copies/mL at Week 48 as defined by the FDA Snapshot algorithm.

RESULTS: 140 participants were age ≥ 65 years at study enrollment. Median age (Q1, Q3) was 68 years (66, 72), 14% were female, and 88% were White. Medical history at baseline was significant for diabetes 22%, hypertension 55%, cardiovascular disease 24% and dyslipidemia 59%.

At W48, the proportion with HIV RNA<50 copies/mL was 92% (129/140); 11 (8%) had no virologic data in window (5 discontinued study drug due to AE but had last available HIV-1 RNA<50 copies/mL; 6 had missing data but were still on study drug). No participant had virologic failure. Most common adverse events (AEs) were nasopharyngitis and arthralgia (7% each). Eleven participants (8%) had a study drug related AE, all were either Grade 1 or Grade 2.

There were no Grade 3-4 study drug-related AEs. Four participants had AEs that led to premature study drug discontinuation: abdominal discomfort, drug withdrawal syndrome, device related infection, and alcohol withdrawal syndrome. Median changes from baseline in fasting lipids were: total fasting cholesterol (-7mg/dL), LDL (-2mg/dL), HDL (0mg/dL), triglycerides (-15mg/dL) and total cholesterol:HDL (-0.1). Median weight change was 1.0 kg (IQR -0.9, 3.0). Ten percent (14/140) of participants had Grade 3 or 4 laboratory abnormalities.

CONCLUSIONS: Switching to B/F/TAF in older adults was well tolerated and safe while maintaining high rates of virologic suppression through 48 weeks. These data support the use of B/F/TAF for treatment of adults ≥65 years who could benefit from a small tablet with few drug-drug interactions and an established safety profile.

OAB0404

THIRD-LINE ANTIRETROVIRAL THERAPY INCLUDING RALTEGRAVIR, DARUNAVIR/RITONAVIR AND/OR ETRAVIRINE IS WELL TOLERATED AND ACHIEVES DURABLE VIROLOGIC SUPPRESSION OVER 144+ WEEKS IN RESOURCE LIMITED SETTINGS ACTG: A5288 STRATEGY TRIAL

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BACKGROUND: ACTG A5288 was a strategy trial in resource-limited settings (RLS) enrolling PLWH failing 2nd line PI-based ART. Participants with resistance to LPV and/or all NRTIs were assigned to 3 different cohorts (B,C,D) according to resistance profiles (Figure) and started 3rd line regimens that included raltegravir (RAL), darunavir/ritonavir (DRV/r) and/or etravirine (ETR). At 48 weeks, 87% of participants in these cohorts achieved HIV-1 RNA≤200. At sites where RAL, DRV/r or ETR were not available outside the study, the drugs were provided via the study for 96 additional weeks. We report here long-term outcomes over 144+ weeks, including all available follow-up (FU) of participants in Cohorts B, C and D.

METHODS: All participants were initially followed until 48 weeks after the last participant was enrolled. During the additional long-term FU, HIV-1 RNA was done every 48 weeks and CD4 count at 96 weeks; HIV-1 RNA≤200 copies/mL was imputed if necessary if both preceding and succeeding HIV-1 RNA≤200; CD4 count changes were estimated using loess regression.

RESULTS: Of 257 participants, 38% were female. At study entry, median age 42y; CD4 count 179 cells/uL; HIV-1 RNA: 4.6 log10 copies/mL. Median FU, 168 weeks (IQR: 156-204); 15 (6%) were lost to FU and 9 (4%) died. 27/246 (11%), 26/246 (11%) and 13/92 (14%) of PLWH who started RAL, DRV/r and ETR, respectively, discontinued these drugs, three due to adverse events. Estimated proportions with HIV-1 RNA≤200 copies/mL were 87%, 86%, 83% and 80% at weeks 48, 96, 144 and 168 (95% CI at week 168: 74-85%). Estimated mean increases in CD4 count were 150, 201, 245 and 265 cells/uL, respectively (95% CI at week 168: 247-283).

CONCLUSIONS: Third-line regimens containing RAL, DRV/r, and/or ETR were very well tolerated and provided a high rate of durable virologic suppression among people living with HIV in RLS.

[Figure: Cohort definitions, assignment and antiretroviral regimens]

OAB0405

SUB-OPTIMAL OUTCOMES WITH SWITCHING TO ZIDOVUDINE VS. RECYCLING TENOFOVIR IN SECOND-LINE TREATMENT IN HAITI

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BACKGROUND: World Health Organization (WHO) guidelines recommend an optimized nucleoside reverse transcriptase inhibitor (NTRI) backbone for second-line ART, including switching from tenofovir (TDF) to zidovudine (AZT), with presumed low-level AZT resistance. However, many providers in resource-poor countries recycle TDF in second-line treatment due to concerns for toxicity and twice-daily dosing of AZT and due to demonstrated efficacy of NRTIs (in spite of genotypic resistance found in several recent studies).

METHODS: Using electronic medical records from GHESKIO (Port-au-Prince, Haiti), we identified adult patients who failed first-line Efavirenz (EFV)/TDF/3TC and were switched to a second-line regimen that included ritonavir-boosted protease inhibitor (bPI), in combination with either TDF/3TC or AZT/3TC. Retention, adherence, and viral suppression outcomes were evaluated at 12 month after initiation of second-line regimen. Adherence was approximated using pharmacy refill data. Multivariable logistic regression was used to determine predictors of virologic suppression.

RESULTS: From 2012 to 2018, 1,017 patients met study criteria and were analyzed. Of these, 509/1017 (50.0%) were women. Median patient age was 40.7 years. 733/1017 (72.1%) patients continued on TDF/3TC on second-line, while 284/1017 (27.9%) were switched to AZT/3TC. Retention was similar in both groups with 612/733 (83.5%) in the TDF/3TC and 236/284 (83.1%) in the AZT/3TC group remaining in care. Of the patients with viral load at 12 months, 253/480 (52.7%) had VL<200 copies/mL in TDF/3TC vs 72/200 (36.0%) in the AZT/3TC group (p<0.001). Viral suppression in patients with ≥90% adherence was also better in the TDF/3TC group with 166/230 (72.2%) compared to 43/75 (57.3%) in the AZT/3TC group (p<0.016). Predictors of viral suppression included recycled TDF/3TC (odds ratio [OR]: 2.08; 95% CI: 1.46, 2.97), secondary or higher education level (OR: 1.53; 95% CI: 1.10, 2.14) and being married/living together (OR 1.51; 95% CI: 1.00, 2.27).

CONCLUSIONS: The WHO-recommended optimized NTRI backbone for second-line ART, which includes switching from TDF to AZT, was associated with lower rates of viral suppression than recycled TDF in Haiti. This may potentially be due to twice-daily dosing and poor tolerability of AZT. ART adherence was found to be poor regardless of NRTI backbone, therefore additional interventions are needed to improve adherence in this population.

OAB05 TB

OAB0502

EFFICACY AND SAFETY OUTCOMES (HIV SUBGROUP ANALYSIS) IN THE NIX-TB TRIAL - BEDAQUILINE, PRETOMANID AND LINEZOLID FOR TREATMENT OF EXTENSIVELY RESISTANT, INTOLERANT OR NON-RESPONSIVE PULMONARY MULTIDRUG-RESISTANT TUBERCULOSIS

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BACKGROUND: Nix-TB achieved 92% treatment success among 109 XDR and treatment-intolerant or non-responsive (TI/NR) MDR TB patients in South Africa, with a 3-drug, all-oral, 6-month regimen of Bedaquiline, Pretomanid and Linezolid (BPaL). Half of the study population (51%) were HIV+.

METHODS: Nix-TB is an open label single arm study of extensively drug-resistant (XDR) or treatment-intolerant or non-responsive (TI/NR) multidrug-resistant (MDR)-TB patients, with primary endpoint of relapse-free microbiologic and clinical cure 6 months after end of therapy. Safety data analysis was descriptive with no inferential tests carried out. HIV+ patients were required to have CD4+ > 50 cells/μL and be able to receive allowed ARV regimens (NVP-, LPV/r-, or RAL-based with NRTIs). Here we present a HIV subgroup analysis of the efficacy and safety data from the study.

RESULTS: 56 HIV+ patients (of 109 total) were on ARV therapy prior to enrolment. 39 patients (69.6%) switched pre-enrolment ARV to allowed regimens and these were all changes from EFV- regimens to either LPV/r- or NVP- regimens. CD4 count was available for 51 participants with mean, median and range of 394, 343, 55 – 1023 cells/uL respectively.

Success at the primary endpoint was 91% (95% CI, 80-97) in HIV+ and 92% (95% CI, 81-98) in HIV- patients. Results from a cox regression model showed that HIV status did not affect time to negative culture conversion status [hazard ratio 0.78 (95% CI, 0.50, 1.19); p= 0.249].

Among HIV+ and HIV- patients, grade 3 or 4 TEAEs were reported in 62.5% and 50.9%, hepatic TEAEs in 46.4% and 30.2%, peripheral neuropathy in 78.6% and 83%, hematopoietic cytopenias in 53.6% and 41.5%, and serious TEAEs in 16.1% and 17.0%, respectively. Of the 8 reported deaths (7.3% of total study population), 5 (8.9%) and 3 (5.7%) were in the HIV+ and HIV- population respectively.

All surviving patients (irrespective of HIV status) were able to complete the full 26 weeks of therapy.

CONCLUSIONS: Results of this simplified, shortened all oral regimen for highly drug-resistant TB show sustained high efficacy and manageable safety irrespective of HIV status.

OAB0503

PREVALENCE AND INCIDENCE OF TUBERCULOSIS INFECTION AND DISEASE AMONG HOUSEHOLD CONTACTS EXPOSED TO RIFAMPIN-RESISTANT/MULTIDRUG RESISTANT TUBERCULOSIS (RR/MDR-TB)

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BACKGROUND: To prepare for a clinical trial testing a novel TB preventive therapy (TPT) in high RR/MDR-TB burden settings, we sought to quantify the incidence proportion of TB infection (TBI) and disease (TBD) among household contacts (HHCs) of RR/MDR-TB cases.

METHODS: RR/MDR-TB HHCs in 8 high burden countries were enrolled in a cross-sectional study and then reassessed 1 year later. TBI was assessed at baseline by tuberculin skin test (TST) and interferon gamma release assay (IGRA), QuantiFERON Gold/Gold In-Tube; if IGRA-negative or indeterminate at baseline, HHCs age >=5 years had repeat IGRA at 1 year. TBD screening was performed using symptom screen, chest radiography, and mycobacteriology at baseline and follow-up. High-risk groups were defined as children <5 years, HIV-infected, or TBI. Generalized Estimating Equations approach to fit logistic models was used to account for within household correlation.

RESULTS: Of 1007 HHCs of 284 RR/MDR-TB cases, baseline prevalence of TBI was 55.0% by TST, 65.6% by IGRA, and prevalent TBD was 12%. At median of 51.4 weeks later, 850 (81.5%) HHCs from 247 households were traced; 6 HHCs (0.6%) had died (2 with TB). 253 (30%) HHCs were eligible for IGRA testing and 243 had it performed; 52 (21%) converted to IGRA-positive and 1 was indeterminate. 1-year cumulative TBI incidence among HHCs age <5 years was 21.6%; 10.9% among 5-14 years; and 25.5% among >=15 years, p=0.007. There was no difference in IGRA conversion by HIV status (22.1% in HIV+ and 21.5% in HIV-/unknown, p=0.95). 1-year cumulative TBD incidence was 2.3% (n=16); 15 (93.7%) were within high-risk groups. Cumulative TBD incidence was 2.7% in high-risk groups compared to 0.5% in those not in high-risk group (p=0.006); higher in <15 years than >=15 years (4.9% vs 1.3%, p=0.023); higher but non-significantly in HIV+ compared to HIV-/unknown (6.6% vs 1.9%, p=0.21). Only 26 (5%) of 553 high risk HHCs received TPT; mostly isoniazid monotherapy.

CONCLUSIONS: By one year of follow-up, most HHCs exposed to RR/MDR-TB had TBI. All but one new TBD event occurred in a high-risk group. Few received TPT, illustrating the enormous need for novel therapies and TPT scale up among this very high-risk population.

OAB0504

ASSESSMENT OF THE TUBERCULOSIS CLINICAL CASCADE AMONG CHILDREN LIVING WITH HIV ON ANTIRETROVIRAL THERAPY, 16 SUB-SAHARAN PEPFAR-SUPPORTED PROGRAMS, OCTOBER 1, 2018 TO MARCH 31, 2019

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BACKGROUND: Tuberculosis (TB) is underreported and contributes to substantial morbidity and mortality in children, particularly children living with HIV (CLHIV). We examined The US President's Emergency Plan for AIDS Relief (PEPFAR) data to identify opportunities to reduce TB burden among CLHIV.

METHODS: We analyzed PEPFAR data for CLHIV (<15 years) on antiretroviral treatment (ART) from October 1, 2018 to March 31, 2019. Of 21 PEPFAR-supported countries in sub-Saharan Africa, 5 were excluded due to non-reporting of age-disaggregated TB data. The remaining 16 were categorized by region, high pediatric TB incidence (≥25,000 per 100,000), and high CLHIV burden (≥60,000). We analyzed these TB cascade indices: TB symptom screening coverage (percentage screened at least once), screening positivity (percentage with positive screen), proxy TB treatment initiation rate (percentage with positive screen initiating TB treatment), proxy TB preventive therapy (TPT) initiation rate (percentage with negative screen initiating TPT), and TPT completion (percentage initiating and completing TPT).

RESULTS: In total, 555,851 CLHIV were included, representing 86% of CLHIV on ART across PEPFAR-supported programs. Of these, most were screened for TB (median 93%, interquartile range [IQR]: 86%-100%); however, few (median 3%, IQR:2%-6%]) screened positive. Of those screening positive, median TB treatment initiation rate was 19% (IQR:15%-29%). A median 8% [IQR:4%-11%]) of those screening negative initiated TPT. Of those initiating TPT, median completion was 72% (IQR:47%-79%). TB cascade indices were similar by TB incidence and CLHIV burden; TPT completion was lower in Western/Central Africa (62%), despite higher TPT initiation (24%) (Figure).

[Figure: Median tuberculosis clinical cascade indices among children living with HIV on antiretroviral therapy by pediatric TB incidence, CLHIV burden, and region, 16 sub-Saharan PEPFAR-supported programs, October 1, 2016 to March 31, 2019 (n=555,651)]

CONCLUSIONS: TB screening coverage was high, but screening positivity was lower than expected, suggesting poor screening quality. Low TPT initiation and completion underscores that national TPT plans should address pediatric-specific clinical guidance, supply chain, and routine monitoring. Age-disaggregated TB diagnosis data are needed, as proxies likely underestimate TB treatment initiation and overestimate TPT initiation rates.

OAB0505

RISK FACTORS FOR HEPATOTOXICITY IN HIV-INFECTED WOMEN RECEIVING ISONIAZID PREVENTIVE THERAPY IN PREGNANCY AND POSTPARTUM

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BACKGROUND: IMPAACT P1078, a Phase IV randomized, double-blind, placebo-controlled non-inferiority multi-country trial assessing the safety of 28 weeks of isoniazid (INH) preventive therapy (IPT) initiated during pregnancy (immediate IPT) versus deferring to week 12 postpartum (deferred IPT) in HIV-infected women on ART, showed higher than expected hepatotoxicity. We investigated hepatotoxicity risk factors.

METHODS: We examined all-cause hepatotoxicity defined as Grade ≥3 alanine transaminase (ALT) with or without symptoms or bilirubin > 2x upper limit of normal. We performed Poisson regression on study arm, country of enrollment, age, pharmacogenetics of INH and efavirenz (EFV) metabolism, timing of cotrimoxazole initiation, and baseline status of the following: ARV regimen, Hepatitis B and C, CD4, HIV VL, BMI, mid-upper arm circumference. Adjusted models included study arm and covariates with p<0.25 in unadjusted model. Study arm effect modification by ARV regimen was also evaluated.

RESULTS: Of 945 women with follow-up ALT measurements, 63 (6%) experienced ≥1 hepatotoxicity event; 29 (6%) in immediate and 34 (7%) in deferred arm; 5 (8%) occurred in pregnancy, 5 (8%) within 1 week after delivery, and 53 (84%) in postpartum >1 week. ARV regimen and cotrimoxazole use ranged widely by country (66%-100% taking EFV regimen; 0%-31% taking NVP regimen, and 5%-95% taking cotrimoxazole) as did slow metabolizing status (20%-70% for INH NAT2 genotype and 8%-30% for EFV CYP2B6 genotype). There was a study arm, ARV interaction; higher hepatotoxicity was observed with nevirapine (NVP) in immediate arm, and with EFV in deferred arm. Hepatotoxicity was also associated with cotrimoxazole initiation and marginally with Hepatitis C (Table). There was significantly higher risk of hepatotoxicity among slow EFV metabolizers. All other participant characteristics analyzed were not associated with hepatotoxicity.

Participant Characteristics	Group	Estimated Risk Ratio	95% Confidence Interval	P-value
INH/ARV regimen interaction EFV: Immediate vs Deferred (ref) NVP: Immediate vs Deferred (ref)		 0.73 8.67	 (0.41, 1.27) (1.06, 70.81)	0.028
Hepatitis C serology		3.60	(0.87, 14.88)	0.077
Mid upper arm circumference (ref obesity)	Malnutrition <23 Normal 23-31	0.37 0.77	(0.05, 2.77) (0.45, 1.32)	0.420
Initiated cotrimoxazole after week 12 postpartum (vs never initiated before week 12 postpartum)		4.57	(1.80, 11.47)	0.001
CYP2B6 genotype (ref slow)	Fast Intermediate	0.37 0.44	(0.16, 0.84) (0.23, 0.82)	0.017

[Table. Adjusted risk ratios for hepatotoxicity endpoint using Poisson regression models]

CONCLUSIONS: It is critical to monitor for hepatotoxicity in the postpartum when most events occur. ARV regimen type and cotrimoxazole use should also be considered in decisions on when to optimally initiate IPT in pregnant and postpartum women.

OAB0506

VALIDATION OF A LABORATORY-BASED REFERENCE TEST FOR TB-LAM AND FLOW-TB, A NOVEL POINT-OF-CARE TB DIAGNOSTIC ASSAY, IN A HIGH-HIV-PREVALENCE CLINICAL COHORT FROM KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: A first-generation point-of-care urine lipoarabinomannan (LAM) assay has low sensitivity to diagnose active tuberculosis (TB). We developed and validated a second-generation reference assay and point-of-care (POC) test to detect LAM for active TB diagnosis in people with and without HIV.

METHODS: We selectively enrolled adults with and without pulmonary TB at Edendale Hospital in KwaZulu-Natal, South Africa. We collected sputum for confirmatory TB testing and urine for LAM detection. We tested urine samples in the clinic laboratory using the Determine LAM Ag (Abbott) and FLOW-TB assay (Salus Discovery) as POC tests. We also conducted reference quantitative LAM testing using the MesoScale Diagnostic (MSD) electrochemiluminescence assay with 3 separate capture/detection monoclonal antibody combinations. We calculated the diagnostic accuracy for each assay, using sputum Xpert MTB/RIF and/or TB culture as the reference test.

RESULTS: Among 139 adults (45% female), 74% were HIV-positive and 88% had microbiologically confirmed pulmonary TB. The lab-based LAM reference assay had high diagnostic accuracy using the Otsuka S20/A194 (OA) antibody combination (83% sensitivity, 91% specificity) and the KI24/A194 (KA) antibody combination (81% sensitivity, 73% specificity). The MSD-LAM reference assay had 86% sensitivity and 89% specificity for diagnosing pulmonary TB among the 70 participants with TB culture-confirmed results. In LAM-positive persons, the median LAM concentration measured by MSD-LAM was 295 pg/ml (IQR 43-1541 pq/ml) using OA antibodies and 330 pg/ml (IQR 67-3909) using KA antibodies. FLOW-TB sensitivity, compared to TB Xpert reference testing, was 71% (80% in HIV-positive participants) and specificity was 67%. The FLOW-TB assay detected LAM in 80% of samples with LAM as measured by the MSD-LAM reference assay, whereas the Abbott LAM test detected LAM in 27% of samples with LAM as measured by the MSD-LAM reference assay.

Diagnostic test (Ab pair) vs. reference test	MSD (KA) vs. TB Xpert N=112	MSD (OA) vs. TB Xpert N=112	MSD (KA) vs. TB culture N=70	MSD (OA) vs. TB culture N=70	MSD (KA) vs. TB Xpert, HIV+ N=79	MSD (OA) vs. TB Xpert, HIV+ N=79	FLOW (KA) vs. MSD (KA) N=70	FLOW (KA) vs. MSD (KA) HIV+ N=50	Abbott Determine vs. MSD (OA) N=112
Sensitivity	81%	83%	84%	86%	79%	87%	80%	89%	27%
Specificity	73%	91%	78%	89%	73%	91%	74%	73%	100%

CONCLUSIONS: The MSD assay can accurately measure low concentrations of LAM in urine with high sensitivity and specificity for active TB in HIV-positive and HIV-negative persons, and is a suitable benchmark for evaluating novel POC LAM assays. The novel second-generation FLOW-TB assay had markedly improved sensitivity over the existing POC LAM assay.

OAB0507

TB CONTACT INVESTIGATIONS AS AN ACTIVE HIV CASE FINDING STRATEGY IN MOZAMBIQUE: LESSONS FOR HIGH TB AND HIV SYNDEMIC COUNTRIES

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BACKGROUND: TB contact investigations as an active HIV case finding strategy in Mozambique: Lessons for high TB and HIV syndemic countries.

METHODS: TB index patient contact investigations (CI) were conducted in five (5) health facilities (HF) in Maputo Province, Mozambique, beginning in early 2017 through Oct 2019. CIs included at least one home visit of the TB case, enumeration of all household (HH) members, screening for TB symptoms per WHO guidelines for those present at the time of the visit, followed by confirmatory TB testing for presumptive patients. All contacts were offered home-based rapid HIV testing, and if positive, were referred to a local HF for treatment. HH member demographic characteristics and CI outcomes were entered into Infomóvel, a mobile-based platform, and downloaded into Excel for analysis.

RESULTS: 2,990 TB index patient HH were visited and 76.4% (4,749/6,217) of all contacts were screened for TB symptoms; 62.4% (2,963/4,749) had at least one symptom; 3.6% (107/2963) were new TB patients. The age-group specific proportions of new TB patients were 12.2% (57/466) among HH members >15 years; 1.5% (12/797) among those 6-14 years, and; 2.2% (38/1,700) among those < 5 years. Only 8.3% (394/4,749) of screened HH members knew their HIV status, and only 53.6% (192/358) of those with previously diagnosed HIV were on ART. Among those who did not know their HIV status and were tested, 8.1% (278/3,442) were newly identified HIV infections. Overall, 13.4% (636/4,749) of HH members were HIV positive.

CONCLUSIONS: TB CIs will identify a substantial proportion of unrecognized and untreated HIV and provide an important opportunity to provide TB preventive therapy that will interrupt TB progression and transmission and reduce mortality among PLHIV. TB CIs should play an essential role in achieving epidemic control in countries with high TB and HIV burdens.

OAB06 WEIGHT AND METABOLIC CHANGES & ART

OAB0602

WEIGHT GAIN AND HYPERGLYCEMIA DURING THE DOLUTEGRAVIR TRANSITION IN AFRICA

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BACKGROUND: Clinical trials demonstrated weight gain upon initiation of dolutegravir-based regimens in sub-Saharan Africa, and reports of hyperglycemia have emerged during the programmatic rollout of TLD (tenofovir disoproxil fumarate/lamivudine/dolutegravir). We systematically examined the incidence of these conditions in the care and treatment setting.

METHODS: The African Cohort Study (AFRICOS) enrolled HIV-infected and uninfected participants at twelve PEPFAR-supported clinics in Uganda, Kenya, Tanzania and Nigeria. BMI was assessed six-monthly and glucose annually. Overweight/obese was defined as BMI > 25 kg/m2. Hyperglycemia was defined as fasting glucose>99, any glucose >199 or taking hypoglycemic medication. Incidence rates of becoming overweight/obese and developing hyperglycemia were calculated overall and by HIV status and treatment groups. Among HIV-infected participants without the conditions of interest upon enrollment, Cox proportional hazards models estimated hazard ratios (HRs) and 95% confidence intervals (CIs) for TLD use and other potential risk factors for weight gain and hyperglycemia.

RESULTS: From January 2013-November 2019, 3,514 participants were enrolled including 2,043 (58%) females and 2,927 (83%) living with HIV with median age 38 (Interquartile range 31-46) years. Incidence for becoming overweight/obese was 72.33 (CI 66.22-78.99) cases/1,000PY overall (n=2,545) and 98.6 (CI 63.6-152.8) cases/1,000PY among participants on TLD (n=528). Hyperglycemia incidence was 52.01 (CI 47.28-57.21) cases/1,000PY overall (n=3,045) and 121.30 (CI 71.84-204.82) cases/1,000PY among participants on TLD (n=373). For each condition, those taking TLD consistently demonstrated the highest incidence across sites, ART naïve participants had the lowest incidence, and the geographically highest rates were observed in Nigeria. In time-to-event analysis, 436 participants became overweight/obese and 380 developed hyperglycemia. Those taking TLD had increased rates of becoming overweight/obese compared to those taking non-TLD ART (HR 2.73; CI 1.67-4.48) after adjusting for site, gender, age and depression. While participants on TLD had an increased HR compared those on non-TLD ART in the unadjusted model (1.81; CI 1.04-3.14), this difference was not statistically significant (HR 1.12; CI 0.65-1.93) after adjustment for site, gender, age and enrollment BMI.

CONCLUSIONS: TLD use was associated with increased incidence of weight gain and hyperglycemia in this cohort. We observed regional differences in both conditions and an independent effect of TLD on becoming overweight/obese.

OAB0603

CHANGES IN BODY MASS INDEX OVER TIME IN PERSONS WITH AND WITHOUT HIV

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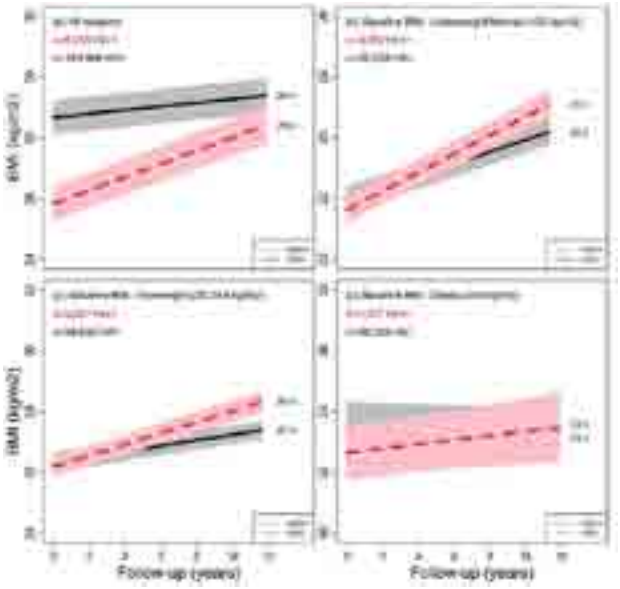
BACKGROUND: Adults with HIV (HIV+) may experience increases in body mass index (BMI) over time after antiretroviral therapy (ART) initiation. It is unknown whether BMI in HIV+ adults has approached adults without HIV (HIV-).

METHODS: We conducted a cohort study during 2005-2016 of HIV+ adults (≥18 years) who were members of Kaiser Permanente Northern California, Southern California, or Mid-Atlantic States, integrated healthcare systems with longstanding HIV registries and electronic health records. HIV- were matched 10:1 to HIV+ by age, sex, race/ethnicity, medical center, and calendar year. We restricted analyses to those with recorded baseline BMI; HIV+ were further restricted to ART initiators. Using mixed effects models, we compared changes in BMI over time for HIV- (reference) and HIV+ adults, both overall and in baseline BMI subgroups: underweight/normal (<25 kg/m^2); overweight (25-29.9 kg/m^2); and obese (≥30 kg/m^2). Multivariable models included terms for HIV status, time, HIV*time interaction, age, race/ethnicity, sex, year, substance use disorders, smoking, census-based education/income, insurance type, and common comorbidities.

RESULTS: The study included 8,256 HIV+ and 129,966 HIV- adults. Mean baseline BMI (kg/m^2) was 29.3 for HIV- and 26.2 (P<0.001) for HIV+. In adjusted models, the average annual change in BMI was 0.06 kg/m^2 for HIV- (reference) and 0.16 kg/m^2 (P<0.001) for HIV+. Adjusted changes in BMI by HIV status with 95% confidence bands are presented in the Figure. For all patients (panel a), the average BMI at 12 years was 28.4 and 29.4 for HIV- and HIV+ adults, respectively. For all baseline BMI categories (Figure, panels b-d), HIV+ adults had faster BMI increases over time compared with changes for HIV- adults.



[Figure. Adjusted changes in BMI by HIV status and baseline BMI]

CONCLUSIONS: HIV+ adults initiating ART have more rapid increases in BMI over time compared with demographically similar HIV- adults. This may adversely impact efforts to reduce the risk of BMI-related comorbidities in HIV+ adults, such as cardiovascular disease.

OAB0604

WEIGHT GAIN BEFORE AND AFTER SWITCH FROM TDF TO TAF

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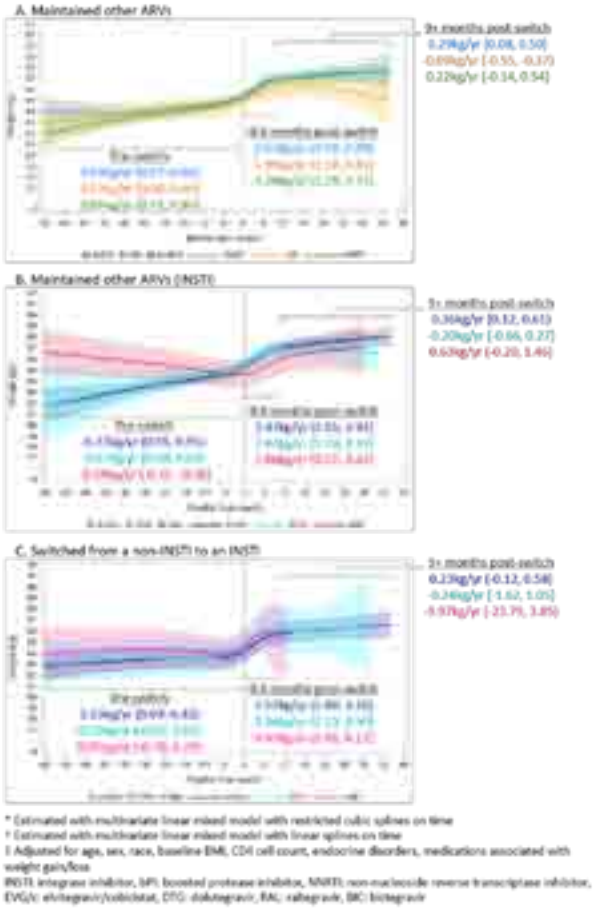
BACKGROUND: Although significant weight gain has been reported with use of some integrase inhibitors (INSTI), concurrent use of tenofovir alafenamide (TAF) has also been implicated. We aimed to examine weight changes in people living with HIV (PLWH) who switched from tenofovir disoproxil fumarate (TDF) to TAF.

METHODS: ARV-experienced, virologically-suppressed PLWH in the OPERA cohort who switched from TDF to TAF were included if they maintained all other ARVs or switched to an INSTI. We modeled weight change before/after switch to TAF using linear mixed models (random intercepts, restricted cubic splines on time), adjusting for age, sex, race, (age-sex, race-sex interactions), BMI, CD4 count, endocrine disorders and concurrent medications that could modify weight.

RESULTS: Demographics of 6,919 PLWH included were similar whether they maintained other ARVs or switched to INSTI (Table). Although modest weight gain over time was observed with TDF use (0.23 to 0.67 kg/year), switch to TAF was associated with early, pronounced weight gain (1.80 to 4.47 kg/year, Figure) in adjusted models. This effect with TAF switch was observed both in those who maintained other ARVs and those switching to an INSTI (regardless of which INSTI agent was used). Weight gain tended to slow down or plateau approximately 9 months after switch to TAF; bictegravir lacked sufficient data beyond 9 months.

	Maintained NNRTI, n=1,454	Maintained bPI, n=747	Maintained INSTI, n=3,288	Switched to INSTI, n=1,430
Age, median (IQR)	45 (34, 54)	51 (42, 57)	44 (33, 52)	49 (39, 56)
Female, n (%)	276 (19)	155 (21)	501 (15)	253 (18)
Black, n (%)	591 (41)	292 (39)	1,206 (37)	543 (38)
Hispanic, n (%)	348 (24)	190 (25)	865 (26)	373 (26)
BMI (kg/m^2), median (IQR)	27 (24, 31)	27 (24, 31)	26 (24, 30)	27 (24, 30)
CD4 cell count, median (IQR)	717 (542, 939)	608 (441, 826)	654 (475, 868)	668 (493, 875)
Endocrine disorders, n (%)	272 (19)	190 (25)	677 (21)	325 (23)
Medications associated with weight gain, n (%)	404 (28)	275 (37)	989 (30)	486 (34)
Medications associated with weight loss, n (%)	268 (18)	170 (23)	652 (20)	273 (19)

[Table. Characteristics at switch from TDF to TAF]



[Figure. Predicted weight over time on TDF and TAF and estimated rate† of weight gain (95% CI)‡]*

CONCLUSIONS: In this large, diverse cohort of PLWH, switching from TDF to TAF was associated with pronounced weight gain immediately after switch, regardless of concurrent INSTI use. That this effect was observed across regimens suggests an independent effect of TAF on weight.

OAB0605

WEIGHT CHANGES AFTER SWITCHING TO DORAVIRINE/LAMIVUDINE/TDF IN THE DRIVE-SHIFT TRIAL

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BACKGROUND: Initiation of antiretroviral therapy (ART) often leads to weight gain. Greater weight gain has been observed with integrase inhibitors than with protease inhibitors (PI) or non-nucleoside reverse transcriptase inhibitors (NNRTI), and with tenofovir alafenamide (TAF) vs tenofovir disoproxil fumarate (TDF). In treatment-naïve clinical trials of doravirine (DOR), mean weight gain over 96 weeks was similar to the average change in adults without HIV.

We conducted a post-hoc analysis of weight changes in DRIVE-SHIFT, a phase 3 trial in which adults with HIV-1 who were virologically suppressed for ≥6 months switched to DOR/3TC/TDF on Day 1 (immediate switch group, ISG) or after continuing their prior regimen for 24 weeks (delayed switch group, DSG).

METHODS: Mean weight change from time of switch was calculated for ISG and DSG at 24 weeks (24W) post-switch and for ISG only at 48 weeks (48W) post-switch, overall and by demographic subgroup (Men, Women, Black, White, Hispanic) and prior regimen (PI, NNRTI, Elvitegravir/TAF).

RESULTS: 670 participants (447 ISG, 223 DSG) entered the trial (84.5% male, 76.4% white, mean age 43.3 years). Post-switch weight data were available at 24W for 629 participants (ISG+DSG) and at 48W for 408 participants (ISG only). Weight gains after switch to DOR/3TC/TDF were small: mean 0.6 kg (95% CI: 0.4, 0.9) at 24W and 0.7 kg (0.4, 1.1) at 48W. Observed weight gain at 48W post-switch was nominally lower in women (0.3 kg) vs men (0.8 kg), in white participants (0.6 kg) vs black (1.3 kg) or Hispanic participants (1.3 kg), and after switching from a boosted PI (0.6 kg) vs an NNRTI (1.3 kg). In the small group who switched from elvitegravir/TAF, mean weight change was -0.4 kg at 48W post-switch.

	24 Weeks after Switch (ISG + DSG)			48 Weeks after Switch (ISG only)		
Group	N	Baseline Mean (95% CI)	Mean Change (95% CI)	N	Baseline Mean (95% CI)	Mean Change (95% CI)
Overall	629	79.2 (77.3, 80.5)	0.6 (0.4, 0.9)	408	79.5 (77.8, 81.2)	0.7 (0.4, 1.1)
Men	530	79.9 (78.5, 81.2)	0.8 (0.4, 0.9)	339	79.9 (78.2, 81.6)	0.8 (0.5, 1.2)
Women	99	75.6 (71.4, 79.8)	0.3 (-0.1, 1.2)	69	77.6 (72.2, 83.0)	0.3 (-0.8, 1.4)
Black	80	83.4 (79.2, 88.9)	1.4 (0.5, 2.3)	51	85.8 (79.5, 93.2)	1.3 (-0.3, 2.8)
White	484	79.2 (77.8, 80.5)	0.4 (0.1, 0.7)	312	79.1 (77.4, 80.9)	0.6 (0.2, 1.0)
Hispanic/Latino	105	76.3 (73.3, 78.8)	1.2 (0.7, 1.8)	66	76.2 (73.2, 79.2)	1.3 (0.6, 2.1)
Prior PI	441	79.3 (77.2, 80.8)	0.6 (0.3, 1.0)	286	79.9 (77.8, 82.0)	0.8 (0.2, 1.6)
Prior NNRTI	162	77.9 (75.3, 80.5)	0.9 (0.5, 1.4)	90	77.7 (74.6, 80.9)	1.3 (0.6, 2.0)
Prior Elvitegravir/TAF	26	85.7 (79.4, 93.0)	-1.2 (-2.5, 0.1)	30	82.6 (76.0, 89.1)	-0.4 (-2.4, 1.5)

CI = Confidence interval by t-distribution.

[Table: Mean weight change (kg) from baseline in DRIVE-SHIFT]

CONCLUSIONS: Weight changes among participants switching to DOR/3TC/TDF were modest and similar to the average change observed in adults without HIV in the US.

OAB0606

IMPROVED METABOLIC PARAMETERS AFTER SWITCHING FROM TAF-BASED 3- OR 4-DRUG REGIMEN TO THE 2-DRUG REGIMEN OF DTG/3TC (DOLUTEGRAVIR/LAMIVUDINE): THE TANGO STUDY

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BACKGROUND: Primary outcomes from TANGO demonstrated that switching to DTG/3TC is non-inferior at 48 weeks to continuing a 3-/4-drug TAF-based regimen (TBR) in virologically suppressed PLWH. Switching from TDF to TAF or using boosting agents has been associated with weight gain and dyslipidemia.

METHODS: Here we summarize changes over 48 weeks in weight, lipids, fasting glucose and insulin as well as prevalence at Week 48 of insulin resistance (IR) (defined as HOMA-IR ≥2), and metabolic syndrome (MS) (International Diabetes Federation definition). Subgroup analyses by boosting status of the baseline regimen were performed.

RESULTS: At baseline (BL), participants were randomized to either DTG/3TC (N=369) or TBR (N=372). Most participants were male (92%) and white (79%), median age was 40 years, and 74% received a boosting agent. Mean weight changes were small and comparable between arms. Changes in lipids, including TC:HDL ratio, generally favoured the DTG/3TC group. Changes in fasting glucose were small across arms; changes in fasting insulin favoured the DTG/3TC arm and were more pronounced in the unboosted group (Table). At Week 48, proportions with HOMA-IR ≥2 were 65% (BL=69%) and 74% (BL=68%) in the DTG/3TC and TBR arms, respectively (odds ratio 0.59 [CI:0.40, 0.87]; p=0.008), with differences favouring DTG/3TC more pronounced in the boosted group (Table). At Week 48, proportions with MS were 11% (BL=10%) and 12% (BL=11%) in the DTG/3TC and TBR arms, respectively; adjusted treatment differences favoured DTG/3TC in the unboosted group (Table).

CONCLUSIONS: Switching from 3-/4-drug TAF-based regimens to the 2-drug regimen of DTG/3TC led to similar small increases in weight, but general improvements in other metabolic health parameters, over 48 weeks. More pronounced differences favouring DTG/3TC were noted compared to the unboosted TAF-based group for fasting insulin and metabolic syndrome, and to the boosted TAF-based group for lipids and insulin resistance.

OAB07: YOUTH AND CHILDREN/PEDIATRICS/ WOMEN

OAB0702

OVERLAPPING SIGNIFICANT LIFE EVENTS ARE ASSOCIATED WITH HIV VIRAL NON-SUPPRESSION AMONG YOUTH IN CLINICS IN RURAL EAST AFRICA

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BACKGROUND: The HIV-care continuum among Youth Living with HIV (YLWH) is thought to be influenced by life events that may be part of normal psycho-social development but affect engagement with treatment. However, data on the prevalence of disruptive life events among YLWH in rural sub-Saharan Africa and their association with viral suppression are limited.

METHODS: SEARCH Youth (NCT0384872) is a cluster-randomized trial testing a package of youth-focused interventions in 28 HIV clinics in rural Uganda and Kenya. In the intervention arm, a tab-

let-based care-planning tool is used to assess potential barriers to treatment including alcohol use, HIV disclosure status, and major recent life-events: start/stop of school or employment, change in residence, divorce/separation or relationship strife, new sexual partner, family death, sickness, incarceration, family strife, and pregnancy or birth. We used multivariable logistic regression adjusted for clinic clustering to evaluate the association of potential barriers to treatment and age with viral suppression (<400 copies/mL, any ART status) at the time of enrollment.

RESULTS: Among 900 participants (83% female), 885 (98%) completed HIV viral load testing. The age distribution (years) of subjects was 19% 15-17, 32% 18-20, 29% 21-22, and 20% 23-24. ART had been started at enrollment (12%), ≤6 months prior (21%), or >6 months prior and they remain in (62%) or have since disengaged from care (4%). The most common life events were pregnancy (16%), moving (16%), sickness (9%), start/stop job or school (9%), family death (8%), relationship strife or divorce/separation (8%), and a new sexual partner (8%). Overlapping (≥2) life-events and alcohol were associated with viral non-suppression, while increasing age and disclosure were associated with suppression (Table).

Predictor of viral suppression	Prevalence in YLHIV	Adjusted Odds Ratios (95% CI)
Overlapping (2 or more) events	17% (151/900)	0.52 (035-0.77), p=0.001
Alcohol Use	17 % (155/900)	0.56 (0.38-0.84), p=0.004
Increasing age	n/a	1.08 (1.02-1.15), p=0.011
Disclosure of HIV status to family members	81% (727/900)	2.00 (1.4-2.8), p<0.001
Disclosure of HIV status to partner	54% (483/900)	1.71 (1.2-2.4), p=0.001

CONCLUSIONS: In this contemporary cohort of youth living with HIV in rural Africa, overlapping major life-events, alcohol use, and lack of disclosure were associated with viral non-suppression. Systematic and routine assessment of life events could allow providers and patients to identify and address barriers to treatment, potentially improving clinical outcomes in this vulnerable population.

OAB0703

IMPROVING PEDIATRIC INDEX TESTING: DATA FROM 12 PEPFAR-SUPPORTED COUNTRIES IN SUB-SAHARAN AFRICA

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BACKGROUND: Finding HIV-positive children is critical to close the pediatric treatment gap in resource-limited settings; 80% of children living with HIV (CLHIV) still not receiving treatment live in 12 PEPFAR-supported sub-Saharan African countries. Testing pediatric contacts of HIV-positive persons yields high positivity rates, and often identifies asymptomatic CLHIV. This report describes the roll-out of pediatric HIV index testing and resulting yield in PEPFAR-supported countries.

METHODS: We analyzed PEPFAR HIV testing program data for children 1-14 years of age, disaggregated by age-band (1-4, 5-9, 10-14), from October 1, 2017 to September 30, 2018 (FY18) and October 1, 2018 to September 30, 2019 (FY19) for 12 sub-Saharan African countries. The change in proportion of index tests and resulting yield from FY18 to FY19 was assessed using a one-sample Wilcoxon signed rank sum test.

RESULTS: The testing yield across all modalities increased from 1.0% (FY18) to 1.4% (FY19) with 101,206 HIV-positive tests in FY19. The proportion of index testing conducted increased from 9% (FY18) to 12% (FY19) (p<0.001) and the proportion of HIV-positive tests from index testing increased from 17% to 28% in FY18 to FY19 (p<0.001). In FY19, 40% of all index testing occurred in 5-9-year-olds who contributed 36% of all positives; index testing in 1-4-year-olds had the highest yield (4.5%). Eight countries had statistically significant increases in the proportions of index tests from FY18 to FY19: Cameroon [OR=1.41, CI 1.38-1.44], Ethiopia [OR=10.13, CI 9.91-10.36], Kenya [OR=1.90, CI 1.89-1.92], Malawi [OR=1.28, CI 1.24-1.31], Nigeria [OR=2.13, CI 2.08-2.18], South Africa [OR=2.36, CI 2.32-2.40], Tanzania [OR=2.40, CI 2.38-2.42], and Zambia [OR=1.98, CI 1.96-2.00]. However, South Africa, Nigeria, Uganda and Malawi had less than 7% of HIV tests from index testing.

CONCLUSIONS: Index testing is a high-yield approach to find CLHIV in PEPFAR supported settings. Implementation has improved but is sub-optimal and must be prioritized, particularly in high-burden settings.

OAB0704

BIOMARKER ASSESSMENT OF INFANT ADHERENCE TO ISONIAZID PROPHYLAXIS IN A PRIMARY TB INFECTION PREVENTION TRIAL IN KENYA

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BACKGROUND: Data are lacking regarding infant tuberculosis (TB) prevention therapy adherence. We assessed prevalence and cofactors of isoniazid (INH) prophylaxis (IPT) adherence using a low-cost dipstick in a TB prevention trial of HIV-exposed Kenyan infants.

METHODS: Infants 6 weeks of age were randomized to 12-months daily INH vs. no INH. For infants randomized to INH, standardized adherence questionnaires were administered to caregivers at follow-up visits (10 weeks, 3, 6, 9, 12 months of age, and 12 months post-randomization). Urine was collected for an INH dipstick test that changes color with INH metabolite detection within 30 hours of ingestion. We compared self-reported adherence to urine re-

sults and evaluated correlates of positive INH dipstick with relative risk regression using generalized linear models clustered by participant.

RESULTS: Among 97 infants randomized to INH with ≥1 urine result, baseline median age was 6.3 weeks (IQR 6.0-6.4), 41 (43.3%) were female. All mothers were on ART; 69 (71.1%) initiated ART prior to pregnancy and 6 (6.7%) had HIV viral load (VL) >1000 copies/ml. Seventy-three mothers (75.3%) previously received IPT; 10 (10.3%) reported history of TB.

One-hundred fifty-five urine tests were performed among 97 infants (54 [55.6%] 1 test, 29 [29.9%] 2 tests, 14 [14.4%] ≥3 tests) with 77 (49.7%) positive tests. Urine tests were positive in approximately 50% of infants with maternal-reported optimal INH use (>90% pills taken since last visit) (48/94), INH taken ≤24 hours (69/134), or no missed doses past 3 days (72/136).

Positive urine INH test was associated with maternal secondary education (RR 1.5 [95%CI 1.1-2.2, p=0.02]), increased household rooms (RR 1.2 per room [95%CI 1.0-1.5, p=0.02]), maternal HIV VL <1000 copies/ml (RR 2.1 [95%CI 1.1-4.0], p=0.02]), and report of no missed doses past 3 days (RR 2.4 [95%CI 1.0-5.6], p=0.05). Infant sex, age at visit, maternal history of TB or IPT were not associated with adherence.

CONCLUSIONS: Urine biomarker assessment suggests over-reported infant INH adherence. Association of maternal education and viral suppression with increased infant INH adherence suggests maternal understanding of medication rationale and success in their own medication adherence predicts infant adherence. Biomarker monitoring may be useful to evaluate and motivate infant medication adherence.

OAB0705

RATES OF CERVICAL LESIONS BY AGE AND PREVIOUS SCREENING STATUS AND ENHANCING TREATMENT AMONG WOMEN LIVING WITH HIV (WLHIV) IN SUB-SAHARAN AFRICA WITHIN THE GO FURTHER PARTNERSHIP

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BACKGROUND: WLHIV are at increased risk of persistent HPV infection and invasive cervical cancer (ICC). Optimal age at initiation of screening and timing of follow up for WLHIV are unknown. We assessed the rates of abnormalities by age and screening status among WHLHIV and evaluated factors associated with treatment.

METHODS: In May 2018, PEPFAR, the George W. Bush Institute, and UNAIDS launched the Go Further partnership; Merck joined in 2019. PEPFAR provided support in eight countries with high HIV prevalence for rapid scaling of bi-annual screening with visual inspection with acetic acid (VIA) for WLHIV aged 25-49 or per national guidelines and single screening for women >49. Semi-annual data included age, type of screening (first, rescreen or follow up one year after treatment), VIA findings (negative, positive – precancerous lesions, or suspect ICC), and treatment. Scale up began in Q4 of FY2018. Programmatic data, in country reviews, and GIS mapping were used to assess factors associated with treatment rates.

RESULTS: Through September 2019, 567,267 screenings were performed: 488,977 first screenings, 73,265 repeat, and 5,025 follow up after treatment. The rate of pre-cancer and suspected ICC were 6.5% and 1.5% at first screen, 0.9% and 0.2% in rescreens, and 11.9% and 7.1% after treatment. The rate of cervical pre-cancerous lesions and suspected ICC by age are below.

Age	Negative n (%)	Positive n (%)	Suspected ICC n (%)
15-19	6152 (93.8%)	352 (5.4%)	53 (0.8%)
20-24	30648 (92.0%)	2306 (6.9%)	355 (1.1%)
25-29	94106 (91.5%)	7625 (7.4%)	1091 (1.1%)
30-34	100823 (91.7%)	7630 (6.9%)	1463 (1.3%)
35-39	87065 (91.5%)	6716 (7.1%)	1419 (1.5%)
40-44	74356 (91.6%)	5364 (6.6%)	1435 (1.8%)
45-49	56178 (92.8%)	3235 (5.3%)	1119 (1.8%)
50+	44815 (92.4%)	2110 (4.4%)	1563 (3.2%)
Unknown Age	27229 (93%)	1627 (5.6%)	432 (1.5%)

Procurement issues, need for LEEP training, and lack of space were associated with treatment delays; mapping site level results to equipment placement can alleviate treatment backlog.

CONCLUSIONS: Rates of pre-cancerous lesions and suspected ICC after treatment were high, suggesting follow up screening sooner than one year. The rates of pre-cancerous lesions and suspected ICC were high across age bands, suggesting screening should start before age 25 for WLHIV. Aligning treatment availability to sites with high VIA-positive numbers can improve treatment rates.

OAB0706

PLASMA EXPOSURE-VIRAL LOAD RESPONSE ANALYSIS FOR DOLUTEGRAVIR IN CHILDREN WITH HIV-1: RESULTS FROM IMPAACT P1093

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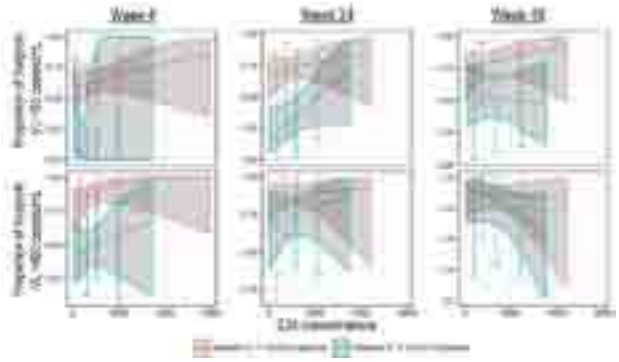
BACKGROUND: The approval of antiretroviral dosing in children is generally based on matching adult pharmacokinetic exposure parameters. However, higher variability in pediatric exposures suggests that efficacy may not be presumed to be identical to that in adults. Therefore, we evaluated the relationship between dolutegravir (DTG) exposure and virologic response in children.

METHODS: P1093 is a Phase I/II, open-label PK and safety study. The probability of virologic response (VR, HIV-1 RNA <50 or <400 copies/mL at Weeks 4, 24 and 48) was modelled as a function of DTG exposure (C24, Cavg or AUC0-24) based on sampling between days 5-10, weeks 4, 12 and 24; covariates included baseline viral load (VL), CD4+ count, CDC HIV infection stage and baseline VL ≥100,000 copies/mL. Logistic regression analyses were performed using NONMEM (version 7.4.3).

RESULTS: A total of 143, 135 and 112 VL observations were available at Weeks 4, 24 and 48, respectively. DTG exposure parameters (C24, AUC0-24 and Cavg) were not predictive of VR within the dose ranges tested, suggesting that exposures were at the maximum of the exposure-response curve. This may also be attributed to small sample size per dose and higher PK variability. Figure 1 shows exposure-response relationships for short and long-term (VR) versus C24. Baseline VL ≥100,000 copies/mL was a significant predictor of response and associated with a lower probability of achieving a VR of HIV-1 RNA <50 copies/mL (p<0.001).



[Figure 1. Viral load response rate versus C_{24}]

CONCLUSIONS: In IMPAACT P1093, a wide range of exposures (C24, AUC0-24 and Cavg) were observed at tested doses. DTG exposure metrics did not predict VL response, suggesting that the doses tested maintained exposures near maximum drug effect, while baseline VL remained a significant predictor of response. These results suggest that matching pediatric PK exposure parameters to those in adults is a reasonable approach for dose determination of DTG-containing formulations.

OAC01 ADOLESCENT GIRLS AND YOUNG WOMEN: EVALUATIONS INCLUDING DREAMS EVALUATION

OAC0102

THE IMPACT OF THE DREAMS PACKAGE ON HIV INCIDENCE AMONG YOUNG WOMEN WHO SELL SEX IN ZIMBABWE: A NON-RANDOMISED PLAUSIBILITY STUDY

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BACKGROUND: DREAMS aims to reduce new HIV infections among adolescent girls and young women through a targeted evidence-based intervention package. In a non-randomised study, we estimated its impact on HIV incidence among young women who sell sex (YWSS) in Zimbabwe.

METHODS: In two cities where DREAMS was implemented (2017-2019) and four towns without DREAMS implementation, respondent-driven sampling was used to recruit YWSS aged 18-24. At enrolment in all sites, consenting YWSS were offered HIV testing and referred to existing services for sex workers. In DREAMS sites only, oral pre-exposure prophylaxis (PrEP) and referral to other DREAMS services were available to YWSS. We followed up YWSS after two years. Using Poisson regression with follow-up time estimated as the time between interviews or half of this for those who sero-converted, we compared HIV seroconversion rates among YWSS between DREAMS and non-DREAMS sites. We adjusted for age, education, marital status, self-identification as a sex worker, STI symptoms, sexual partners in the past month, and HIV prevalence at enrolment. The study was powered to detect a 40% reduction in HIV incidence over 2 years.

RESULTS: Of 1859 HIV-negative women enrolled, 1019 (55%) were followed-up for 1896 person-years. Half of YWSS (48%) in DREAMS sites had been offered PrEP; 144 (28%) had ever started PrEP but few (12%) continued it (Table).

	DREAMS (N=538) n/N (%)	Non-DREAMS (N=481) n/N (%)	Comparison P-value
Attendance to Sisters with a Voice Clinic in past 12 months	317/538 (58.9)	135/480 (28.1)	<0.001
Attended Sisters with a Voice community mobilisation meeting in the past 12 months	73/537 (13.6)	27/480 (5.6)	<0.001
Attendance to PSI New Start Centre in past 12 months	135/538 (25.1)	56/480 (11.7)	<0.001
Attendance to Sisters with a Voice Clinic or PSI New Start Centre in past 12 months	381/538 (70.8)	164/480 (34.2)	<0.001
Ever been offered PrEP	150/521 (28.8)	4/450 (0.9)	<0.001
Ever taken PrEP	144/521 (27.6)	1/450 (0.2)	<0.001
Currently taking PrEP	63/521 (12.1)	0/450 (0.0)	<0.001
Recently HIV tested (within 6 months prior to the survey)	356/537 (66.3)	226/478 (47.3)	0.518
Social Protection services			
Receipt of cash transfer/educational subsidy in past 12 months	32/538 (6.1)	0/480 (0.0)	<0.001
Participation in continuing education programme in past 12 months	35/538 (3.9)	0/480 (0.0)	0.003

[Table. Comparison of interventions available through DREAMS and accessible to women in non-DREAMS sites through non-DREAMS partners, by arm]

Social protection service uptake was minimal (<5%). Among YWSS from DREAMS sites, HIV incidence was 3.1/100 person-years, compared to 5.3/100 person-years in non-DREAMS sites (RR=0.59; 95%CI 0.38-0.93). In adjusted analyses, there was little difference in HIV incidence between the DREAMS and non-DREAMS sites (RR=0.74; 95%CI 0.43-1.29; p=0.3).

CONCLUSIONS: We found limited evidence of a large impact of DREAMS on HIV incidence among YWSS in two Zimbabwean cities. Identifying approaches that enhance access to social services combined with delivery of biomedical interventions including PrEP remains critical for YWSS.

OAC0103

EFFECTS OF ECONOMIC SUPPORT AND COMMUNITY DIALOGUE ON ADOLESCENT SEXUAL BEHAVIOUR: FINDINGS FROM A CLUSTER-RANDOMISED CONTROLLED TRIAL IN ZAMBIA

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BACKGROUND: With a HIV prevalence twice that of their male counterparts and a high incidence of adolescent pregnancies, girls and young women in Sub-Saharan Africa are disproportionately affected by sexual and reproductive health problems (SRH). The objective of this study was to measure the effectiveness of

economic support alone or in combination with a community intervention, on sexual activity, contraceptive knowledge and contraceptive behaviour of adolescent girls.

METHODS: Data come from a cluster-randomised trial in rural Zambia. Recruitment was conducted between March and July 2016, and all girls from grade 7 in 157 selected schools were eligible to participate. Schools were randomised to either economic support, combined economic support and community dialogue, or control. Economic support consisted of cash transfers to girls and their parents, and payment of school fees for girls continuing to grade 8 and 9. The community dialogue consisted of community and youth meetings that aimed to enhance SRH knowledge and supportive community norms. The interventions lasted from 2016 to 2018, and outcomes were measured at the end of the intervention period. Comparisons between the arms were made using generalised estimating equations. All analyses were by intention-to-treat.

RESULTS: In total 4922 girls assented to participate. The mean age was 13.6 years at baseline and 16.1 years at the end of the intervention period. The response rate at the end of the intervention period was 89.4%. The proportion of girls reporting recent sexual activity was markedly lower in the combined arm (RR 0.73; 95% C.I. 0.60 – 0.89) and slightly lower in the economic arm (0.85; 95% CI 0.69 – 1.05) than in the control arm. Knowledge of modern contraceptives was higher in the combined than in the other two arms, but only significantly different from the economic arm (combined vs. economic RR 1.17; 95% C.I. 1.00 – 1.36; combined vs. control RR 1.16; 95% C.I. 0.95 – 1.43). No intervention effect was found on reported current use of modern contraceptives.

CONCLUSIONS: Economic support combined with community dialogue increased contraceptive knowledge and reduced sexual activity more than economic support alone, and may in turn reduce the risk of SRH problems. However, contraceptive use was not affected.

OAC0104

WHAT IS THE IMPACT OF DREAMS ON HSV-2 ACQUISITION AMONG AGYW IN RURAL KWAZULU-NATAL, SOUTH AFRICA?

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BACKGROUND: In South Africa, adolescent girls and young women (AGYW) are at high risk of acquiring HIV and other sexually transmitted infections such as Herpes Simplex Virus type-2 (HSV-2). HSV-2 is a marker of unprotected sex and direct risk factor for HIV acquisition. We evaluated the impact of combination HIV prevention DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) Partnership introduced in 2016 on HSV-2 infection in AGYW living in a rural area of South Africa where lifetime HIV acquisition risk is over 50%.

METHODS: We analysed data collected from a representative cohort of AGYW aged 13-22 selected from the general population in uMkhanyakude, KwaZulu-Natal. We collected data at three annual timepoints (2017-2019) on uptake of DREAMS interventions and collected dried blood spots for HSV-2 testing. HSV-2 seroconversion dates were estimated as the midpoint between date of last negative and first positive test; participants that remained negative throughout the study were censored at last visit date. We estimated HSV-2 prevalence and incidence rates and used Poisson regression to compare rate ratios among DREAMS beneficiaries (AGYW who were invited at any timepoint in 2016-2018 to participle in any DREAMS activity) and non-beneficiaries (AGYW never invited).

RESULTS: Of 2184 AGYW enrolled and tested for HSV-2 at baseline, 553 (25.3%) were HSV-2 positive. Of the remaining 1631, 1397 (85.7%) provided at least one follow-up test. HSV-2 incidence was 15.4 per 100 person-years (PY; 95%CI: 13.6–17.5). Incidence was non-significantly lower (14.3/100 PY) among DREAMS beneficiaries compared to non-DREAMS beneficiaries (16.9/100 PY). In age-adjusted analyses incidence rates were not significantly different between DREAMS beneficiaries and non-beneficiaries (overall: adjusted Rate Ratio (aRR) 0.97, 95%CI 0.75- 1.26; for 13-17y: aRR 1.24, 95%CI 0.84-1.83; for 18-22y: aRR 0.77, 95% CI 0.53-1.13).

CONCLUSIONS: We found little evidence of an impact of DREAMS on incidence of HSV-2 among AGYW in this setting with high HSV-2 and HIV prevalence. Sexual and reproductive health interventions need to be scaled up to reach vulnerable young people to prevent rapid acquisition of infections soon after sexual debut.

OAC0105

INCORPORATING PREP INTO STANDARD OF PREVENTION IN A CLINICAL TRIAL IS ASSOCIATED WITH REDUCED HIV INCIDENCE: EVIDENCE FROM THE ECHO TRIAL

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BACKGROUND: As oral PrEP becomes standard of prevention globally, its potential impact on HIV incidence in clinical trials of new prevention interventions is unknown. In the ECHO Trial, conducted between 2015 and 2018, PrEP was incorporated into standard of prevention from 2017. We assess the effect of access to PrEP on HIV incidence in this natural experiment.

METHODS: At 12 sites in four countries (Eswatini, Kenya, South Africa, Zambia), women were randomized to receive one of three contraceptives (copper IUD, DMPA-IM and levonorgestrol implant) and followed quarterly for up to 18 months to determine the impact of contraceptive use on HIV acquisition. The present analyses are limited to the South African sites (9 of 12 trial sites, 74% of trial enrollment), because PrEP access was offered onsite by the study team in 2018, accompanied by additional staff training; in the other three sites PrEP was offered off-site through demonstration and implementation projects. Using Poisson regression with GEE, we compared HIV incidence pre- vs. post-PrEP access, limited to quarterly visit months at which PrEP access was available on-site and, in a sensitivity analysis, to the 180 days before and after access.

RESULTS: 2043 women had follow-up time after on-site PrEP access began, of whom 543 (27%) initiated PrEP. A total of 12 HIV seroconversions were observed in 556 person-years (incidence

2.16 per 100 person-years) after PrEP access, compared to 133 HIV seroconversions in 2863 person-years (4.65 per 100 person-years) before PrEP access (IRR 0.451, p=0.009). Limiting to the 180 days post- vs. pre-access showed similar results (incidence 2.29 vs. 5.00 per 100 person years, IRR 0.434, p=0.016). Prior to PrEP access, HIV incidence was similar for women who did and did not have opportunity (based on enrollment date) to access PrEP on-site.

CONCLUSIONS: Access to PrEP as part of standard of prevention in a clinical trial among women in South Africa was associated with a halving of HIV incidence, when about a quarter of women started PrEP. Providing access to PrEP on-site as part of the standard of care package for prevention may result in decreased HIV incidence in future HIV prevention trials.

OAC0106

CONSENT COMPREHENSION AND WAIVER OF CAREGIVER CONSENT FOR MINORS PARTICIPATING IN SENSITIVE RESEARCH: VIEWS OF ADOLESCENT GIRLS AND CAREGIVERS IN WESTERN KENYA

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BACKGROUND: Adolescents under the age of consent often miss out on effective biomedical HIV interventions because they do not participate in trials. Researchers generally focus on adults to avoid dealing with the requirement of caregiver (CG) permission for minors to participate in research. We explored understanding of the consent by CG and adolescent girls (AG) and their views on waiver of CG consent.

METHODS: We conducted in-depth interviews (IDIs) with AG and CG, enrolled though the DREAMS program. The topics elicited information on: how to administer the consent to ease comprehension; components of the consent difficult or easy to understand; views on waiver of caregiver consent on general and sensitive research topics such as on HIV, sexually-transmitted infections, pregnancy, and contraceptives. The sessions were audio-recorded and transcribed; thematic approach was used to code the transcripts based on discussion topics.

RESULTS: We conducted 33 IDIs with AG aged 15-17 years and 40 with CG aged 23-52 years. Although both AG and CG expressed fatigue with the 'hard', 'compact' and 'long' contents of the informed consent, elements found specifically difficult were: apparent contradictions e.g., with voluntarism ('you invite us to join a study then tell us we can withdraw or not answer questions'); confusion with multiple durations, e.g., for IDI, study, paper data storage, electronic data storage; subject matter of research, such as 'how saliva can carry HIV'. AG also found research terms in local language difficult to understand, e.g., compensation for time, voluntarism, ethical oversight, etc.

Both AG and CG preferred reading sub-titles then staff reads text and asks questions; they suggested group discussion to aid understanding. Waiver of CG consent for minors on various reproductive health topics was rejected: 57.5-81.8% by AG and 37.5-100% by CG; however, if research topic is sensitive and may reveal sexual relationships of AG to their CG, 67% of AG preferred giving own consent.

CONCLUSIONS: AG and CG find consent documents generally long and technical. Waiver of CG consent was rejected by both AG and CG; however, if it leads to involuntary disclosure of AG's sexual behaviour, most AG but not CG recommend waiver.

OAC02 CAN WE ACHIEVE UTT? WHAT CAN UTT ACHIEVE?

OAC0202

OUTREACH-BASED HIV TESTING APPROACH FROM TEST & TREAT PROJECT IN TANZANIA: MID-TERM RESULTS

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BACKGROUND: The Test & Treat project is implemented in Tanzania by the Diocese of Shinyanga and CUAMM - Doctors with Africa. This project offers universal HIV testing and access to decentralized antiretroviral treatment through 4 Care and Treatment Clinics in Shinyanga and Simiyu regions, where estimated HIV prevalence is 5.9% and 3.9% respectively (Tanzania HIV Impact Survey, 2017).

METHODS: HIV testing and counseling activities were offered through extensive community outreaches, special events and facility-based services. The current cross-sectional study provides midterm results at 26 months (May 2017 – June 2019), stratified by sex and age. Aggregated data were collected from governmental testing registers.

RESULTS: A total 255,329 HIV tests were performed: 198,451 (77.7%) during testing campaigns in the villages, 44,286 (14.4%) in the health facilities and 12,592 (4.9%) during special events' outreaches. Gender distribution varied among testing modalities: females represented 53.8% (23,809) among those who tested in the health facilities, while males were the majority in the community (54.4%, 114,835 among testing campaigns and special events). Over one third of tests (n=102,427 41%) were performed among first-time testers. At multivariable analysis, higher rate of first-time testers was associated with being tested in the community versus in the facilities (RR 1.07, 95% CI 1.05 to 1.09; p<0.0001), with males (RR 1.05, 95% CI 1.04 to 1.07; p<0.0001) and with younger age (RRs ranging from 1.08 to 5.87 in age classes; p<0.0001). The overall HIV positivity rate was 1.2%, ranging from 0.7% in the community to 3.8% in the health facilities. HIV positivity rate was higher in females, both in the community (0.9% vs. 0.5%, p<0.0001) and in the health centres (4.2% vs. 3.4%, p<0.0001), among those with higher age classes (RR 1.68, 95% CI 1.62 to 1.73; p<0.0001) and the first-time testers (RR 1.93, 95% CI 1.80 to 2.08; p<0.0001).

CONCLUSIONS: Test &Treat project facilitated HIV testing in Shinyanga and Simiyu yielded relatively low numbers of newly identified HIV patients, complementary to ongoing efforts by National AIDS Control Program and others. More targeted efficient strategies to reach 'the first 90' are recommended, such as index testing or hot spot testing.

OAC0203

GEOGRAPHIC HOTSPOTS OF HIGH POPULATION HIV VIREMIA AND ASSOCIATION WITH HIV INCIDENCE IN A UNIVERSAL TEST-AND-TREAT SETTING IN RURAL UGANDA AND KENYA

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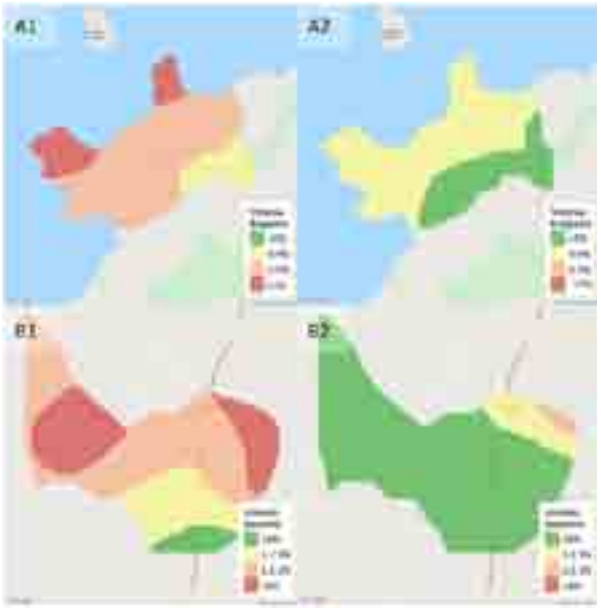
BACKGROUND: In the context of universal ART eligibility and increasing viral suppression, geospatial heterogeneity in HIV viremia could clarify drivers of transmission and improve intervention targeting. We evaluated the geospatial distribution of viremia before and after universal test-and-treat (UTT) implementation and its relation to HIV incidence.

METHODS: In 2013-2014, 10 West Ugandan and 12 Kenyan communities in the SEARCH study (NCT01864603) were census-enumerated with residential GPS coordinates recorded; 90% underwent HIV testing and HIV-RNA measurement, with repeat testing after 3 years. All HIV+ persons were eligible for ART at or after baseline. A moving 2-km Gaussian kernel was used to calculate local viremia (% of all adults with HIV-RNA >1000 cps/mL) at baseline and endpoint. Geographic clusters were detected using Tango's scan statistic. Within-community association between local viremia and incidence was evaluated with cluster-robust Poisson regression.

RESULTS: Among 106,164 adults aged≥15 years, median local viremia was 2.0% in Uganda and 3.7% in Kenya at baseline and declined to 0.8% in Uganda and 1.8% in Kenya after three years (Figure).



[Figure: Heatmap of baseline and year 3 follow-up viremia in Nyamrisra comunity in Kenya (A1 and A2) and Rubaare community in Uganda (B1 and B2), created using a 2-kilometer Gaussian kernel.]

11 communities (5 Uganda, 6 Kenya) had viremia clusters at baseline; 4 of these (2 Uganda, 2 Kenya) plus 3 new communities had clusters at year 3. At baseline, persons living closer to a road or the Lake Victoria coast had higher local viremia; these associations were attenuated after UTT. In Kenya, where HIV incidence declined by 43% during the study, every 1% absolute increase in local viremia was associated with a 32% increase in HIV incidence (IRR: 1.32, 95% CI: 1.14-1.52). In Uganda, where HIV incidence did not decline despite similar reductions in viremia, local viremia did not predict incidence (IRR: 0.96, 95% CI: 0.78-1.17).

CONCLUSIONS: In the context of UTT, HIV viremia declined but geographic hotspots of viremia remained, suggesting a role for geospatially-targeted testing and care engagement strategies.

OAC0204

IMPACT OF UNIVERSAL TESTING AND TREATMENT ON SEXUAL RISK BEHAVIOUR AND HSV-2: EVIDENCE FROM THE HPTN 071 (POPART) TRIAL IN ZAMBIA AND SOUTH AFRICA

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BACKGROUND: HPTN 071 (PopART) was a cluster-randomized trial of a combination HIV prevention strategy, including universal HIV testing and treatment (UTT) conducted between 2013-2018 in 21 high HIV prevalence communities in Zambia and South Africa. HIV incidence was significantly reduced in the trial arm which included universal HIV testing and treatment according to national guidelines (Arm B), with a lesser effect in the full UTT arm (Arm A), compared to standard of care (Arm C). We investigate if the intervention changed sexual behaviour.

METHODS: A population cohort of ~2000 randomly selected adults (18-44) in each community (N=48,301) was followed for 3 years to evaluate the impact of the trial on HIV, HSV-2 and sexual behaviour (N= 27,501 completed final visit). Differences in self-reported sexual behaviour were assessed using a two-stage method for matched cluster-randomized trials. HSV-2 incidence, as a marker of sexual risk, was measured in participants negative at enrollment with blood drawn at the final visit.

RESULTS:

Risk Variable	Sub-group	Mean of community proportions at final study visit			Adj Prev ratio A vs C (95%CI)	P Values	Adj Prev ratio B vs C (95% CI)	P Values
		Arm A	Arm B	Arm C				
HSV-2 incidence	Overall	11.6%	9.55%	11.9%	0.89 (0.73, 1.08)	0.199	0.76 (0.63, 0.92)	0.010
	Men	7.48%	5.25%	7.82%	0.93 (0.63, 1.38)	0.700	0.64 (0.43, 0.95)	0.030
	Women	14.1%	12.4%	14.8%	0.89 (0.73, 1.07)	0.190	0.81 (0.67, 0.98)	0.035
	Women	5.18%	4.93%	4.71%	1.01 (0.78, 1.30)	0.950	1.02 (0.78, 1.31)	0.902
Multiple sexual partners in last 12 mo.	Overall	1.95%	4.01%	4.17%	0.63 (0.29, 1.35)	0.210	1.05 (0.49, 2.26)	0.892
	Men	5.35%	9.12%	10.8%	0.65 (0.32, 1.31)	0.205	0.87 (0.43, 1.75)	0.661
	Women	1.08%	2.25%	1.63%	0.68 (0.24, 1.99)	0.450	1.53 (0.53, 4.45)	0.396
No condom use at last sex	Overall	60.3%	62.6%	62.4%	0.89 (0.79, 1.01)	0.064	0.98 (0.87, 1.11)	0.778
Sexual debut during PopART, if had never had sex at enrollment	Overall	72.8%	74.1%	73.3%	0.99 (0.84, 1.18)	0.926	1.00 (0.85, 1.19)	0.979

[Table 1: Arm comparison of change in sexual risk outcomes]

No significant changes in self-reported sexual behaviour were observed as a result of the intervention (Arms A or B versus C) (Table 1). The percentage of HSV-2 negative participants who acquired HSV-2 during the trial was 11.6% in Arm A, 9.6% in Arm B and 11.9% in Arm C. Mirroring the trial's HIV incidence result, HSV-2 incidence was lower by 11% (95% CI -8%, 27%,p = 0.2) in Arm A versus C, and by 24% (95% CI 8%, 37%, p = 0.01) in Arm B versus Arm C. Similar results held for men and women, with fewer HSV-2 infections observed in Arm B compared to Arm C.

CONCLUSIONS: There was no evidence that PopART interventions caused sexual risk disinhibition. HSV-2 incidence mirrored HIV-incidence, underscoring the potential importance of the correlation between HSV-2 and HIV susceptibility.

OAC0205

INCREASED TARGETED HIV TESTING AND REDUCED UNDIAGNOSED HIV INFECTIONS AMONG GAY AND BISEXUAL MEN IN NEW SOUTH WALES, AUSTRALIA 2010-2018

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BACKGROUND: In New South Wales (NSW), approximately 80% of HIV diagnoses occur among gay and bisexual men (GBM). In 2012 and 2016, the NSW Government released strategies aiming to increase HIV testing frequency among GBM and virtually eliminate HIV transmission. A range of HIV testing initiatives were introduced and expanded, and key indicators developed to evaluate their impact.

METHODS: Seven HIV indicators were measured during 2010-2018: (1) state-wide total HIV laboratory tests; (2) number of GBM attending cost-free publicly-funded HIV testing services; (3) 12-monthly HIV testing uptake; (4) annual HIV testing frequency; (5) HIV testing concurrently with a STI diagnosis; (6) HIV positivity; and (7) proportion of men with undiagnosed HIV among GBM living with HIV. Data were collected from existing passive and sentinel surveillance systems and mathematical modelling. Indicators were stratified by Australian vs. overseas-born.

RESULTS: Overall, 43,560 GBM attended the HIV testing services within the sentinel system (22,662 Australian-born, 20,834 overseas-born, 64 unknown) from 2010-2018. The number of attendees increased from 5,186 in 2010 to 16,507 in 2018. There were increasing trends (p<0.001 for all) in 12-monthly HIV testing uptake (83.9% to 95.1%); concurrent HIV testing with a STI diagnosis (68.7% to 94.0%); annual HIV testing frequency (1.4 to 2.7); and a decreasing trend (p<0.01) in HIV positivity (1.7% to 0.9%). Increases in testing were similar in Australian-born GBM and overseas-born GBM. However, among GBM living with HIV in NSW, there were decreasing trends in the estimated undiagnosed HIV proportion overall (9.5% to 7.7%) and in Australian-born GBM (7.1% to 2.8%), but an increasing trend in overseas-born GBM (15.3% to 16.9%) (p<0.001 for all).

CONCLUSIONS: Over the nine-year study period, more than three times more GBM attended the HIV testing services demonstrating increased demand for testing. Among these men, HIV testing was optimised reaching very high levels of uptake and frequency by 2018. The decline in the estimated undiagnosed proportions in GBM indicates HIV testing initiatives were well targeted in this group, reaching a very low level of undiagnosed HIV by 2018. Future initiatives should focus on addressing the higher undiagnosed proportion among overseas-born GBM and achieving further increases in testing frequency.

OAC0206

ESTIMATED TIME FROM HIV INFECTION TO DIAGNOSIS, 50 U.S. STATES AND THE DISTRICT OF COLUMBIA, 2014–2017

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BACKGROUND: In the United States, 38% of HIV transmissions occur from persons with undiagnosed HIV infection. Delayed diagnosis reduces opportunities to improve health outcomes of persons with HIV and to prevent HIV transmission. To inform local prevention efforts, we examined time between HIV infection and diagnosis (Infx-to-Dx) at the jurisdiction level.

METHODS: We analyzed data reported to the National HIV Surveillance System (NHSS) through June 2019 from 50 U.S. States and the District of Columbia for HIV diagnoses occurring among persons aged >13 years during 2014–2017. We calculated the interval between HIV infection and diagnosis by using HIV infection dates estimated based on a CD4 depletion model and HIV diagnosis dates reported to NHSS. Trends during 2014–2017 in the median number of months for Infx-to-Dx intervals were examined by using estimated annual percentage change.

RESULTS: During 2014–2017 in the United States, 157,412 HIV diagnoses occurred. The median Infx-to-Dx interval decreased from 43 months for persons with HIV diagnosed in 2014 to 40 months for persons with HIV diagnosed in 2017, a 2.3% annual decrease (P <0.001). Infx-to-Dx intervals shortened significantly during 2014–2017 in the South and the West (Table) which accounted for 71.2% of all HIV diagnoses during 2014–2017. In 41 jurisdictions with reliable estimates in 2017 (relative standard errors < 30%), median Infx-to-Dx intervals were <36 months for 10 (24.4%) jurisdictions, 36–47 months for 23 (56.1%), and ≥48 months for 8 (19.5%).

Region	2014 Median Month (IQR) No. of HIV Diagnosis	2015 Median Month (IQR) No. of HIV Diagnosis	2016 Median Month (IQR) No. of HIV Diagnosis	2017 Median Month (IQR) No. of HIV Diagnosis	Estimated Annual Percentage Change P value
Northeast	42 (0–106) N = 6,671	46 (0–107) N = 6,224	41 (0–105) N = 5,861	42 (0–102) N = 5,623	-1.5 p = 0.428
Midwest	46 (0–108) N = 5,111	39 (0–100) N = 5,357	46 (0–104) N = 5,292	41 (0–96) N = 5,231	-1.4 p = 0.645
South	45 (0–106) N = 20,294	42 (0–103) N = 20,487	41 (0–102) N = 20,399	41 (0–100) N = 19,874	-3.1 p < 0.0001
West	38 (0–100) N = 7,862	38 (0–98) N = 7,711	37 (0–96) N = 7,944	37 (0–95) N = 7,473	-1.6 p < 0.0001
Total	43 (0–106) N = 39,938	41 (0–102) N = 39,777	41 (0–102) N = 39,495	40 (0–99) N = 38,201	-2.3 p < 0.0001

CONCLUSIONS: During 2014–2017, the median time from HIV infection to diagnosis shortened nationally and particularly in southern and western states, suggesting better access to testing. However, delayed HIV diagnosis is substantial; one in two persons

with HIV diagnosed in 2017 was infected at least 40 months before diagnosis. That the median Infx-to-Dx interval was longer than 36 months for three-quarters of jurisdictions underscores the importance of addressing local barriers to early diagnosis.

OAC03 HARM REDUCTION: ARE WE MAKING PROGRESS?

OAC0302

DRUG OVERDOSES ARE REDUCING THE GAINS IN LIFE EXPECTANCY OF PEOPLE LIVING WITH HIV (PLWH) IN BRITISH COLUMBIA, CANADA

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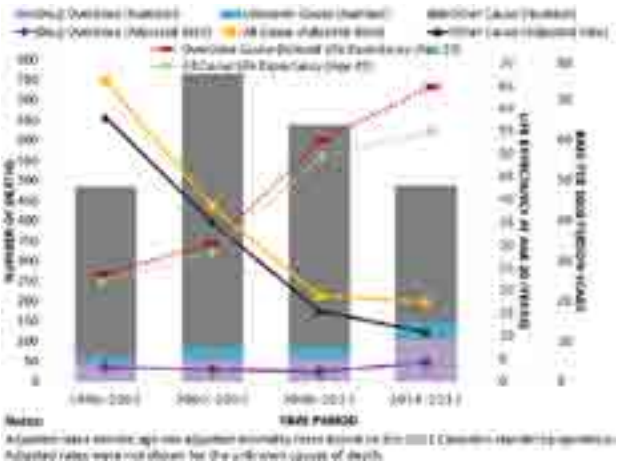
BACKGROUND: Overdose deaths have substantially increased in British Columbia (BC) since 2014; a public health emergency was declared in 2016. People living with HIV (PLWH) are disproportionately affected by substance use. We assessed the impact of illicit and pharmaceutical drug overdoses on life expectancy (LE) among PLWH in BC and identified factors associated with overdose mortality using competing risk methodology.

METHODS: PLWH were aged ≥20 years, initiated antiretroviral therapy (ART) between 1-Apr-1996 and 30-Dec-2017 in the Drug Treatment Program, and were followed until 31-Dec-2017, last contact date, or death date. We calculated all-cause and overdose cause-deleted LE at age 20 from abridged life tables. A subdistribution hazard model was built. Time-fixed covariates (at ART initiation) included gender, HIV exposure category, and ART initiation year (continuous). Time-varying covariates (6-month intervals) included age (continuous [years]), CD4 count (cells/mm^3), % suppressed viral load (VL), and time period. Overdose mortality was the outcome in the presence of competing mortality of other causes.

RESULTS: Overall, 10362 PLWH had a median age of 40 (25th-75th percentiles:33-47) years and follow-up of 6.93 (2.84-12.39) years; 26% were people who injected drugs (PWID). The largest loss in LE attributed to overdose occurred during the current 2014-2017 overdose era (2.5-5-fold higher than other periods). In 2014-17, the estimated LE at age 20 is 55 years. However, when overdose deaths are deleted, the estimated LE becomes 65 years (10 years greater) (*Figure 1*). Factors with elevated overdose hazards included the current overdose era (adjusted subhazard ratio [aSHR] 4.73 95% Confidence Interval, 2.07-11.38) relative to the harm reduction era (2002-2007), PWID (aSHR 7.88, 4.82-12.87) relative to men who have sex with men, VL not tested (aSHR 4.73, 3.54-6.31) and <100% suppression (aSHR 1.68, 1.20-2.36) relative to 100% suppression.

CONCLUSIONS: Survival gains, by virtue of combination ART, have been dramatically reduced due to the current overdose crisis.



[Figure 1: Mortality and life expectancy trends for individuals initiating ART in British Columbia, Canada, 1996-2017.]

OAC0303

HARM REDUCTION REVISITED: THE CAUSAL EFFECT OF THE DUTCH APPROACH TOWARDS PEOPLE WHO INJECT DRUGS ON HIV, HEPATITIS B AND C INFECTION RISK

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BACKGROUND: Early implementation of low-threshold harm-reduction programs (HRP) (opiate substitution therapy (OST) and needle and syringe exchange programs (NSP)) in the Netherlands might have contributed to the major decline in incidence of human immunodeficiency virus (HIV), hepatitis C virus (HCV) and hepatitis B virus (HCV). We aimed to assess the causal effect of HRP participation on risk of these infections among persons who inject drugs (PWID).

METHODS: We emulated a target trial using observational data from the Amsterdam Cohort Studies (1985-2014). We included PWID who ever used opioids, had a recent history of injecting drug use (IDU) and had a negative antibody test. Follow-up was analysed in interval-time risk-sets with a maximum duration of two years. Follow-up was calculated from the earliest date all eligibility criteria were met (i.e. baseline), until individuals were no longer compliant, HIV, HCV or HBV seroconversion, lost to follow-up, reached administrative censoring date or completed the 2-year follow-up interval; whichever occurred first. The intervention arms were: complete HRP participation (OST: ≥60 mg methadone and NSP: 100% coverage, or OST: any dose if no recent IDU) versus no/partial HRP participation (OST: <60 mg and/or NSP: <100% coverage). Marginal structural Cox-regression models were used to estimate causal hazards ratios (HR) for each infection separately, including inverse probability weights of treatment and censoring.

RESULTS: Of 983 PWID participants, 653, 143 and 310 PWID were HIV-negative, HCV-negative and HBV-negative, respectively, and considered eligible. We observed 70 HIV, 48 HCV and 50 HBV seroconversions during follow up. Compared to no/partial

HRP, complete HRP participation led to a decreased risk in HIV (HR=0·56, 95%CI:0·33-0·92), HCV (HR=0·12, 95%CI:0·05-0·29) and HBV (HR=0·29, 95%CI:0·15-0·56) acquisition.

CONCLUSIONS: Harm reduction programs led to a major decrease in HIV, HCV and HBV acquisition among PWID from Amsterdam. To the best of our knowledge this is the first study reporting causal estimates for HRP on infection risk. These findings reinforce the need to implement or scale up low-threshold HRP to prevent on-going transmission among PWID.

OAC0304

ARE HARM REDUCTION PROJECTS FOR PEOPLE WHO INJECT DRUGS IN UKRAINE IMPROVING HIV PREVENTION AND TREATMENT OUTCOMES?

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BACKGROUND: People who inject drugs (PWID) in Ukraine have high prevalences of HIV and hepatitis C virus (HCV). The Global Fund to fight AIDS, Tuberculosis, and Malaria has funded non-governmental organisations (NGOs) in Ukraine since 2003 to provide PWID with needle and syringe distribution, condoms, HIV and HCV testing, and to improve linkage to opioid substitution therapy (OST) and HIV treatment. However, due to policy changes the Global Fund is scaling back support in Ukraine. We investigated whether contact with these NGOs is associated with improved HIV prevention and treatment outcomes among PWID.

METHODS: Five rounds of integrated bio-behavioural survey data (2009 [N=3962], 2011 [N=9069], 2013 [N=9502], 2015 [N=9405], and 2017 [N=10076]) among PWID in Ukraine (including HIV/HCV testing and questionnaires) were analysed using mixed-effect logistic regression models (mixed-effects: city, year). These regression models assessed associations between being an NGO client and various behavioural, OST, HIV testing, and HIV treatment outcomes, adjusting for demographic characteristics (age, gender, lifetime imprisonment, registration in a drug abuse clinic, education level). We also assessed associations between being an NGO client and being HIV-positive or HCV-positive, likewise adjusting for demographic characteristics (as above).

RESULTS: NGO clients were more likely to have received HIV testing ever (adjusted odds ratio [aOR] 5.53, 95% confidence interval [95%CI]: 5.10-6.00) or in the last year (aOR 3.44, 95%CI: 3.27-3.63), to have used condoms at last sexual intercourse (aOR 1.30, 95%CI: 1.23-1.37) and sterile needles at last injection (aOR 1.37, 95%CI: 1.20-1.57), to be currently (aOR 4.08, 95%CI: 3.38-4.93) or ever (aOR 2.76, 95%CI: 2.53-3.01) on OST, and to have in the last year received syringes (aOR 151.72, 95%CI: 136.56-168.57) or condoms (aOR 45.19, 95%CI: 42.24-48.35). PWID who were HIV-positive (aOR 1.40, 95%CI: 1.32-1.48) or HCV-positive (aOR 1.57, 95%CI: 1.49-1.64) were more likely to have contact with NGOs, with HIV-positive PWID in contact with NGOs more likely to be registered at AIDS centers (aOR 2.30, 95%CI: 1.82-2.90) and to be on antiretroviral therapy (aOR 1.52, 95%CI: 1.32-1.76).

CONCLUSIONS: Contact with PWID targeted NGOs in Ukraine is associated with consistently better preventive, HIV testing, and HIV treatment outcomes, suggesting a beneficial impact of Global Fund programming.

OAC0305

ASSESSING IMPLEMENTATION AND IMPACT OF AN EDUCATIONAL INTERVENTION FOR SAFER INJECTION AMONG PEOPLE WHO INJECT DRUGS IN EUROPE: A MULTI-COUNTRY MIXED-METHOD STUDY

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BACKGROUND: The implementation and scaling up of harm reduction (HR) interventions are essential to reduce HIV and HCV transmission among people who inject drugs (PWID) in Europe. The Individually Tailored Support and Education for Safer Injection (ITSESI) is an evidence-based educational intervention for PWID. While ITSESI has been preliminarily evaluated in France (AERLI intervention in Roux et al, 2016), showing to reduce HIV and HCV risk practices, this study aimed to implement and evaluate ITSESI at European level.

METHODS: We performed a mixed-method implementation study. The quantitative component involved a non-randomized controlled trial, while the qualitative component involved face-to-face interviews and focus groups. We conducted this study between 2018 and 2019 within HR programs in Bulgaria, Greece, Portugal, and Romania, by enrolling 307 adult PWID. Our intervention (ITSESI) consisted to observe injection practices of PWID and to provide an educational exchange with trained field workers. Participants were allocated to the usual services (control group) or the intervention group. Primary outcome was the effectiveness of ITSESI defined as the reduction of HIV and hepatitis C virus (HIV-HCV) risk practices. We used RE-AIM QuEST framework to assess effectiveness of ITSESI and other dimensions (e.g., reach, adaptation). We used a multivariable mixed logit model to analyze the primary outcome. Qualitative data was analyzed thematically to provide future investigations.

RESULTS: Out of 307 eligible PWID, 203 participated (66%) in the complete follow-up. Among them, 60.6% received ITSESI. HIV-HCV risk practices dropped from 27.1% to 14.8% in the intervention group, while it remained stable in the control group (20.0%). PWID who received ITSESI were less likely to report HIV-HCV risk practices (adjusted odds ratio [95% confidence interval]: 0.27 [0.11, 0.70]). Our qualitative data showed importance to adapt some components of ITSESI and involve stakeholders such as field workers and PWID as proactive research partner in order to make implementation of ITSESI more accessible and acceptable across Europe.

CONCLUSIONS: We demonstrated the effectiveness of ITSESI in reducing HIV-HCV risk practices in the European context. Our findings provide important understandings of the adaptation and implementation of ITSESI that are relevant for a large-scale implementation of ITSESI across Europe.

OAC0306

PROGRESS IN HIV PREVENTION INTERVENTIONS UPTAKES AMONG PEOPLE WHO INJECT DRUGS IN UNGUJA ISLAND, ZANZIBAR: ANALYSES OF BIO-BEHAVIORAL SURVEYS IN 2007, 2012 AND 2019

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BACKGROUND: Zanzibar has a concentrated HIV epidemic among key populations, including people who inject drugs (PWID) who are at elevated risk of acquiring HIV from both injection practices and exchange of sex for drugs. We aimed to measure HIV prevalence, HIV acquisition risk factors, and access to, and uptake of HIV prevention and care services over the last 12 years among PWID in Unguja, Tanzania.

METHODS: We conducted cross-sectional bio-behavioral surveys (BBS) of PWID conducted in 2007, 2012, and 2019 in Unguja. PWID were recruited into BBS using respondent-driven sampling (RDS). A total of 499, 408, and 419 PWID were surveyed in 2007, 2012, and 2019, respectively. Participants' information was collected through an interviewer-administered questionnaire among consenting PWIDs aged 15+ who reported to have injected in the last three months. HIV status was assessed using the national rapid test algorithm with return of results. Point estimates were adjusted for Respondent Driven Sampling. F-test P-values (2012-2019 comparison) and 95% CI confidence intervals were calculated.

RESULTS: HIV prevalence among PWID in Unguja Island decreased from 16.0% [95% CI: 11.4-21.2] in 2007, to 11.3% [95% CI: 7.7-15.2] in 2012, to 5.1% [95% CI: 2.6-7.5] in 2019. The proportion of PWID who had tested for HIV and received their results in the past one year increased from 13.3% in 2007, to 38.0% in 2012, to 44.1% in 2019 (p<0.001). Access to clean needles also increased over time, from 52.7% and 52.1% in 2007 and 2012, respectively, to 86.6% in 2019 (p<0.001). Concurrently, the proportion of PWID who reported using a previously used needle in the past one month decreased from 53.8% in 2007 to 29.1% in 2012 to 18.7% in 2019 (p<0.001).

CONCLUSIONS: We noted reduction of HIV prevalence and increase in self-reported awareness of HIV status among PWID, which is key to linkage and retention in ART. Our results suggest that preventive interventions targeting PWID have been well taken up. Although significantly reduced, HIV prevalence and related risk behaviors persist at levels warranting enhanced efforts to reach all PWID with primary prevention and harm reduction services, especially, eliminating the use of non-sterile needles.

OAC04 I TEST, YOU TEST, WE ALL TEST: MULTIPLE ROADS TO THE FIRST 90

OAC0402

FEASIBILITY OF IMPLEMENTATION, ACCEPTABILITY AND PRELIMINARY EFFECTS OF A PILOT, PEER-LED HIV SELF-TESTING INTERVENTION IN A HYPERENDEMIC FISHING COMMUNITY IN RURAL UGANDA

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BACKGROUND: Novel interventions are urgently needed to reach young people and adult men, who continue to show low HIV testing and linkage to HIV care rates compared to other populations. We assessed the feasibility of implementation, acceptability, and preliminary effects of a pilot, peer-led oral HIV self-testing (HIVST) intervention in Kasensero; a hperendemic (HIV prevalence: 37%) fishing community along the shores of Lake Victoria in rural Uganda.

METHODS: This prospective cohort study was conducted among young people (15-24 years) and adult men (25+ years) between May and August 2019. The intervention entailed distribution of HIVST kits by 34 trained "peer-leaders" who were local people selected from existing social networks and trained in HIVST distribution processes. Each peer-leader nominated up to 20 members from their social network who were screened for eligibility; up to 10 eligible members were enrolled into the study. Peer-leaders received up to 10 kits (one for each member) to distribute to eligible members of their social networks. Eligible social network members were followed up at 1-month post-baseline to assess uptake of HIVST and other associated outcomes. This intervention was deemed to be feasible if peer-leaders distributed up to 70% of the kits they received; and acceptable if >80% of the respondents self-tested for HIV. Data were analysed using STATA (version 14.1).

RESULTS: Of 298 (87.6%) enrolled into the study, 56.4% (n=168) were aged 15-24 years, 67.5% (n=201) were males, while 21.1% were engaged in fishing or fishing-related activities. Sixty-nine percent (n=206) had ever heard about oral HIVST. Peer-leaders distributed 296 (99.3%) kits. Ninety-seven percent (n=286) of those who received the kits self-tested for HIV, based on self-reports and returned used kits. HIV prevalence was 7.4% (n=21); 57.1% (n=12) were first-time HIV-positive testers. One-hundred per cent (n=12) of first-time HIV-positive testers sought confirmatory HIV testing (as recommended) and 10 (83.3%) were confirmed as HIV-positive. Nine of the ten (90%) confirmed first-time HIV-positive testers were linked to HIV care.

CONCLUSIONS: Our findings show that implementation of a social network-based, peer-led HIVST intervention in a hyperendemic fishing community is highly feasible, acceptable, and achieves high linkage to HIV care among newly diagnosed HIV-positive individuals.

OAC0403

HIV SELF-TESTS FREE DISTRIBUTION IN BRAZIL: AN EFFECTIVE STRATEGY FOR REACHING UNDIAGNOSED KEY POPULATIONS

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BACKGROUND: In 2018 there were 900.000 PLHIV in Brazil, of which 15% were unaware of their status. Innovative strategies are fundamental to increase access to testing, specially in countries with concentrated epidemics. In December 2018, Ministry of Health of Brazil (MoH) implemented a pilot strategy for free of charge distribution of 400,000 HIV self-tests (HIVST) in the public health system, aiming to reach undiagnosed people. This strategy, carried out in eight states, consisted in delivering up to six HIVST in three situations: for PrEP users to give to peers or partners; at places of sociability of key population (KP) by health teams and civil society organization (CSO); and secondary distribution for people tested in Health Services (HS). This study aimed to presenting the profile of people reached by the strategy.

METHODS: We collected HIVST distribution data through a form hosted in a monitoring system (SIMAV), with questions regarding demographics, sexual behavior, previous testing and number of tests taken, filled upon test delivery, which were afterwards analyzed.

RESULTS: By December 31, 2019, MoH distributed 51,906 HIVST, of which 45,052 HIVST were distributed to 16,364 people who filled the forms. Out of those people, 22% were 18-24 years old and 21% were 25-29 years old; black people accounted for 43% of completed forms, MSM accounted for 54% and trans people accounted for 4%. 25% were in PrEP.

Among those not in PreP, 20% were first time testers (32% among those aged 18-24), 14% had last tested for HIV over two years before and 37% tested less than six months. People in PrEP took an average of 3.3 HIVST to peers and partners, while other people took an average of 2.4 HIVST.

CONCLUSIONS: Preliminary data suggest that strategy is reaching the target population for HIVST, including young people and first time testers, raising the potential to reach undiagnosed. People in PrEP are potential secondary distributors. These results encouraged expansion for another six states in 2020. Innovative efforts to reach trans people are of special interest and should be increased.

OAC0404

TRUST: RESULTS OF AN HIV SELF-TESTING INTERVENTION FOR BLACK OR AFRICAN-AMERICAN TRANSGENDER WOMEN (TGW) AND GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN (MSM) IN NEW YORK CITY

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BACKGROUND: Increasing HIV testing, the gateway to prevention/care, is critical to eliminating racial disparities and ending the HIV epidemic in the United States. HIV self-testing (HST), an alternative to clinic-based testing, is private, convenient and acceptable and may increase consistent/frequent testing.

METHODS: We evaluated a behavioral intervention to increase HST to support consistent HIV testing among Black or African-American transgender women (TGW) and men who have sex with men (MSM) and/or TGW via a randomized controlled trial. We enrolled eligible "index" participants in "friend pairs" between (mid-2016 to 2017) with every three-month follow-up over one year. The single-session intervention arm provided counselor-delivered HIV testing (as friend pairs), training on HST, and identification and practice of optimal peer support. The time/attention control arm provided counselor-delivered testing individually (results shared in pairs) and generic, didactic self-screening (including HST) information. Both arms received HST kits and testing reminders every 3 months. A modified intent-to-treat analysis, using GEE models with an independent structure and time as a cluster, of 98 intervention and 99 control "index" participants (only) was conducted.

RESULTS: Retention ranged from 78-82% at -3 and 6-months and 63-88% at 9- and 12-months across arms. In the intervention arm, the proportion of participants reporting HST in the past three months increased from baseline (2%) to 3-month (57%) and 6-month (54%) follow-up. In the control arm, the proportion of participants reporting HST in the past three months increased from baseline (7%) to 3-month (42%) and 6-month (42%) follow-up. The difference in the increases was statistically significant by arm at $p<.05$ and $p\leq.05$ at 3- and 6-month follow-up, respectively, but not at 9- and 12-month follow-up. Intervention arm participants were approximately twice as likely to HST at 3-month (OR 2.24; 95% CI: 1.12-4.47) and 6-month (OR: 1.94; 95% CI: 1.00-3.75) follow-up, compared with control arm participants.

CONCLUSIONS: The TRUST intervention increased HST over 6 months of follow-up, but impact was attenuated at 9 and 12 months. The intervention integrates HST skills-building and peer support to reduce barriers to HST, representing a promising approach to increasing consistent testing among subpopulations for whom consistent testing would be most beneficial.

OAC0405

FEASIBILITY OF INDEX TESTING AMONG INCARCERATED PEOPLE: EARLY RESULTS FROM FOUR CORRECTIONAL FACILITIES IN ZAMBIA

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BACKGROUND: Incarcerated people in Zambia face a disproportionately high HIV burden estimated at 27%–30%. Until recently, targeted HIV testing services (HTS), such as index testing, have not been implemented in correctional settings. We began providing consensual and confidential HIV partner notification services in four Zambian correctional facilities and offered index testing services to HIV-positive inmates with active community tracing of their partners. Traced contacts were offered HTS and HIV prevention and treatment services. We assessed the effectiveness of this program.

METHODS: In these four correctional facilities, entry and exit screening for HIV, tuberculosis, and sexually transmitted infections is offered as part of routine care. All HIV-positive inmates are immediately linked to HIV treatment, care, and support. In February–September 2019, all inmates with new HIV diagnoses were offered index testing services by trained providers during post-test counseling. Index patients were asked to provide contact information for their sexual partners per Ministry of Health guidance. Index contacts were traced by phone or home visit. Sexual contacts were counseled and tested for HIV. If HIV-positive, they were linked to antiretroviral therapy (ART), and HIV-negative contacts were linked to combination prevention.

RESULTS: Of the 175 (Female-27, Males-148) inmates offered index testing, 166 (Female-27, Male-139) (94.9%) accepted (Table). 293 (Female-223, Male-70) sexual contacts were identified (elicitation ratio: 1:1.8). Of these, 109 (Female-42, Male-67) (37.2%) were contacted: 59 (Female-23, Male-36) (54.1%) already knew their status and were receiving ART, and 50 (Female-19, Male-31) (45.9%) tested for HIV. Of those tested, positivity was 30% (15/50). Of those with a new HIV diagnosis, 10 (Female-6, Male-4) (66.7%) were linked to ART, but 5 (Female-3, Male-2) (33.3%) declined treatment, citing preference for couples' HTS or retesting at the clinic closest to home.

Steps in Index Testing Cascade	Total (N, %)	Female (n, %)	Male (n,%)
Offered Index	175, 100%	27, 15.4%	148, 84.6%
Accepted Index	166, 94.9%	27, 16.3%	139, 83.7%
Contacts Elicited	293, 100%	223, 76.1%	70, 23.9%
Contacts Traced	109, 37.2%	42, 38.5%	67, 61.5%
Contacts Known Positive on ART	59, 54.1%	23, 39.0%	36, 61.0%
Contacts Tested for HIV	50, 45.9%	19, 38.0%	31, 62.0%
New HIV-Positive Contacts (Testing Yield)	15, 30.0%	9, 60.0%	6, 40.0%
Contacts Linked to ART	10, 67.7%	6, 60.0%	4, 40.0%
Contacts Declining Treatment	5, 33.3%	3, 60.0%	2, 40.0%

CONCLUSIONS: Index testing in correctional facilities is feasible and results in high testing yield.

OAC0406

WHAT'S A LAB GOT TO DO WITH IT? ALLIANCES WITH PRIVATE LABORATORIES ENHANCE HIV-CASE FINDING AMONG AT-RISK MSM AND TRANSGENDER WOMEN IN CENTRAL AMERICA

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BACKGROUND: Under the USAID Combination Prevention Program for HIV in Guatemala, El Salvador, Honduras, Nicaragua, and Panama, the Pan American Social Marketing Organization (PASMO) implements offline and online interventions to increase HIV testing services (HTS) uptake among at-risk MSM and transgender women (TW), and link reactive cases to care. HTS is performed by PASMO counselors, laboratory technicians, or private laboratories, the latter of which must complete training and sensitization exercises to provide quality key population (KP)-friendly services. Although the public sector generally provides HTS for free, difficult to access, "hidden" MSM and TW populations often prefer private health services due to fear of stigma, discrimination, and confidentiality breaches in the public sector.

DESCRIPTION: PASMO uses a Unique Identifier Code (UIC) to track program participants from initial engagement through entry in care. Print or online vouchers are used to refer to HTS. Vouchers received by private laboratory partners are collected by PASMO on a bi-monthly basis. On a monthly basis, PASMO enters the monitoring data into its management information system, allowing it to track the number of individuals reached, percentage of individuals who receive HTS, HIV-case finding yield (number of reactive cases identified per number of tests), and percentage linked to care.

LESSONS LEARNED: From October 2018 to September 2019, PASMO reached a total of 17,897 MSM and TW across the five countries through offline and online interventions of which 13,197 (748%) received HTS, and 720 were reactive (yield of 1 of every 17). PASMO counselors performed 6,877 of the tests with 298 reactive cases identified (1 of every 23), whereas private laboratories performed 6,320 tests and detected 422 reactive cases (1 of every 15 tests). Private laboratories identified 59% of all reactive cases identified by the program during the year.

CONCLUSIONS/NEXT STEPS: With this program's focus on most at-risk and "hidden" MSM and TW groups, the partnerships with private laboratories play a significant role in HIV case finding, producing improved yield, and helping expand the access of difficult to access KPs to HTS services throughout the region.

OAC0407

COMMUNITY MOBILIZATION TO IMPROVE ENGAGEMENT IN HIV TESTING, LINKAGE TO CARE, AND RETENTION IN CARE IN 15 VILLAGES IN SOUTH AFRICA: THE TSIMA CLUSTER-RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Increasing HIV testing and early treatment initiation is key to ending HIV. Community Mobilization (CM) - which goes beyond service provision or outreach and engages communities in a process to collectively enact change - has significant potential to increase HIV services uptake. CM interventions have rarely been rigorously evaluated.

METHODS: We randomized 15 villages in the MRC/Wits-Agincourt health and socio-demographic surveillance site, South Africa, to intervention or control. The intervention engaged residents to address social barriers to HIV testing and treatment – poor awareness of HIV care (especially treatment as prevention); fear/stigma; and gender norms that deter accessing care. Activities were delivered through mobilizers and trained volunteers over three years in public spaces and homes. We assessed differences in HIV testing uptake, linkage to and retention in care among 18-49 year old residents in intervention vs control villages over time (in 3-month increments) using data from 9 public clinics serving the area. Intention-to-treat analyses included generalized estimating equations stratified by sex and accounting for clustering.

RESULTS: Among 38,392 residents, 13,404 had documented clinical visits between August 2015 and July 2018. HIV testing uptake increased quarterly by 13% and 11% in intervention men and women as compared to 9% and 10% among control men and women ($p<0.05$); though annual testing among men never exceeded 10%. With more individuals entering care over time, retention fell ~2% per quarter among men and women, but less rapidly among intervention compared to control women ($p<0.01$). There were no effects on linkage to care.

	aRR	95% CI	p-value	aRR	95% CI	p-value	aRR	95% CI	p-value
Among Men	A: Testing among HIV-negative (n=18060)			B: Linkage in 3 mos after positive test (n=284)			C: Retention among those in care (n=924)		
Intervn x time	**1.13***	(1.10-1.15)	<0.01	0.98	(0.93-1.03)	0.45	0.981	(0.98-0.99)	<0.01
Control x time	1.09	(1.08-1.12)	0.01	0.98	(0.93-1.04)	0.58	0.979	(0.97-0.99)	<0.01
Among Women	A: Testing among HIV-negative (n=18293)			B: Linkage in 3 mos after positive test (n=705)			C: Retention among those in care (n=3057)		
Intervn x time	**1.11***	(1.10-1.12)	<0.01	1.02	(0.98-1.05)	0.34	**0.982***	(0.98-0.98)	<0.01
Control x time	1.10	(1.09-1.11)	<0.01	1.00	(0.96-1.04)	0.91	0.977	(0.97-0.98)	<0.01

*indicates significant effect of intervention as compared to control ($p<.05$); time is quarterly increase over 3 years

[Table: Effect of the Tsima Community Mobilization Trial on Testing, Linkage, and Retention by Intervention arm over time]

CONCLUSIONS: CM was associated with improvements in testing among men and women and retention among women, demonstrating that raising consciousness and activities addressing social barriers to HIV service engagement can increase HIV service use. However, even with extensive outreach among men, few accessed testing. CM programing should be paired with efforts to improve service delivery and bring services to the community.

OAC05 NEXT STEPS IN PREP

OAC0502

IMPLEMENTING A PREP POPULATION MANAGEMENT TOOL IN THE ELECTRONIC HEALTH RECORD OF A LARGE INTEGRATED HEALTHCARE SYSTEM

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BACKGROUND: As of March 31, 2019, over 10,000 patients had received a prescription for HIV preexposure prophylaxis (PrEP) at Kaiser Permanente Northern California, an integrated health care delivery system that includes clinical care, pharmacy services and insurance coverage for 4.2 million members. Given the rapid uptake of PrEP, efficient population management tools are needed to support PrEP adherence and monitor laboratory follow-up.

DESCRIPTION: A PrEP population management tool was created and integrated into an EPIC electronic health record (EHR) in 2016. This tool uses real-time pharmacy and clinical data to generate a list of patients who are prescribed tenofovir disoproxil fumarate/emtricitabine or tenofovir alafenamide/emtricitabine for PrEP. The tool captures demographic data, pharmacy information (e.g., PrEP refill dates), and laboratory data (e.g., HIV antibody and creatinine test dates and results), and allows providers to sort by these variables. Related clinical information such as sexually transmitted infection diagnoses and hepatitis B status are also included. Providers can send secure electronic messages to thousands of patients simultaneously with reminders for overdue medication refills, laboratory follow-up, or new clinical updates regarding PrEP.

LESSONS LEARNED: Overall, the implementation of this tool has resulted in significant operational efficiencies, with thousands of PrEP users being safely monitored by only a few providers. PrEP users overdue for laboratory follow-up and/or prescription refills are easily identified and contacted. However, the resources needed to develop the EHR-based tool were substantial, including a team of technology experts, clinicians, and project managers working in collaboration. An estimated 250 hours were spent in development. Many providers were initially reluctant to use the new technology given the additional training needed, initial investment of time to ensure data accuracy, and adjustment in workflow. Modifications to the tool are possible, but require additional time and resources.

CONCLUSIONS/NEXT STEPS: EHR-based PrEP population management tools allow for efficient and targeted outreach to patients who are overdue for laboratory monitoring, need adherence support, may benefit from a change in PrEP medication, or have discontinued PrEP and may benefit from restarting. Ongoing technology resources and provider training will be needed as the tool evolves to accommodate emerging PrEP medications, dosing schedules, and delivery mechanisms.

OAC0503

PREP 2-1-1 EDUCATION INCREASES PREP UPTAKE AND PRESERVES EFFECTIVE PREP COVERAGE IN A LARGE NURSE-LED COMMUNITY-BASED SEXUAL HEALTH CLINIC IN SAN FRANCISCO

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BACKGROUND: PrEP 2-1-1 dosing (i.e., "on-demand" dosing) with TDF/FTC for anal sex is not endorsed by the CDC and has limited utilization in the U.S., despite research and experience showing its effectiveness and appeal among people who otherwise might not take PrEP. To increase knowledge and use of PrEP 2-1-1, the sexual health clinic Magnet of San Francisco AIDS Foundation implemented a PrEP 2-1-1 program.

METHODS: Current and prospective PrEP clients were enrolled in a prospective cohort study, receiving an intervention about daily and 2-1-1 PrEP dosing with an educational handout and evidence that both dosing strategies are safe and effective for MSM, although 2-1-1 dosing had not been reviewed by the FDA. Participants selected their dosing and received standard of care, adherence counseling, and HIV/STI/creatinine testing. PEP was offered within 72 hours if a potential HIV exposure not covered by PrEP occurred. Weekly online surveys collected sex and PrEP information.

RESULTS: From March 1, 2019 to November 30, 2019, 3106 subjects (72% current PrEP clients; 28% new clients) received the intervention. Median age was 31 years; 98% were cis-gender MSM. For new PrEP clients, 77% elected daily, and 23% elected 2-1-1. For current daily PrEP patients, 83% chose only daily dosing, 17% switched to 2-1-1. PEP use was rare in both groups: daily (0.8%), 2-1-1 (1.4%; P=0.22). A higher proportion of 2-1-1 users (3.3%) reported PrEP-less or condomless sex versus daily PrEP users (1.3%;p<.001). 63 people (2%) reported starting PrEP due to PrEP 2-1-1 and would not have accessed daily PrEP otherwise. PrEP 2-1-1 awareness increased across Magnet from 53% before the study to 69%. There were zero HIV infections in the 2-1-1 (262 years follow-up) or daily PrEP (1231 years follow-up) groups. Daily PrEP clients took more pills (4.85/week) than 2-1-1 clients (1.59/week, SD 2.01; p<0.00001). During weeks with anal sex, daily clients took 5.36 tablets, 2-1-1 took 2.92 (P<0.00001).

CONCLUSIONS: Providing 2-1-1 dosing information increased uptake of PrEP, was a popular dosing option, and reduced medication use by three-fold while preserving high rates of effective use. This supports recent recommendations for 2-1-1 dosing among MSM from WHO and IAS-USA.

OAC0504

VALIDATION OF SELF-REPORTED MEASURES OF OPTIMAL PREP ADHERENCE AMONG MSM IN 4 U.S. CITIES

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BACKGROUND: Adherence to HIV pre-exposure prophylaxis (PrEP) is key to its effectiveness as a prevention method. Self-reported PrEP adherence measures could allow for monitoring adherence in non-clinical-trial settings where biological testing poses cost, time, and logistical challenges. We evaluated validity of self-reported PrEP adherence measures among men who have sex with men (MSM) in 4 U.S. cities.

METHODS: In 2017 National HIV Behavioral Surveillance, eligible MSM aged ≥18 years were recruited via venue-based sampling and completed a survey, HIV testing, and dried blood spot (DBS) collection. DBS from HIV-negative participants who reported PrEP use in the past month were tested for tenofovir diphosphate (TFV-DP) by liquid chromatography mass spectrometry. Biological optimal adherence was defined as TFV-DP ≥1250 fmol/punch (consistent with 7 doses/week) and considered gold standard. Three self-reported optimal adherence measures were examined: (1) missed 0 doses in past 30 days, (2) missed 0 doses in past 7 days, and (3) Wilson's 3-item adherence scale. Focused on capturing optimal adherence prevalence and limiting false positives, we calculated positive predictive values (PPVs) and false positive rates (FPRs) overall and by population characteristics.

Positive predictive values and false positive rates comparing self-reported and biological measures of optimal PrEP adherence among men who have sex with men in four U.S. cities—National HIV Behavioral Surveillance, 2017

	Optimal adherence (7 doses/week)[1]					
	Missed 0 doses, past 30 days (N=325)		Missed 0 doses, past 7 days (N=326)		Wilson scale[2] (N=323)	
	PPV (%)	FPR (%)	PPV (%)	FPR (%)	PPV (%)	FPR (%)
Overall	73	41	72	61	73	35
Age						
18-24	67	24	64	41	67	19
25-29	70	35	73	50	69	30
30-39	69	47	65	71	69	40
≥40	85	67	86	89	85	67
Race/Ethnicity						
Black/African American	44	50	46	59	42	43
Hispanic/Latino	74	26	71	41	77	18
White	80	47	78	76	79	48
Other/Multiple	85	33	80	78	87	22
Education						
≤High school degree	47	38	50	59	50	27
Some college or vocational school	71	30	67	56	75	22
College degree or graduate studies	77	47	77	63	75	45
City						
Los Angeles	78	44	78	64	80	36
Philadelphia	44	36	42	54	38	31
San Francisco	85	26	76	61	84	26
Washington DC	61	64	70	64	58	52

Abbreviations: PPV, positive predictive value; FPR, false positive rate (i.e., 1-specificity)
[1]Gold standard was defined as tenofovir diphosphate (TFV-DP) detected in dried blood spots via liquid chromatography mass spectrometry at a concentration of ≥1250 fmol/punch (consistent with 7 doses/week on average).
[2]The Wilson adherence scale (Wilson et al. 2016) consisted of 3 items and was adapted for measuring PrEP adherence. Optimal adherence was considered as reporting zero missed doses in past 30 days, "always" taking PrEP the way you were supposed to in past 30 days, and doing an "excellent" job at taking PrEP in past 30 days.

RESULTS: PPVs were similar for the three measures of optimal adherence (~73%) and FPRs were lowest for past-30-day missed 0 doses (41%) and Wilson scale (35%) measures. PPVs and FPRs of all optimal adherence measures varied by population characteristics; within each demographic subgroup, PPVs were similar across measures while FPRs were lowest and at similar magnitudes for the past-30-day missed 0 doses and Wilson scale measures.
CONCLUSIONS: Self-reported optimal PrEP adherence measures had moderate validity; no measure demonstrated high PPV or low FPR overall and all measures had PPVs and FPRs that varied by population characteristics. Of self-reported measures, the past-30-day missed 0 doses item may be minimally sufficient to capture optimal adherence. Nevertheless, biological testing remains important to measuring PrEP adherence.

OAC0505

FACTORS ASSOCIATED WITH EARLY CONTINUATION (EC) OF PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG YOUNG MSM (YMSM) IN BRAZIL, PERU AND MEXICO: THE IMPREP STUDY

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BACKGROUND: PrEP implementation in Latin America is very limited; awareness is lower among YMSM. ImPrEP is an ongoing demonstration study assessing safety and feasibility of same day PrEP for MSM and TGW in Brazil, Peru and Mexico. We report results on PrEP EC and associated factors among YMSM.
METHODS: HIV uninfected, ≥18 years old, reporting 1+ risk criteria were enrolled and initiated PrEP on the same day; creatinine and STI testing were performed. Main outcome for this analysis was PrEP EC (attendance to first 2 follow-up visits within 150 days of PrEP initiation) among YMSM (18-24).
RESULTS: Among 7273 enrolled (February 2018- November 2019) 1843 (25.3%) were YMSM; 957(51.9%), 607(32.9%) and 279(15.1%) from Brazil, Peru and Mexico; 1390 (75.4%) non-white, 607 (33.0%) with < secondary level of education; Condomless receptive anal sex and having ≥ 4 sexual partners in the previous 3 months were reported by 1203 (65.3%) and 1053 (57.1%). Baseline active syphilis, rectal chlamydia and rectal gonorrhea prevalence were 8.7% (95% CI: 7.3%-10.2%), 13.1% (95% CI: 11.3%-15.0%) and 10.3% (95% CI: 8.7%-12.1%). Only 14 (0.9%) had eGFR <60 mL/min. HIV incidence was 1.8%/100 PY (95% CI:1.0%-2.9%) during 858.1 PY of PrEP use. Overall EC was 67.2%; Brazil: 77.3%; (95% CI: 74.3%-80.0%), Mexico: 72.3%; (95%CI: 63.8%-79.8%), Peru: 44.9%;(95%CI: 44.9%-49.8%). Lower chance of PrEP EC was observed among nonwhite (aOR=0.68; 95% CI:0.50-0.92), less educated (aOR=0.66; 95% CI: 0.51-0.86), Peruvians (aOR=0.24; 95% CI: 0.19-0.31), unaware of partner serostatus (aOR=067; 95% CI:0.47-0.95), those coming to the site for reasons other than PrEP (aOR=0.55; 95% CI:0.39-0.78), those reporting no condomless receptive anal sex (aOR=0.74; 95% CI:0.57-0.95), with no prior PEP use (aOR=0.61; 95% CI: 0.42-0.87).

Country Brazil Mexico Peru	N (% EC) 897 (77.3) 130 (72.3) 184 (44.9	OR unadj 1 0.77 (0.51-1.16) 0.24 (0.19-0.31)	p value 0.21 <0.0001	OR adj 1 0.90 (0.58-1.40) 0.39 (0.28-0.53)	p value 0.63 <0.0001
Education Level Less than secondary/ Secondary More than secondary	431 (60.1) 957 (70.5)	0.61 (0.48-0.79) 1	0.0001	0.66 (0.51-0.86) 1	0.002
Race White Non white	385 (78.2) 1004 (63.0)	1 0.68 (0.51-0.92)	0.01	1 0.68 (0.50-0.92)	0.01
Reason to come to the site Looking for PrEP Others	1152 (72.3) 237 (42.6)	1 0.56 (0.40-0.78)	0.001	1 0.55 (0.39-0.78)	0.001
Condomless receptive anal sex Yes No	907 (69.7) 482 (62.7)	1 0.77 (0.66-0.99)	0.04	1 0.74 (0.57-0.95)	0.02
Sex work Yes No	186 (57.5) 1203 (68.7)	0.71 (0.51-1.00) 1	0.05	0.84 (0.59-1.20) 1	0.33
Sex with HIV infected partners Yes No Unware	260 (76.5) 466 (66.1) 663 (64.4)	1 0.78 (0.54-1.12) 0.67 (0.47-0.94)	0.18 0.02	1 0.78 (0.54-1.14) 0.67 (0.47-0.95)	0.20 0.02
PEP use Yes No	273 (82.0) 1116 (63.6)	1 0.61 (0.43-0.87)	0.006	1 0.61 (0.42-0.87)	0.006
Cocaine Yes No	92 (63.0) 1297 (67.5)	0.64 (0.40-1.02) 1	0.06	0.64 (0.39-1.04) 1	0.07

Table. Factors associated with PrEP EC among YMSM enroled in ImPrEP

CONCLUSIONS: ImPrEP successfully enrolled vulnerable YMSM. Efforts to increase awareness and strategies to support those at higher social vulnerability are urgently needed to increase PrEP benefits among YMSM in Latin America.

OAC0506

FACTORS ASSOCIATED WITH UPTAKE OF EVENT-DRIVEN AND DAILY REGIMEN OF PRE-EXPOSURE PROPHYLAXIS AMONG GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN (GBMSM) IN TAIWAN: 2019 HORNET PREP SURVEY

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BACKGROUND: PrEP has been implemented in Taiwan since 2016, and a 2017 survey recruiting via gay app "Hornet" found that 1.3% and 1.7% of GBMSM respondents respectively reported using daily and event-driven (ED) PrEP. In a repeat of the survey in 2019 we sought to establish factors associated with both daily and ED uptake.

METHODS: We conducted a survey by convenience sampling of the users of a social networking application for GBMSM in Taiwan, with a design similar to the previous 2017 one. The survey was conducted between November 22nd and December 22th, 2019. The survey included 34 questions regarding basic demographics, HIV serostatus, risk behaviors, PrEP awareness, willingness and mode of use. Responses from the same IP address were excluded.

RESULTS: There were a total of 3,026 responses, of which 2,554 were eligible for analysis. Among those who reported HIV-negative or unknown serostatus, 227 respondents reported current PrEP use. Only 28.6% reported daily PrEP, use, while the remainder did so on an event-driven basis. There were no statistical differences in the manner of use according to basic demographics, pre-survey PrEP awareness, previous post-exposure prophylaxis use, STI diagnosis, chemsex, or condomless anal intercourse. The major reasons given for daily use over ED regimen were: (1) "I can't plan having sex in advance" (67.2%); (2) "I feel more confident in protection" (56.3%); (3) "It's easier for me to remember taking pills" (53.1%). Contrastingly, respondents preferred ED over daily PrEP because: (1) "I have less frequent sex" (63.3%); (2) "It's more affordable" (56.3%); (3) "I can plan having sex in advance" (51.9%). Multivariable logistic regression revealed a greater number of sexual partners (more than 9 vs. 0-9 partners in the past 12 months) had significant correlation with current PrEP users adopting daily rather ED regimen (AOR 2.37, 95% CI 1.18-4.75, p=0.015).

CONCLUSIONS: Our survey found ED PrEP has been adopted preferably over daily PrEP among GBMSM community in Taiwan. To scale up PrEP use further, we should consider prioritizing promotion of the ED regimen and address ED PrEP-specific issues, including relevant knowledge pertaining to effective use and adherence.

OAC06 PLEASURE, PREVENTION, OR FEAR: FAR REACHING EFFECTS OF ONLINE MESSAGING AND MHEALTH INTERVENTIONS

OAC0602

PROMOTING ANAL HEALTH AND PLEASURE WITH A COMMUNITY-DRIVEN SOCIAL MARKETING CAMPAIGN

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BACKGROUND: Anal fissures, rectal STIs, improper rectal douching and anal health concerns can increase HIV risk among people having receptive anal sex, including MSM. Yet stigma and embarrassment can keep MSM from seeking health care for these concerns, free anal health resources for MSM are not widely available online, and platforms like Facebook/Instagram restrict the kind of sexual health information that can be promoted. This social marketing campaign leveraged the lived experience of MSM community members and expertise of MSM providers to develop stigma-free anal health resources to promote better health.

DESCRIPTION: From 2017 - 2018, San Francisco AIDS Foundation (SFAF) developed: 1) a "Butt Health" webpage; 2) two community surveys on douching and pain during anal sex; 3) articles by MSM and clinicians giving first-person perspectives and information on anal warts, fisting, anal douching, booty bumping and more; and, 4) a stylized cartoon "Douchie" mascot for articles, social media, and printed materials. 575 people took the surveys, and personal experiences from surveys were shared in online articles. A modest advertising budget of $150 resulted in a 6.84% clickthrough rate (CTR) on Facebook ($0.10/click), performing better than any other SFAF paid campaign and far exceeding the average healthcare industry standard CTR of 0.83%. In the first two months, 76,481 individuals visited sfaf.org/butthealth, and today, campaign content generates 35% of all traffic to sfaf.org largely through organic search.

LESSONS LEARNED: Anal health topics are of high interest to MSM and other populations at risk for HIV. Elevating real-world experiences of anal health conditions, pleasure, and comfort alongside information from a trusted community health organization successfully engaged online audiences. Eye-catching, playfully-designed materials accounted for the wide reach of the campaign. Later iterations of this sex-positive campaign were flagged as "pornographic" content on Facebook, Twitter, and Google, limiting our ability to run paid promotions.

CONCLUSIONS/NEXT STEPS: Health campaigns promoting pleasure perform well for online audiences who may be at risk for or living with HIV. While online spaces are restrictive of sex-positive content, optimizing audience targeting and graphics for organic sharing on social channels increases the reach of sexual health campaigns.

OAC0603

DELETERIOUS EFFECT OF TRUVADA LAWSUIT ADVERTISEMENTS ON ATTITUDES AND DECISIONS TOWARDS PREP AMONG SEX AND GENDER MINORITY YOUTH AT RISK FOR HIV

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BACKGROUND: In 2019, misleading lawsuit advertisements against Gilead Sciences regarding Truvada were launched and anecdotal evidence suggested the advertisements motivated some users to discontinue PrEP. This study aimed to ascertain the effects of the advertisements on attitudes and decisions about PrEP among participants in the Keeping it LITE study, an ongoing virtual cohort of sexual and gender minority youth vulnerable to HIV.

METHODS: A 10-item survey, including close and open-ended questions regarding the advertisements, was administered online to participants enrolled in the cohort who were HIV uninfected, 13-34 year olds who have sex with partners assigned male at birth. Participants met at least one of the following criteria in the last 6 months: oral sex; condomless anal sex; bacterial STI; or sex with an HIV+ partner. Quantitative and qualitative data were analyzed using descriptive and inferential analysis in SAS, and thematic analysis, respectively.

RESULTS: From November to December 2019, 1485 (53.7%) of those eligible participated (mean age 26.8 (sd=4.87); 54.9% White, 19.1% Latinx, 9.6% Black, and 16.9% Other; 82% cisgender men, 10.6% transmasculine, and 7.3% transfeminine). Prior PrEP use was reported by 43%, and use within the past 6 months was 32.7%. Almost half (722) were aware of the lawsuit and most (86.3%) had viewed an ad on social media. Of those aware who answered subsequent questions (n=704), 18.7% reported quitting or deciding not to initiate PrEP use, and 32.1% reported the advertisements changed their opinions about PrEP. Participants with higher education were significantly less likely to quit or to decide against initiating PrEP use (OR = 0.29, 99% CI 0.14-0.61). In open ended responses, participants expressed safety concerns (75.25%), distrust towards the pharmaceutical industry (16.4%), and interest in alternative prevention options (8.4%).

CONCLUSIONS: The Truvada lawsuit advertisements reached a large, diverse group of youth at high risk of HIV throughout the USA. These advertisements produced hesitancy to initiate Truvada-based PrEP and increased fears of potential side effects of Truvada. These results illustrate the deleterious public health effects of such direct advertising and distrust of the pharmaceutical industry and support the efforts by public health advocates to mitigate the negative effects of these advertisements.

OAC0604

PROMOTING UPTAKE OF HIV SERVICES USING SOCIAL MEDIA INTERVENTIONS AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN GHANA

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BACKGROUND: Social media is becoming a safe environment for communication among MSM in Ghana. MSM are increasingly soliciting potential sexual partners through social media platforms rather than geographic hotspots. Many MSM are “hidden” and engage in risky sexual behaviors, but are not reached by HIV programs targeted at physical outreach locations. A differential approach to community mobilization on social media platforms was introduced to increase uptake of HIV testing among hidden MSM.

DESCRIPTION: A social media mobilizer was trained to engage MSM through social networking platforms such as Facebook and Grindr. IEC materials were developed and posted on selected social media platforms to raise awareness regarding HIV services among the hidden population. MSM who accessed these platforms were engaged through one–on-one interaction and online counselling by the trained mobilizer. MSM recruited were given different timed appointments to access services at the Drop-In-Center.

LESSONS LEARNED: Data from January to June 2019 shows that social media reached out to more high risk MSM than through in-person outreach at hotspots. Among 166 new MSM that were recruited through social media, 113 (68%) had not been tested for HIV within the last six months. Physical outreach reached 431 new MSM; 133 (31%) had not been tested within the last six months. 59% of MSM recruited through social media engaged in inconsistent use of condoms for casual anal sex, compared to 38% identified at hotspots.

HIV positivity rate was higher among those tested through social media outreach compared to hotspot outreach. 125 MSM tested through social media; 32 were diagnosed HIV positive (25.6% HIV+ yield). 396 MSM were tested through physical outreach at hotspots; 28 were diagnosed HIV positive (9% HIV+ yield).

CONCLUSIONS/NEXT STEPS: Confidential and accessible health services through social media encourages hidden MSM to seek HIV services themselves. There is high need to invest in newer approaches of HIV programming that take into account changing times and community dynamics.

Linking MSM to services through social media has shown to deliver higher HIV+ yield among hard to reach MSM. Hence, implementing partners should use social media as an effective tool for sharing behavior change messages to reach hidden MSM.

OAC0605

LYNX: A PILOT RANDOMIZED CONTROLLED TRIAL OF A MOBILE HEALTH HIV TESTING AND PREP UPTAKE INTERVENTION FOR YOUNG MEN WHO HAVE SEX WITH MEN

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BACKGROUND: HIV in the US disproportionately affects young men who have sex with men (YMSM), especially Black and Latinx YMSM. Delays in HIV testing, undiagnosed sexually transmitted infections (STI), and low uptake of pre-exposure prophylaxis (PrEP) all contribute to this disparity. We developed and pilot tested an mHealth intervention to increase HIV testing and PrEP uptake among YMSM.

METHODS: HIV-uninfected YMSM aged 15-24 years who had not tested for HIV in the past 3 months and were not currently on PrEP were enrolled. Participants were randomized 2:1 to the LYNX mobile app intervention with the Sex Pro HIV risk assessment, a sexual diary, geo-location of HIV/STI testing and PrEP clinics, PrEP information and videos, and access to home HIV/STI testing; or control (CDC HIV testing and PrEP information) and followed remotely for 6 months. The primary outcomes were feasibility and acceptability of Lynx, HIV testing, and PrEP uptake assessed via CASI.

RESULTS: From October 2018-April 2019, 61 participants were enrolled and overall retention was 80% at 6 months. The median age was 20.5 years, 38% were White, 33% were Latinx, and 24% were Black. At baseline, participants reported a median of 2 male sexual partners in the past three months. During the 6 month intervention, participants spent a median of 41 minutes using the app. App acceptability was high with a median System Usability Scale Score of 73.8; and 87% of intervention participants reporting they would recommend the app to a friend for HIV/STI testing and PrEP. Almost all (95%) intervention arm participants ordered an HIV test kit, and 50% reported testing at home. At 6 months, a higher proportion of intervention participants reported HIV testing although this was not statistically significant (70% vs 50%, p=0.17). Overall, PrEP uptake was low with only 16% of YMSM initiating PrEP by 6 months with no difference between intervention and control (13% vs 22%, p=0.45).

CONCLUSIONS: The Lynx intervention showed high acceptability in YMSM, and shows promise for increasing HIV testing among this vulnerable population. However, PrEP uptake was low and more support is likely needed to remove barriers to PrEP access for YMSM in the US.

OAC0606

THAT'S HOW WE ROLL! USING HUMAN-CENTERED DESIGN TO ALLOW THE COMMUNITY VOICE TO DESIGN AN EDUCATIONAL CAMPAIGN, SOCIAL MEDIA AND DIRECT-TO-CONSUMER COMMUNICATION FOR PREP ROLLOUT IN ZAMBIA

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BACKGROUND: In May 2018, USAID DISCOVER-Health (DISCOVER), implemented by JSI Research & Training Institute (JSI) was among the first implementers to support MOH PrEP scale-up in Zambia. At start-up, PrEP rollout took place in an information vacuum, with little community access to credible PrEP information for individual decision-making and/or collective action to create a supportive environment for PrEP. Using a Human-Centered Design (HCD) process, DISCOVER extended its support to MOH to develop innovative strategies, interventions and products to ensure that PrEP rollout grounded in the realities of end-users. DISCOVER leveraged its SBC technical capacities towards the development of media campaigns that support PrEP uptake and continuation. As an outcome of the HCD process, DISCOVER supported the MOH to develop a national HIV prevention brand and campaign: Zambia Ending AIDS, with a sub-campaign for PrEP education and demand-generation.

DESCRIPTION: DISCOVER developed digital innovations to support client management and client access to information, including SBC products such as the Zambia Ending AIDS Facebook page, direct-to-consumer communication platform through a free USSD short-code service to enable access to basic information about PrEP and help end-users find PrEP facility locations. On the provider-side, DISCOVER designed and developed an end-user-informed HCW app, which provides guidance on PrEP administration, including counselling skills, and is electronically linked to PrEP management system.

LESSONS LEARNED: By developing and supporting direct-to-consumer communication (including Facebook and YouTube, USSD short-code, and adverts on TV/radio), DISCOVER provided correct PrEP information to support rollout. These platforms allow people to privately and anonymously access reliable information. Between April and September 2019, DISCOVER saw 1.97M Facebook visits, 9.9M TV and radio ads seen/heard; 59,261 accesses to USSD short-code; 27,889 inquiries about the nearest PrEP facility; sent 9,018 PrEP auto-appointment reminders; and sent 5,038 PrEP adherence-support messages, leading to 5,175 new clients on PrEP at DISCOVER sites alone (242).

CONCLUSIONS/NEXT STEPS: Lack of information and misinformation can discourage PrEP uptake and derail effective HIV prevention. Use of HCD to inform communication and demand-creation allows insightful participatory engagement with end-users. Innovative direct-to-consumer communication platforms provide correct information; facilitate two-way communication; increase PrEP utilization—all contributing to sustaining gains towards HIV epidemic control in Zambia.

OAC07 PMTCT 2020: SUCCESSES IN MOTHERS AND CHILDREN

OAC0702

OUTCOMES OF HIV-EXPOSED BUT UNINFECTED CHILDREN IN SOUTH AFRICA OVER 5 YEARS: COMPARISON TO UN-EXPOSED PEERS

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BACKGROUND: Researchers have documented extensively the benefits of mothers adhering to the tasks to Prevent Mother to Child Transmission (PMTCT), typically based on clinic samples. Yet, after 12 months, there is far less information on HIV exposed and uninfected children born to Mothers Living with HIV (MLH). This study examines a broad range of child outcomes over five years for HEU compared to their HIV-unexposed and uninfected (HUU) peers living in the same communities.

METHODS: Almost all (98%) of pregnant women in 24 neighbourhoods in Cape Town, South Africa were recruited in pregnancy and reassessed at multiple time points over five years with high retention (from 96% to 85.2% at 2 weeks post birth, 0.5, 1.5, 3 and 5 years). The growth, hospitalizations, and cognitive and behavioral development of HEU children (n=363) of MLH were compared to HUU children (n=787) of mothers living without HIV over time.

RESULTS: Approximately 9% of mothers and children died over 5 years, similar across maternal serostatus. Over time, HEU children had significantly lower weight-for-age z-scores (WAZ) than HUU at the post-birth and 18 month assessments, but not at any later time point. For height-for-age z-scores (HAZ), we observed differences between HEU and HUU at 6 and 18-months, but not at any later follow-up. At 5 years, growth measures, such as HAZ scores, WAZ scores, and whether a child was stunted or malnourished, were similar among HEU children and HUU children. There were no other differences in cognitive abilities (based on the Bayley Scales at 1.5 years or the Kaufmann scales at 3 and 5 years), behavioral measures (the Achenbach Child Behavior Checklist and the Strengths and Difficulties Questionnaire), or hospitalizations among HEU and HUU children over 5 years.

CONCLUSIONS: Unexpectedly, the outcomes of HEU children were similar to their HUU peers. As broad diffusion of antiretroviral therapies occurs and mothers are surviving and living less symptomatic lives, their children appear to similar to peers not exposed to HIV.

OAC0703

IMPACT OF PMTCT PROGRAMS ON MOTHER AND CHILD OUTCOMES IN COLOMBIA

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BACKGROUND: Real-world data on pregnancy complications and newborn outcomes in HIV pregnant women are scarce in Latin America. To characterize the effectiveness of HIV PMTCT programs in Colombia, we search for pregnancies in HIV-1 infected women that had delivery or pregnancy terminated before December 31st, 2018, from 15 centers of the Colombian HIV Group (VIHCOL), an HIV nationwide network.

METHODS: Retrospective univariate and bivariate descriptive analysis, using central trend and dispersion measures, frequencies, and percentages, non-parametric Kruskal-Wallis group comparison tests, and chi-2 with Fisher's correction. All data on in Stata version 12.

RESULTS: A total of 273 HIV positive pregnant women were included with a median age at the pregnancy diagnosis of 26.4 years (15.11- 43.3). An almost half (47.6%) had their HIV infection diagnosed following mandatory screening during pregnancy with a median gestational age of 17.5 weeks (p25-p75=12-25.5), and started ART at 18 weeks (p25-p75=14-27); 102 (37.4%) were known HIV positive before the pregnancy with a mean time of HIV diagnosis of 3.6 years (p25-75= 0.99-6), of which 84 (30.8%) became pregnant on active ART; 9 women (3.3%) had diagnosis on delivery. Median CD4 count and viral load (p25-p75) at the time of pregnancy diagnosis and at the end of pregnancy were 428 cells/mm3 (289-582), 3287 copies/mL (52-16799), 500 cells/mm3 (349-683), and 0 copies/mL (0-40), respectively. 29 (18.5%) of 157 women with available data were late presenters (≥28 weeks of pregnancy). Viral load at the end of pregnancy was undetectable in 178 women (77.4%), and above 1000 copies/mL in 21 (9.1%). Lopinavir/ritonavir plus 2 NRTI was the cART most prescribed (n=135, 52.1%). Cesarean section was the delivery method in 245 women (89.74%). Regarding birth outcomes, only two preterm deliveries (4.7%), one small-for-gestational-age infant (4.33%), one birth defect (microcephaly) were reported, and there were no MTC transmissions.

CONCLUSIONS: This is the first report in Colombia of a nationwide HIV pregnant women and newborn cohort combined outcomes of PMTCT programs. Our data confirmed that combining early diagnosis of HIV and referral to care in HIV centers results in few pregnancy-related complications, rare poor birth outcomes, and no vertical transmissions.

OAC0704

DECLINING TREND OF HIV MOTHER-TO-CHILD TRANSMISSION IN BRAZIL: A NOVEL ESTIMATION METHOD BASED ON PROGRAMMATIC DATA

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BACKGROUND: Prevention of mother-to-child transmission (PMTCT) of HIV has been a priority in Brazil. However, the challenge remains of having specific indicators to better guide public health policies. We aimed to present a novel method to estimate mother-to-child transmission rate (MTCTR) in Brazil, and to analyze its trends during 2010-2017.

METHODS: We used programmatic data from antiretroviral therapy (ART) and HIV viral load (HIV-VL) national systems to identify HIV-exposed children (H-EC) under one year old (yo). HIV infection criteria was: 1) having at least one ART dispensation; or 2) presented the first HIV-VL≥10,000copies/mL; or 3) presented at least two VL≥5,000copies/mL; or 4) had a single HIV-VL≥5,000copies/mL. In addition, all children aged ≤10yo who had at least one ART dispensation were classified as vertically infected. We also estimated the number of H-EC by subtracting the number of pregnancy losses from the number of pregnant women living with HIV. The MTCTR was calculated as the ratio between infected-children and the exposed ones. We fitted generalized additive models to assess trends in the number of infected-children and in the MTCTR.

RESULTS: We estimated 107,734 H-EC and identified 4,765 HIV-infected children; an overall MTCTR of 4.4%. The number of infected-children decreased from 684 to 361, in 2010 and 2017, respectively (p<0.001). Likewise, MTCTR declined 52% during the analyzed period (p<0.001), reaching 2.9% in 2017. MTCTR decline went from 15% to 38% in 2010-13 and 2014-17, respectively, coinciding with the ART scale-up in Brazil.

	2010	2011	2012	2013	2014	2015	2016	2017
HIV-infected (n)	684	651	607	602	556	517	507	361
HIV-exposed (n)	11,354	11,503	11,654	11,807	11,962	12,119	12,278	12,454
MTCT rate (%)	6.0	5.7	5.2	5.1	4.6	4.3	4.1	2.9

[Table 1: Number of HIV-infected, -exposed children and mother to child transmission rates by year of birth. Brazil, 2010-2018]

CONCLUSIONS: We presented a more sensitive method to estimate MTCTR which is being used to monitor and guide public PMTCT policy. Since 2013, when Brazil implemented treatment for all, including pregnant women, there was a higher decrease in MTCTR. Therefore, we believe that the declining trends showed in this study will be persistent, aligned with public health polices, indicating that MTCT elimination is an attainable target in Brazil.

OAC0705

PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) OF HIV IN KHAYELITSHA, SOUTH AFRICA: A CONTEMPORARY REVIEW OF THE SERVICE 20 YEARS LATER

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BACKGROUND: The first Prevention of Mother-To-Child Transmission of HIV (PMTCT) pilot programme the Western Cape (WC), South Africa, was launched in Khayelitsha in 1999. All public health facilities in the WC share a unique patient identifier allowing linkage across all electronic health systems through the Provincial Health Data Centre (PHDC), an African Health Information Exchange within WC Department of Health. We aimed to describe recent PMTCT uptake and quantify MTCT risk factors based on routine data consolidated through the PHDC.

METHODS: Retrospective observational cohort analysis of all live-born linked mother-infant pairs in which the HIV positive mother attended antenatal care in Khayelitsha in 2017. Descriptive statistics assessed coverage along the PMTCT cascade. Logistic regression analysis quantified risk factors associated with transmission, and a Cox-proportional hazard model assessed time to and associations with maternal virologic failure.

RESULTS: Antenatal prevalence in the cohort was 31.3%, MTCT (among live-born linked infants with evidence of HIV outcome in the PHDC) was 1.8% at 12 months post-partum. 88.3% of women knew they were HIV positive at their first antenatal visit, of whom 77.9% were already on ART; 74.9% of the entire cohort received a viral load test around birth (up to 3 months post-partum), 70.1% were virologically suppressed. Early infant diagnosis coverage was sub-optimal with birth HIV-PCR (within 7 days of birth) coverage of 78.1%, and an even lower proportion (64.5%) of infants who tested negative had a repeat test around 10-weeks. Older maternal age was protective against MTCT (a 10-year increase in age reduced MTCT by 15%) and virologic failure (age <25 almost doubled the risk of virologic failure). Post-partum ART initiation (compared to antenatal initiation) increased MTCT risk by 7-fold.

CONCLUSIONS: Although most women present to care already knowing their HIV status, ART initiation and uptake of viral load testing could still be improved. MTCT proportion, reliant on PCR alone, continues to be underestimated due to sub-optimal HIV-PCR coverage; HIV data from multiple sources, consolidated in an HIE suggested higher MTCT than program-reported HIV-PCR testing alone. Further work is needed to determine whether women who initiated ART post-partum seroconverted post-partum or failed to link to ART during pregnancy.

OAC0706

ELIMINATION OF MOTHER TO CHILD TRANSMISSION OF HIV: PRACTICE AND PROGRESS IN ZHEJIANG PROVINCE, CHINA

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BACKGROUND: Background: Elimination of mother-to-child transmission(EMTCT) of HIV is globally advocated. In this study, we describe the progress and practice of EMTCT in Zhejiang province, China.

METHODS: In Zhejiang, HIV screening is routinely provide to pregnant women during antenatal health care (ANC) . Early antiretroviral therapy (ART) is offered to women with HIV, including safe delivery. Early infant diagnose(EID) of HIV is tested at 42 days and 3 months. HIV antibody screening is offered to child with negative result of EID at 12 months and 18 months. Maternal and child health care activities, community support strategies, home visits are retention strategies. In the study, we analyzed the progress and practice in EMTCT during 2015-2019.

RESULTS: Totally, over 3 million pregnant women received HIV screening. HIV screening coverage has remained high level, with 99.02% in 2015, 98.82% in 2016,99.15% in 2017,99.01% in 2018 and 99.09% in 2019. HIV positive incidence in pregnant women was stable at 0.02%. ART coverages were 85.22%, 84.09%, 91.35%, 98.20% and 96.23% from 2015-2019, respectively, with significant rising trend (X2trend=22.112,P<0.001). ART coverage gap between resident and migrant bridged obviously. During the period, ART coverage increased from 79.73% to 95.45% in migrant(X2trend =20.507,P<0.001) and maintained over 98% in resident. EID proportion grew from 87.36% to 95.51% over years. HIV from mother to child transmission rates (MTCT) decreased from the highest level in 2016 with 4.48% to 1.18% in 2019. We has strongly integrated EMTCT with ANC, maternal and child heath care, and sexual disease prevention. Broad social mobilization is playing a crucial role in EMTCT.

[Figure 1: ART coverage for HIV pregnancy women]

CONCLUSIONS: With the increases in ART and EID coverage, the improvement of social support, we observed a decrease rate of HIV MTCT and friend social atmosphere for HIV women and their infants.

OAC08 PREP AT SCALE

OAC0802

SUCCESSFUL NATIONAL PREP SCALE-UP IN AUSTRALIA: EVALUATION OF UPTAKE, ADHERENCE, DISCONTINUATION AND HIV SEROCONVERSION FROM APRIL 2018 TO SEPTEMBER 2019 USING NATIONAL DISPENSING DATA

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BACKGROUND: PrEP has been government subsidised in Australia since April 2018 and actively promoted to community and doctors. We used national dispensing data for PrEP and antiretroviral therapy (ART) to evaluate the success of the national program.

METHODS: Using linked de-identified dispensing records of all government-subsidised PrEP, for each patient we calculated days covered or without PrEP (assuming daily dosing) and proportion of days covered (PDC) for the most recent 90 days. We examined rates and predictors of recent nonadherence/intermittent use (90-day PDC < 60%) and discontinuation (> 120 days without PrEP). We defined incident HIV infection as initiating ART > 60 days after initiating PrEP.

RESULTS: Uptake was rapid and sustained with 6,491 people initiating during the first quarter; declining to 3,403 in the most recent quarter. Over eighteen months 29,619 patients were dispensed 6,745,967 PrEP tablets; 98.7% were male and the median age was 35 years (IQR 28-45). Just above a quarter (25.9%) discontinued PrEP. The median 90-day PDC was 93.3% (IQR 67-100%). Independent predictors of 90-day PDC < 60% and/or discontinuation included female sex, younger age-group, patient and doctor non-inner-urban location, lower doctor PrEP-caseload, and more disadvantaged patients (see table).

The HIV incidence rate was 0.95/1000PY (24cases/25197PY) and was higher during PrEP gaps than days covered (1.66/1000PYs [14/8,443PYs] vs 0.60/1000PYs [10/16,754PYs], incident rate ratio 2.78, p=.007).

	n	90 day PDC < 60%	aOR	p	Discontinued	aOR	p
Total	29,618	20.1%			25.9%		
Sex							
Male	29,241 (98.7%)	20.9%	ref	-	25.5%	ref	-
Female	377 (1.27%)	39.3%	2.22	<.001	68.7%	4.60	<.001
Age group							
18-29	9,085 (30.7%)	25.0%	1.43	<.001	33.5%	1.77	<.001
30-39	9,899 (33.4%)	20.1%	1.15	.001	24.8%	1.32	<.001
40+	10,634 (35.9%)	18.8%	ref	-	21.0%	ref	-
Patient location							
Inner Urban	15,292 (51.6%)	19.2%	ref	-	21.5%	ref	-
Other	14,327 (48.4%)	23.1%	1.09	.029	31.1%	1.13	<.001
Doctor location							
Inner Urban	21,239 (71.7%)	19.3%	ref	-	21.5%	ref	-
Other	8,380 (28.3)	25.9%	1.30	<.001	38.9%	1.69	<.001
Doctor PrEP caseload							
<=100 patients	13,741 (46.4%)	24.9%	1.52	<.001	19.5%	1.73	<.001
> 100 patients	15,878 (53.6%)	18.0%	ref	-	34.9%	ref	-
Subsidy							
Routine	26,506 (89.5%)	20.6%	ref	-	24.9%	ref	-
Additional	3,112 (10.5%)	24.4%	1.11	.07	35.2%	1.32	<.001

[Table: Rates and predictors of 90-day PDC <60% or discontinuation.]

CONCLUSIONS: Australia's national government-subsidized PrEP program has scaled up rapidly. The high proportion of patients using less-than-daily-dosing may include appropriate intermittent PrEP. Uptake, adherence and discontinuation in women may reflect appropriate use under guidelines or the selective focus on promoting PrEP to gay and bisexual men. This study identified characteristics of patients and doctors to be targeted to improve retention/adherence and/or additional forms of HIV prevention.

OAC0803

UPTAKE OF PRE-EXPOSURE PROPHYLAXIS AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN PEPFAR-SUPPORTED COUNTRIES, 2017-2019

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BACKGROUND: The U.S. President's Emergency Plan for AIDS Relief's (PEPFAR) first implemented pre-exposure prophylaxis (PrEP) for HIV prevention through the Determined, Resilient, Empowered, AIDS-Free, Mentored and Safe (DREAMS) Initiative in 2016. Early research noted barriers for PrEP use among adolescent girls and young women (AGYW) were lack of policies, low demand, low risk perception, hesitancy by providers, and stigma.
DESCRIPTION: PEPFAR supports PrEP implementation per the WHO guidelines. Programs screened persons who tested HIV-negative for eligibility and offered PrEP as part of combination prevention with follow-up, including repeat HIV testing and counseling, at 3-month intervals. Platforms providing comprehensive services for AGYW were leveraged. We examined two PEPFAR indicators, using the FY19Q4 MER structured dataset, and narratives to understand the extent of and barriers to PrEP uptake from fiscal year 2017 to 2019.
LESSONS LEARNED: From 2017-2019, 265,770 total clients initiated PrEP and the number of countries offering PrEP doubled (Figure). Of 168,258 initiations among women, 51% were among AGYW with a significant increase per year: 8,788 in 2017; 21,225 in 2018; 54,959 in 2019 (Figure). Among AGYW, 20-24 year old women represented a significantly higher proportion of PrEP initiators than adolescents (15-19 years)(67% versus 33%, p<0.001). Barriers to use were addressed through outreach efforts, including mobile sites, use of technology to educate and support AGYW, media campaigns, and engaging peers in program implementation. We saw a 2.5 fold increase in PrEP use among AGYW from 2018 to 2019 (Figure); by 2019, all but one DREAMS country was implementing PrEP. Currently, 162,506 persons remain on PrEP; 29% are AGYW.
CONCLUSIONS/NEXT STEPS: Since 2016, PrEP use among AGYW has grown significantly. Adherence and low risk perception remain challenging and related tools are needed to improve PrEP use among AGYW. Still, AGYW represented a significant proportion of women who initiated and continued PrEP, contributing to epidemic control.

[Figure. Uptake of pre-exposure prophylaxis (PrEP) in 24 PEPFAR-supported countries, by age, sex, and subpopulation, 2017-2019]

OAC0804

PREP UPDATE IN WOMEN IN THE US FROM 2012-2017

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BACKGROUND: Pre-Exposure Prophylaxis (PrEP) is recommended for heterosexual women with an HIV-positive partner, recent bacterial STI, high number of sex partners, inconsistent condom use, commercial sex work. PrEP can reduce HIV risk by >92%. Reduction in incidence requires significant coverage of those at risk. These commercial data show the first five years of PrEP in uninfected women who initiate emtricitabine/tenofovir disoproxil fumarate (Truvada®) for PrEP.
METHODS: Data are from linked pharmacy and claims data representing >90% of US prescriptions. A validated algorithm was applied to exclude Truvada use for treatment of HIV or HBV infection or post-exposure prophylaxis. Data from 2012-2017 are presented. 2017 HIV diagnoses were used as an epidemiological proxy for PrEP need. The PrEP-to-need ratio (PnR) (number of PrEP users divided by new HIV diagnoses) was used to describe distribution of prescriptions relative to need.
RESULTS: Rates of PrEP use in women has steadily increased since 2012 (68.57/100,000 women) to a rate of 783.98/100,000 women in 2017 (p<0.001 for trend). Rates are highest in 25-34 year olds with 2,770 women using PrEP in 2012, 27,556 in 2017. Rates are consistently highest in the Northeastern (NE) states. For 25-35 year olds in 2017, the NE rate was 328.9/100,000 compared to rates of 158.6 (Midwest), 154.4 (West), and 139.6 (South); p<0.0001. In comparison, HIV incidence in the NE is15-18% of total new infections across these years while 50-51% of all new infections occurred in the South. The PnR was highest in the West (32.6), lowest in the South (8.4).
CONCLUSIONS: There has been >1100% increase in PrEP utilization in the US in women. PrEP use is highest for ages 25-34 years, lowest in 55+. While PrEP uptake has been lowest in the Midwest and West, this is where HIV incidence is the lowest for women. PrEP use is significantly higher for women in the NE although incidence of HIV infections for women in the NE Is 1/3 that seen in the South where rates of PrEP are significantly lower. PrEP has the potential to substantially reduce the number of new HIV infections though we need continued advocacy for PrEP access and funding.

OAC0805

LOWER THAN EXPECTED HIV INCIDENCE AMONG MEN AND WOMEN AT ELEVATED HIV RISK IN A POPULATION-BASED PREP STUDY IN RURAL KENYA AND UGANDA: INTERIM RESULTS FROM THE SEARCH STUDY

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BACKGROUND: Limited HIV incidence data exist among PrEP users in generalized epidemic settings, particularly outside of known high-risk groups and with variable adherence. We sought to evaluate (1) HIV incidence and (2) clinical outcomes among seroconverters in a population-based PrEP study in rural Kenya and Uganda.

METHODS: During community-wide and key population HIV testing of 76,132 individuals ≥15-years in 16 communities in the ongoing SEARCH study (NCT01864603), PrEP was offered to persons at elevated HIV-risk (based on serodifferent-partnership, machine learning-based risk-score, or self-identified HIV-risk). Follow-up occurred at facilities or community-based sites at weeks 4, 12, and every 12-weeks. Among seroconverters, we offered same-day ART initiation and analyzed VL, tenofovir hair-levels (LC-MS/MS), and drug resistance. Using Poisson regression with cluster-robust standard errors, we compared HIV incidence among PrEP initiators with repeat testing to incidence among propensity score-matched historical controls (2015-2017; before PrEP availability) in the same communities, adjusted for risk-group (serodifferent-partners, women 15-24 years, widow(er)s, fishing/bar/transport workers, alcohol-users).

RESULTS: From 6/2016-4/2019, of 15,623 individuals at elevated HIV-risk, 5,447 (35%) initiated PrEP (51% male; median age 30-years [IQR 24-39]; 19% serodifferent-partnership); 78% of PrEP initiators had subsequent HIV testing. At week 60, 54% (2,778/5,142 eligible) attended a follow-up visit and 33% reported current HIV-risk, of whom 75% self-reported PrEP adherence (≥1 dose/last 3 days). Over 7,143 person-years of follow-up, HIV incidence was 0.35% (95%CI:0.21-0.49%) among PrEP initiators versus 1.42% among matched controls, representing a 79% reduction in incidence (aIRR 0.21, 95%CI:0.08-0.55; p=0.002). Of 25 seroconverters (68% women, 56% ≤30 years; median VL=5,871 copies/ml), 96% started ART (most same-day); 18/18 (100%) of those with repeat VL after ART start achieved VL<1,000 copies/ml. Seven (28%) seroconverters reported taking PrEP ≤30 days before seroconversion; 6 had tenofovir hair-levels indicating 4-7 doses/week taken. Of 10 participants with HIV genotyping, one with intermittent PrEP adherence confirmed by hair-levels had transmitted NRTI/NNRTI mutations (D70N/K70R/K219Q/K103N/P225H), plus FTC resistance possibly related to PrEP use (M184V).

CONCLUSIONS: Population-level PrEP offer (2016-2019) in 16 communities in rural Uganda and Kenya was associated with 79% lower HIV incidence among PrEP initiators with follow-up HIV testing than among recent (2015-2017) matched controls in the absence of PrEP.

OAC0806

PROGRAMMATIC OUTCOMES OF PRE-EXPOSURE PROPHYLAXIS (PREP) IN A RESOURCE CONSTRAINT HIGH HIV INCIDENCE SETTING IN ESWATINI

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is recommended for people at substantial risk of HIV infection, yet programmatic evidence from resource constraint high HIV incidence settings remains scarce. Eswatini national AIDS programme and Médecins Sans Frontières conducted a pilot implementation study in Shiselweni region of Eswatini to assess the programmatic feasibility of PrEP provision in public sector.

METHODS: Between September 2017 and January 2019, HIV-negative adults (≥16 years) were prospectively offered PrEP (tenofovir+lamivudine) in 12 community, primary, and secondary health facilities of predominant rural setting. The target populations were young (16-25 years), pregnant, and lactating women, key populations (MSMs, sex-workers), HIV negative partners of serodiscordant couples, and patients with sexually transmitted disease. We used frequency statistics to characterize the PrEP cascade and multivariate regression analysis to describe predictors of PrEP initiation and continuation.

RESULTS: Of 1824 clients assessed for PrEP eligibility, the majority were reached through primary care sites (80.8%), sexual reproductive health consultations (47.9%), and were women (79.6%). Almost half were aged 16 to 24 years (44.8%), most had finished secondary education (69.9%), and 16.2% lived in a serodiscordant relationship. A total of 497 (27%) clients initiated PrEP with 430 (86.5%) on the day of risk assessment and the remaining 67 within a median of 9 (IQR 3 – 32) days. Predictors of PrEP initiation were client's self-interest in PrEP (adjusted odds ratio [aOR] 13.46; 95% CI 7.62 – 23.78), having an HIV-infected partner (aOR 3.55; 95% CI 2.17–5.81), and lactating women (aOR 1.66; 95% CI 1.05– 2.61). Cumulative hazard of PrEP continuation was 48.3%, 40.4%, 29.2% and 21.9% at 3, 6, 12 and 18 months. The risk of discontinuation was less in individuals with self-interest in PrEP (adjusted hazard ratio [aHR] 0.61; 95% CI 0.41 – 0.89) and clients with a seropositive partner (aHR 0.43; 95% CI 0.28 – 0.65), while it was increased in lactating women (aHR 1.78; 95% CI 1.21 – 2.62) and same-day PrEP initiation (aHR 1.52, 95% CI 1.04 – 2.22).

CONCLUSIONS: The provision of PrEP appeared feasible in this rural public sector. Self-reflection of risky behaviour and living in serodiscordant relationship indicated strong engagement, yet initiation and retention rates were relatively low.

OAC0807

PREP CONTINUUM OF CARE AND NEW HIV INFECTIONS: LONG-TERM FOLLOW-UP IN A LARGE CLINICAL COHORT

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BACKGROUND: Few studies have examined long-term PrEP outcomes. We characterized the PrEP continuum of care and new HIV infections over more than five years of clinical follow-up.
METHODS: We used electronic health record data to identify Kaiser Permanente Northern California members who were linked to PrEP care during July 16 2012 - March 31 2019, defined as a PrEP referral or clinical encounter. PrEP prescription was defined as a prescription written by a provider, initiation as a pharmacy fill ≤6 months after linkage, and persistence as <120 days since last day of PrEP in possession based on pharmacy fills. Persistence analyses were among those with ≥6 months of health plan enrollment, with censoring at death or disenrollment. We used unadjusted log-binomial regression to identify factors associated with linkage, prescription, initiation, and persistence.
RESULTS: Among 12,963 patients linked to PrEP care, 95% were male, and 50% were White, with 21% Latinx, 15% Asian, and 7% African American. Of those, 10,310 (80%) received a prescription and 8571 (66%) initiated. We observed 12,810 person-years of PrEP use (mean 1.9 years/person). PrEP persistence was 73%, 64%, 60%, 57%, and 56% at 1, 2, 3, 4, and 5 years, respectively. Of the 2525 who were not persistent on PrEP, 932 (37%) restarted. Compared to White patients, African Americans were less likely to receive a PrEP prescription (risk ratio [RR] 0.87; 95% CI 0.83-0.91) or initiate PrEP (RR 0.81; 0.76-0.86), and more likely to discontinue (RR 1.18; 1.04-1.34]. There were 136 new HIV infections, including 42/12,963 (0.32%) at the time of PrEP linkage, 37/2653 (1.4%) among those who were linked to care but never received a prescription, 13/1739 (0.75%) among those who received a prescription but never initiated, 38/2525 (1.5%) among those who discontinued, and 6/4238 (0.14%) among those who were persistent on PrEP. The six diagnosed with HIV who were persistent on PrEP all self-reported suboptimal adherence.
CONCLUSIONS: We observed high levels of PrEP uptake and persistence over five years and no new HIV infections with consistent use. Efforts are needed to reduce racial inequities and support persistence during periods of HIV risk.

OAD01 BREAKING THE SILENCE OF STIGMA: INNOVATIVE APPROACHES

OAD0102

"LIVING WITH HIV DOES NOT MEAN YOU SHOULD LOSE HOPE": THE IMPORTANCE OF ASSESSING RESILIENCE WITHIN THE PLHIV STIGMA INDEX 2.0

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BACKGROUND: The People Living with HIV (PLHIV) Stigma Index -- implemented by and among PLHIV -- is the most widely used survey documenting stigma and discrimination experienced by PLHIV globally. After nearly a decade of implementation experience, and reflecting revised treatment guidelines, the 2008 survey was updated through a consultative process (2016-2017). A key recommendation was to assess resilience – positive adaptation within the context of significant adversity – alongside stigma. A 10-item PLHIV Resilience Scale (PLHIV-RS) was therefore developed and validated. PLHIV's opinions of the new questions are presented.
METHODS: The PLHIV-RS assesses whether HIV status has had a positive/neutral/negative effect on meeting needs, such as ability to cope with stress, find love, contribute to community, or practice a religion. Along with testing the quantitative survey in Cameroon, Senegal and Uganda (n=1,207), 60 cognitive interviews (20 per country) and 8 focus groups (Uganda only) were conducted by PLHIV interviewers to assess face validity and perceived importance of survey questions, including the PLHIV-RS. Respondents, including key populations such as men who have sex with men and sex workers, were purposively sampled to represent a broad range of opinions. Audio recorded interviews/focus groups were translated into English and analyzed thematically.
RESULTS: Respondents consistently said the resilience questions were important and relevant, and that the specific items were comprehensive. Several key themes emerged: being asked and answering the resilience questions was therapeutic, allowing respondents to reflect on the positive ways in which they are coping with, and even benefiting from their HIV-positive status ("..[the questions] show that we can play an important role in society"); the questions imply that "PLHIV have the same desires as other people;" and the questions are important for capturing how well PLHIV are accepting their status, and that data generated can help providers know where additional support is needed.
CONCLUSIONS: This qualitative evaluation of the PLHIV-RS underscored the importance to PLHIV of asking about resilience alongside adversities. Implementing the PLHIV-RS as part of the Stigma Index 2.0 should be prioritized as a meaningful, appreciated experience for PLHIV, along with helping to inform and assess interventions to improve the lives of PLHIV.

OAD0103

FRAGILE LIVES. GAY SHAME, HIV STIGMA, SUBSTANCE USE AND STRUCTURAL FACTORS GREATLY AFFECT LATINO GAY MEN LIVING WITH HIV IN SAN FRANCISCO, CALIFORNIA: IMPLICATIONS FOR MENTAL HEALTH INTERVENTIONS GLOBALLY

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BACKGROUND: In the USA, while the focus remains on HIV care engagement outcomes, little progress has been made in addressing the multiple intersections of stigma, mental health, substance use and structural factors affecting Latino gay men living with HIV. We explored these intersections to show where interventions should focus to improve quality of life and sustain HIV outcomes.
METHODS: We conducted 16 semi-structured interviews in English or Spanish with USA and foreign-born Latino gay men living with HIV and depression (PHQ-9 score > 10) at San Francisco General Hospital. Guided by an intersectional stigma framework and thematic analysis, we examined gay shame, HIV stigma, mental health, substance use and social inequities among participants.
RESULTS: Participants (age 28-56) were lower income, and two-thirds were monolingual Spanish speakers. Most participants reported viral suppression but some acknowledged poor adherence and potential disengagement from HIV care because of methamphetamine, cocaine, and alcohol use, and ongoing challenges with depression and daily functioning. For most, their mental health states intersected with HIV stigma, feelings of shame, guilt, and regret related to their sexual orientation, and trauma from prior bullying, physical, emotional and/or sexual abuse. Their daily life was punctuated by different affective states: sadness, anxiety, fear, and fatigue, which led to social isolation. Affective states and social isolation intertwined with the structural factors they faced: unstable/unsafe housing and limited income in an expensive city. Of those undocumented immigrants, finding employment and housing was difficult and intertwined with the fear of potential deportation. Some used the Spanish terms “angustia” (anguish) and “desesperación” (desperation/despair) to refer to their mental states. Although half had received prior depression treatment with mixed satisfaction, some used the Spanish term “desahogarse” to describe the chance to undrown themselves of their feelings during the study interviews, reflecting their need for other services.
CONCLUSIONS: Sustaining, not just achieving, optimal HIV care outcomes, requires that programs and interventions take an intersectional approach to try to address the complex issues, including HIV stigma and internalized homophobia, that affect the wellbeing of Latino gay men. However, we also must address the structural barriers that negatively affect their circumstances and quality of life.

OAD0104

FAMILY SUPPORT AS A SOURCE OF RESILIENCE TO COUNTER HIV-RELATED STIGMA AMONG ADULTS ON ANTIRETROVIRAL THERAPY IN URBAN ZIMBABWE

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BACKGROUND: HIV-related stigma continues to be a major threat to achieving HIV epidemic control as it can deter individuals from HIV testing, linkage to care, adherence to antiretroviral therapy (ART), and retention in treatment programs. We present findings, from a PEPFAR-funded study, on the role of family support in helping adults on ART manage HIV-related stigma in Harare, Zimbabwe.
METHODS: We conducted 8 focus group discussions (FGDs) with 26 women and 28 men aged 18-49 years on ART recruited from 7 high-volume public-sector health facilities in Harare and 35 interviews with healthcare workers (HCWs) at the same sites. Data were analyzed in Dedoose using inductive and deductive approaches.
RESULTS: Both female and male FGD participants reported pervasive HIV-related stigma in their families and communities. Most thus preferred to keep their HIV status secret. Nevertheless, many had disclosed to a family member, usually a parent, spouse or sibling. These family members became key sources of psycho-social support and often shielded participants from stigma. Family members provided protection from violence and rejection by disclosing on participants’ behalf (“I told him [my brother]. My brother...talked to my husband and my husband accepted my status.”) and by keeping participants’ statuses hidden from other family members (“I told my mother...the rest do not know my status, so I’m not shy [ashamed] when I am with them.”). Family members also encouraged participants to enroll and remain in treatment despite others’ stigmatizing comments and offered practical support by collecting ARVs when participants couldn’t get time off work without arousing suspicion or risking disclosure to employers. Most HCWs highlighted non-disclosure to family members as a key barrier to retention in HIV care (“Maybe at home your family does not know that you are taking ARVs...so you can’t explain to them that you have to go to the clinic.”).
CONCLUSIONS: Family members can act as key allies in managing HIV-related stigma, fostering resilience among people living with HIV and supporting treatment adherence. However, it is equally important to ensure that supportive family members have access to psychosocial services to prevent burnout.

OAD0105

SYMBOLIC VIOLENCE IN HEALTHCARE AS A BARRIER TO HIV PREVENTION AND CARE FOR YOUNG TRANS WOMEN IN BRAZIL

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BACKGROUND: Examination of interactions that reinforce domination of oppressed groups is important for identifying intervention targets to address stigma. Bourdieu's concept of symbolic violence provides a framework for understanding experiences of marginalized groups in the healthcare setting. Young trans women are seen as transgressing current gender norms and face extremely high stigma in the Brazilian society, including in the universal healthcare system. This study was conducted to describe the ways symbolic violence manifests in healthcare interactions and structures for young trans women in Brazil who are at risk for or living with HIV.

METHODS: We conducted content analysis of qualitative interview data collected with young trans women ages 18-24 years old and with clinical providers who practice in the universal healthcare system in Rio de Janeiro, Brazil. Ten young trans women and 10 providers were interviewed. Audio files were transcribed and translated from Portuguese into English. Findings are described.

RESULTS: Most young trans women expressed distrust of the medical system based on prior discrimination and mistreatment by front line and clinical staff. Providers shared that colleagues knew little and had stigmatizing attitudes and beliefs about trans people. Overt discrimination manifested in individual behaviors like the unwillingness to use the social name of young trans women. Young trans women avoided the healthcare system, and thus had limited use of HIV prevention and care services. Young trans women also described limitations in the availability of medical services to meet their medical transition healthcare needs, resulting in structural violence wherein only a sub-set of their medical needs could be met.

CONCLUSIONS: Young trans women avoid healthcare as a survival mechanism to prevent further experiences of discrimination and ostracization. Healthcare avoidance reinforced systems of exclusion and presents increased health risks as medical HIV prevention and care needs were not being met. Structural barriers to medical transition care presented further symbolic violence and eliminated an avenue for reaching young trans women to engage them in healthcare. Strategies aimed at sharing knowledge and building trust with young trans women, and availability of medical transition care can begin to dismantle the continuum of violence and promote healthcare engagement.

OAD0106

A COUNSELLING INTERVENTION TO ADDRESS HIV STIGMA AT ENTRY INTO ANTENATAL CARE IN TANZANIA: RESULTS FROM A PARALLEL RANDOMIZED CONTROLLED PILOT STUDY

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BACKGROUND: Routine HIV testing and counselling during antenatal care (ANC) is an important catch point for new HIV diagnoses and can be an innovative site for addressing HIV stigmatizing attitudes among the general population. We developed Maisha, a counselling intervention implemented during routine ANC, to reduce HIV stigmatizing attitudes among women and their partners presenting for first ANC.

METHODS: A parallel two-arm pilot trial was conducted in two facilities in Moshi, Tanzania. Eligible consenting women and their partners attending their first ANC visit completed a baseline survey and were randomized to intervention or standard of care. Participants assigned to the intervention condition watched a short video followed by a brief counselling session delivered by trained lay counsellors that aimed to address misconceptions about HIV transmission and HIV stigmatizing attitudes and prepare participants for an HIV test. Participants with high stigmatizing attitudes were randomly selected for a 3 month follow up survey to measure the efficacy of Maisha. An 18-item scale was used to measure stigmatizing attitudes, with subscales of moral judgement and social distancing. ANCOVA models were used to assess potential intervention effects.

RESULTS: Between April and November 2019, we enrolled 1041 women and 494 men. At baseline, the intervention (n=760) and control (n=775) groups were statistically similar on all variables of interest (i.e. demographics and stigmatizing attitudes (p>0.05)). To date, 218 participants (90 controls and 128 intervention) have completed the follow up survey. After controlling for baseline scores, intervention participants had significantly lower stigmatizing attitudes (F (1,163) = 5.42, p=0.021) and anticipated stigma scores (F (1,158) = 4.35, p=0.039) than control participants. In a subscale analysis, intervention participants had significantly lower moral judgment at follow up compared to the control (F (1,163) = 12.34, p = 0.001), but there was no significant difference between conditions in interpersonal distancing (F (1,163) = 2.28p = 0.133).

CONCLUSIONS: The Maisha intervention successfully reduced stigmatizing attitudes towards people living with HIV (PLWH) amongst HIV negative individuals, and reduced anticipations of stigmatizing reactions if they tested seropositive. Further research is needed to improve how Maisha content addresses the issue of interpersonal distancing from PLWH.

OAD02 GENDER DYNAMICS AND HIV TRANSMISSION

OAD0202

ZAMBIA MALE CHARACTERIZATION STUDY: INSIGHTS TO INFORM HIV PROGRAMMING TO INCREASE MEN'S HIV SERVICE UTILIZATION

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BACKGROUND: Male HIV service access/utilization is low in Zambia. The purpose of the Zambia male characterization study, conducted by the USAID DISCOVER-Health project implemented by JSI, was to characterize and understand the male sexual partners of adolescent girls and young women (AGYW) at risk of HIV, in order to better target and improve HIV programs for males, and reduce HIV transmission among AGYW.

METHODS: The mixed methods study was conducted sequentially in 2017/18 in three urban DREAMS districts. A quantitative survey among AGYW characterized their male sexual-partners. A subsequent qualitative survey among 123 males 20-34 years old (15 focus-group-discussions and 9 in-depth-interviews), defined men's health-seeking behaviours and the interventions required to increase their access to and utilization of HIV services, including testing, treatment (ART), circumcision, and condoms.

RESULTS: Fear and apprehension about HIV and health system shut-out emerged as the main barriers for men's access to/use of HIV services. The men in this study fear HIV. Most of the men living with HIV (MLHIV) they know were diagnosed late, with symptomatic HIV; they do not have many examples of MLHIV who are strong, healthy and well. They view HIV as emasculating, isolating and weak, and HIV diagnosis as the start of embarrassing/stigmatizing ill-health to early death. Many believe they have HIV from high-risk behavior, but are too afraid to test. Unlike women 20-34 who have significant health system contact, men feel shut-out of the health system and have little access to reliable health/HIV information to inform their health choices. Equally ill-informed peers are the primary source of information about HIV/health. Most do not know the benefits of early diagnosis or that with ART one can live healthy and strong. Men initially self-medicate and/or use faith/traditional healers for healthcare. When the problem persists/worsens, they go to the clinic.

CONCLUSIONS: For Zambia to achieve HIV epidemic control by 2020, a key gap must be addressed: finding, engaging, and sustaining the missing men, particularly men 20-34 (among the least virally-suppressed) in HIV services. These insights should be used to improve HIV programs to support men to access/utilize HIV services more, towards HIV epidemic control.

OAD0203

UNIQUE AND SHARED CORRELATES OF INTIMATE PARTNER VIOLENCE PERPETRATION AND SEXUAL RISK BEHAVIOR AMONG SOUTH AFRICAN ADOLESCENT BOYS

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BACKGROUND: South Africa is a global priority setting for tackling the interacting HIV and sexual violence epidemics. Adult perpetration of intimate partner violence (IPV) is often associated with engagement in sexual risk behaviors (SRBs) relating to HIV acquisition or transmission. However, this relationship is less understood among adolescents. Guided by theory, this study explores the association between factors predictive of IPV perpetration and SRB among adolescent boys.

METHODS: Boys (ages 15-17; N=80) participated in a gender-tailored intervention pilot trial focused on IPV perpetration and HIV risk behavior prevention. Boys were recruited from a Cape Town community with high HIV prevalence. Baseline data associations among risk factors and target outcomes were analyzed. Past-year perpetration of IPV (i.e., forced sexual petting or oral, vaginal, or anal sex) and past 3-month SRB (i.e., condomless sex, sex with multiple partners, and sex while using alcohol/drugs) were measured. Significant bivariate correlates of IPV perpetration and SRB, including demographic/socio-economic factors, violence/trauma exposure, family functioning, and IPV/SRB-related attitudes and norms, were entered in multivariate regression models.

RESULTS: Rate of IPV perpetration was 51%; rates of SRB ranged from 33% to 49%. IPV perpetration was correlated with SRBs (rs = 0.30-0.36). Bivariate analyses revealed common correlates associated with a lower likelihood of IPV perpetration and SRB: greater equitable gender beliefs and ability to negotiate sexual consent; positive norms related to condom use; and safer attitudes towards sex and condoms. Other correlates were unique to IPV perpetration (e.g., food insecurity) or SRB (e.g., violence exposure). Multivariate models revealed that higher food security, better family communication, and safer attitudes towards sex, and lower violence exposure, more equitable gender beliefs, and higher sexual consent negotiation ability were associated with lower odds IPV perpetration and SRB, respectively.

CONCLUSIONS: Gender and sexual risk-related norm perceptions/misperceptions, beliefs, and attitudes possibly explain the association between IPV and SRB among adolescent boys in South Africa and should be focused by prevention efforts. Addressing IPV in an adolescent-tailored manner needs also to include targeting family factors. More research is needed to further uncover unique risk factors relating to IPV perpetration and SRB during adolescence, including access to resources and violence/trauma exposure.

OAD0204

AN ALARMING PREVALENCE OF GENDER-BASED VIOLENCE EXPERIENCES AMONG HIV HIGH RISK POPULATION IN CAMBODIA

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BACKGROUND: A growing body of international research identifies women working in the sex and entertainment industry as a high-risk group for exposure to gender-based violence (GBV). Female entertainment workers (FEWs) is one of the HIV high risk population in Cambodia. Despite the recognized vulnerability of these women, their experiences with GBV remain understudied. This study aims to examine the prevalence of GBV among one HIV high risk population in Cambodia and identify factors associated with their victimization.

METHODS: A cross-sectional study was conducted as part of the mid-term survey for the Mobile Link project in November 2019. A structured questionnaire was programmed in Kobo Humanitarian Response Platform and offline-used for face-to-face interviews with 600 FEWs from three provinces and a capital city in Cambodia. The study participants were recruited from different entertainment venues using a stratified random sampling method. The questionnaire collected data on socio-demographic characteristics, gender inequity norm, and GBV. Bivariate and multivariable logistic regression analyses were performed to identify risk factors for GBV victimization.

RESULTS: Of the total, 60.5% women had experienced a form of GBV during their lifetime, of whom 37.5% experienced it in the past six months. The prevalence of emotional abuse, forced substance use, physical abuse, and forced sex was 51.5%, 25.0%, 20.6%, and 2.9%, respectively. Forced substance use and forced sex were mainly perpetrated by clients, physical abuse by intimate partners, and emotional abuse by others. FEWs victimized by clients (RRR=0.19, 95%CI=0.07-0.53) and others (RRR=0.11, 95%CI=0.03-0.44) were less likely to be married compared to victims of intimate partner violence. Factors associated with sexual harassment were working in beer gardens (AOR=2.39, 95% CI =1.20-4.73) and restaurants/cafés (AOR=1.65, 95% CI=1.01-2.69), and having high adherence to gender inequity norms (AOR=3.21, 95% CI=1.42-7.25).

CONCLUSIONS: FEWs in Cambodia experience high levels and unique forms of GBV as they are confronted with different types of perpetrators. Interventions need to be tailored to fit the specific needs and experiences of FEWs working in different entertainment venues. Interventions aimed at reducing client-perpetrated violence should specifically focus on forced substance use and forced sex, while physical abuse by intimate partners should also be addressed.

OAD0205

GENDER-BASED VIOLENCE PERPETRATION BY MALE SEXUAL PARTNERS OF ADOLESCENT GIRLS AND YOUNG WOMEN IN HAITI: DEMOGRAPHIC AND HIV CORRELATES

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BACKGROUND: Globally, women who experience gender-based violence (GBV) have been shown to be at higher risk for HIV. Male perpetrators of GBV report higher risk HIV behaviors (multiple partners, sex worker patronage, and inconsistent condom use). GBV is potentially an important determinant of HIV vulnerability for AGYW in Haiti, but limited information exists about the characteristics of men who perpetrate GBV.

METHODS: A cross-sectional survey was administered to adult men in Port-au-Prince (PaP) (n=500) and St. Marc (n=300) reporting an AGYW sexual partner in the last 12 months. Men were recruited using respondent-driven-sampling, and asked to report on their HIV-related behaviors, and perpetration of emotional and sexual/physical violence with their most recent AGYW partner. Statistical analysis included bivariate and multivariate logistic regression with appropriate RDS sampling weights. Results are presented separately for each city.

RESULTS: The most common form of emotional violence reported by men was trying to control what their partner does (72.5% in PaP, 64.9% in St. Marc). Emotional violence perpetration was more common among men with higher levels of education (adjusted odds ratio (AOR) 11.09, p=0.000 in PaP and 5.55, p=0.092 in St. Marc), and higher income in PaP (AOR 2.20, p=0.004). Men who reported emotional violence perpetration in PaP were more likely to use condoms with their AGYW partner (AOR 1.79, p=0.071). In terms of physical violence, 7.5% of participants in PaP and 7.0% of participants in St. Marc reported ever having hit, pushed, slapped, punched, or kicked their AGYW sexual partner. A higher proportion reported ever having forced their AGYW partner to have sex (17.2% of participants in PaP and 19.8% in St. Marc). In multivariate analysis, men in St. Marc who report physical/sexual violence perpetration were more likely to report high-risk sexual behavior (multiple concurrent partnerships and being six or more years older than their partner) (AOR 3.06, p=0.011) and less likely to report condom use (AOR 0.39, p=0.009).

CONCLUSIONS: In Haiti physical/sexual violence perpetration is linked to higher risk sexual behavior for men and may increase their partner's HIV vulnerability. It is important to include GBV interventions in HIV programming.

OAD0206

RATIONAL REASONING AND (NON) DISCLOSURE OF SEXUAL ASSAULT BY FEMALE STUDENTS IN A UNIVERSITY IN ESWATINI: IMPLICATIONS FOR HIV PREVENTION

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BACKGROUND: Sexual violence is strongly linked to an increased risk of HIV acquisition, and one in three women around the world will experience some form of sexual violence in their lifetime. While post-exposure prophylaxis medications, counselling, and other forms of support that may decrease some of the attendant risk of HIV are available to survivors of assault in many global settings, they can only be accessed if survivors choose to disclose that an assault has happened. Increasing safe and supported sexual assault disclosure is an important step in addressing the links between HIV and gender based violence. We analyzed a sample of female university students in Eswatini who had experienced sexual assault in their lifetime to identify factors associated with the choice to disclose.

METHODS: Participants were a random sample of female students enrolled fulltime at the University of Eswatini, drawn from a list of all students at time of study. Analyses were conducted on a subsample of women (n=188) who reported experiencing sexual assault in their lifetime. We assessed the prevalence and correlates of disclosure, testing the hypothesis that financial reliance on a perpetrator would be a strong predictor of nondisclosure

RESULTS: We sampled 372 female students. Of these, 51% (n=188) reported lifetime penetrative sexual assault. Only 43% of survivors (n=80) reported ever disclosing their assault to anyone. In our analyses, economic variables were not associated with disclosure. Believing one's friends would support her if she was assaulted by a boyfriend was associated with disclosure (OR 2.16, 95% CI: 1.18 – 3.92) and believeing she would be supported if assaulted by a stranger was marginally associated (OR 1.79, 95% CI: 0.99 – 3.25). Among participants who never disclosed, 10% cited financial reliance on their perpetraor. Being responsible for a child was marginally associated with nondisclosure because of financial reliance (OR 3.3, 95% CI: 0.93 – 11.81).

CONCLUSIONS: The majority of sexual assault survivors never disclosed their assault to anyone. Programs to reduce HIV risk for survivors of sexual assault must consider both women's social and financial landscapes to create holistic policies.

OAD03 HIV & SOCIETY: COMMUNITY AND STRUCTURAL APPROACHES FOR HIV PREVENTION, TREATMENT AND CARE

OAD0302

CHARACTERIZING STRATEGIES USED BY HIV-INFECTED SMALLHOLDER FARMERS TO MITIGATE THE EFFECTS OF CLIMATE CHANGE IN THE NYANZA REGION OF KENYA

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BACKGROUND: Severe weather events pose risks to HIV health among infected individuals relying on farming for livelihoods and food. Little information exists on strategies rural people living with HIV (RPLHIV) adopt to cope with severe weather events. We used qualitative methods to characterize strategies used by HIV-infected farmers to mitigate climate change impacts.

METHODS: We interviewed 40 HIV-infected-individuals in 2018 enrolled within the *Shamba Maisha* cluster-randomized control trial, a multisectoral agricultural and financial intervention to improve HIV health outcomes among RPLHIV in Kisumu, Homa Bay and Migori counties in Kenya (NCT02815579). We used purposive sampling to select participants from diverse geographies. In-depth interviews were conducted in participants' native language, transcribed, translated into English and double-coded. Thematic content analysis followed an integrated inductive-deductive approach.

RESULTS: Participants reported severe weather (droughts and flooding) became more severe over time, leading to significant losses in livestock, crop yields, infrastructure, and income, posing threats to their HIV health through increased food insecurity, lack of money for transportation, and displacement from flooded homes. Mitigation strategies included short-term coping such as reduced number of meals, eating lower-quality food, walking long distances to clinic, displacement to safer regions, and skipping medications if no food was available. People also described longer-term adaptation strategies such as farming plot expansion, farming infrastructure investments, individual requests for larger distributions of medications, allocating more money towards savings, diversifying crops, and securing non-farming employment. According to participants, these efforts were driven by their complete dependence on farming to support their basic needs, while also noting the importance of farming yields and availability of food in order to adhere to their ART medications. Gender may play a role in mitigation strategies utilized because male farmers may have more access to some resources than female farmers, such as land, farming machinery, and available time.

CONCLUSIONS: These data provide useful information on how RPLHIV adapt to impacts of severe weather events, which can help guide development of climate responsive support systems, including those that prevent wide-spread interruptions in ART adherence. More work is needed on gender-specific adaptation strategies so that interventions and programs are responsive to the needs of all RPLHIV.

OAD0303

RANDOMIZED CONTROLLED TRIAL OF NURSE-LED LAY VILLAGE WOMEN ON BEHAVIOURAL AND NUTRITIONAL INTERVENTION FOR WOMEN LIVING WITH HIV/AIDS IN INDIA: 18 MONTHS FOLLOW-UP

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BACKGROUND: Long-Term Impact of a nurse-led behavioral and nutrition intervention, supported by Asha (lay village women), and focused on improving the health of WLH/A in India. Health parameters include Depressive Symptoms, CD4 levels, Body Mass Index [BMI]) and Hemoglobin. Women Living with HIV/AIDS (WLH/A) in rural India face extreme health disparities, challenging adherence to Antiretroviral (ART) Treatment. Nutritional deficits including anemia exacerbate disease progression.
METHODS: After extensive formative research, we conducted a four-arm quasi-experimental trial with 600 women recruited from primary-health centers. The 4 programs each included group-education sessions and Asha support and differed on the nutritional component: 1) Asha-supported standard education (SE) alone; 2) SE + nutrition education (+NE); 3) SE + nutrition supplements (+NS); or 4) SE + nutrition education and supplements (+NENS). The intervention was delivered over 6 months. Assessments occurred at baseline, and month 6 (post-intervention), 12, and 18, with 100% retention. Multilevel modeling examined effects of program over time.
RESULTS: At baseline, mean age was 34 years and CD4 level was 447.4. 100% of the women were anemic. At 18-month follow-up, Program 4 experienced greatest improvements in CD4 counts compared to the Program 1. For BMI, Programs 3 and 4 exhibited greater gains compared to Program 1. All programs improved depressive symptom scores and ART adherence from baseline to 18-month follow-up; no severe anemia at 18-months.
CONCLUSIONS: A low-cost Nurse-led and Asha-supported behavioral and nutritional intervention improved health parameters sustained at 18-month follow-up. Future research should explore this model in other communities and infectious diseases.

OAD0304

HOW DOES HIV RISK DIFFER BY CO-OCCURRING STRUCTURAL FACTORS? A LATENT CLASS ANALYSIS OF STRUCTURAL VULNERABILITY INDICATORS AMONG CISGENDER FEMALE SEX WORKERS IN BALTIMORE, MARYLAND, USA

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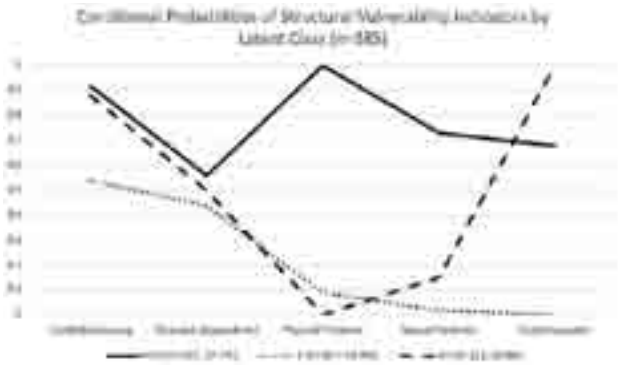
BACKGROUND: Structural vulnerability (SV) posits that a group's social position can constrain behaviors owing to conflict with existing power structures, elevating risk for health disparities. Little research has examined how HIV risk differs by the co-occurrence of SV indicators (e.g. violence, economic strains) among female sex workers (FSW), a key population in the HIV epidemic grossly understudied in the US.
METHODS: We recruited 385 cisgender FSW 18 years+ in Baltimore, Maryland via mobile van. Participants completed survey, HIV rapid test, and self-administered chlamydia and gonorrhea tests. Using latent class analysis, we sought to identify typologies of SV based on clustering of SV indicators experienced in the past 6 months: unstable housing, financially dependent on someone else, client-perpetrated physical or sexual violence, and hungry "because there was not enough food" at least weekly. Number of latent classes was determined by relevant fit statistics (AIC, BIC, LRT). Mplus commands dcat and dcon performed bivariate tests of significance between latent classes and categorical and continuous variables, respectively, while accounting for class.
RESULTS: Participants were a median 37 years old, 36% Black, and 58% injected drugs in the past 6 months. Baseline HIV prevalence was 7% with 16% and 18% testing positive for gonorrhea and chlamydia, respectively. A 3-class model emerged: economic factors (housing, financial dependence) only (E); economic and hunger (EH); highest SV (HSV) (Fig.1). Significant differences between classes include: condomless sex with clients (p=0.002), injecting drugs (p<0.001), chlamydia infection (p=0.04), internalized sex work stigma (p=0.03), and depression (p<0.001) and PTSD (p<0.001) symptoms.



[Figure. Conditional probabilities of structural vulnerability indicators by latent class (n=385)]

CONCLUSIONS: Clear patterns of SV and HIV risk exist among FSW in the US. Results demonstrate the importance of employing a social determinants of health perspective in reducing HIV burden in this population, with the study providing nuances as to how to target subgroups to potentiate interventions' impacts among this key population.

OAD0305

GAINING TRACTION: PROMISING SHIFTS IN GENDER NORMS AND INTIMATE PARTNER VIOLENCE DURING AN HIV PREVENTION TRIAL IN SOUTH AFRICA

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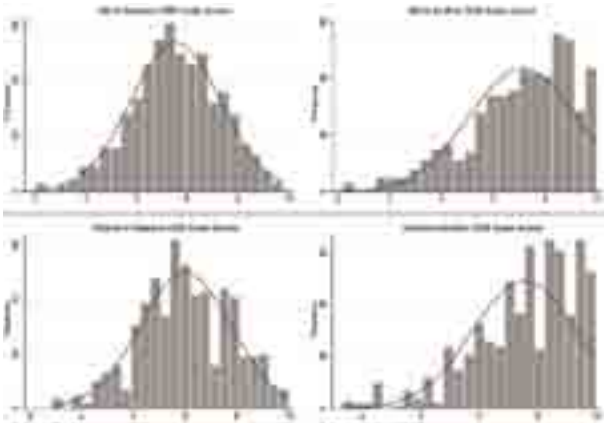
BACKGROUND: HIV and violence prevention programs increasingly seek to transform gender norms among participants, yet how to do so at the community level, and subsequent pathways to behavior change, remain poorly understood. We assessed shifts in endorsement of equitable gender norms, and intimate partner violence (IPV), during a three-year community-based trial of an HIV 'treatment as prevention' intervention in rural South Africa.

METHODS: Cross-sectional household surveys were conducted with men and women ages 18-49 years, in eight intervention and seven control communities, at 2014-baseline (n=1,149) and 2018-endline (n=1,189). Gender norms were measured by the GEM Scale. Intent-to-treat analyses assessed intervention effects and change over time. Qualitative research with 59 community members and 38 staff examined the change process.

RESULTS: Two-thirds of men and half of women in intervention communities had heard of the intervention/seen the logo; half of these had attended two-day workshop(s). Regression analyses showed a 15% improvement in GEM score over time, irrespective of the intervention, among men ($p<0.001$) and women ($p<0.001$). Younger men (ages 18-29) also had decreased odds of reporting past-year IPV perpetration over time (aOR 0.40; $p<0.05$), while younger women had lower odds of reporting IPV over time in intervention vs. control communities (aOR 0.53; $p<0.05$).



[Figure 1. Histograms depicting shifts in the distribution of gender norms scores (GEM Scale) between baseline and endline (irrespective of study arm), among men and women]

Qualitative data suggest that gender norms shifts may be linked to rapidly-increasing media access (via satellite TV/smartphones) and consequent exposure to serial dramas modeling equitable relationships. Workshop activities that fostered couple-communication skill-building and critical reflection around gender norms further supported IPV reductions.

CONCLUSIONS: There was a population-level shift towards greater endorsement of equitable gender norms between 2014-2018, potentially linked with escalation in media access. There was also an intervention effect on reported IPV among women, although not among men. Societal-level gender norm shifts can create enabling environments for interventions to find new traction for violence and HIV-related behavior change.

OAD0306

MODIFYING SOCIAL ACTION THEORY TO CONCEPTUALISE SOCIAL AND STRUCTURAL FACTORS AND THEIR IMPACTS ON HIV TREATMENT ENGAGEMENT

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BACKGROUND: Long term engagement and retention in HIV treatment is an ongoing challenge to national treatment programs, yet behavioral models on which many retention-promoting programmes are built, do not adequately account for the role of social and structural determinants. Based on secondary analysis, we interrogated Ewart's Social Action Theory as a promising approach to conceptualizing not just which, but how, social and structural factors and their interaction influence HIV treatment engagement.

METHODS: Thematic summaries from three empirical qualitative data-sets documenting patient and provider experiences of HIV treatment engagement and disengagement in Zambia (2012/13, 2015/16) and Malawi (2018) were analysed for congruence with Social Action Theory (SAT). We conducted iterative comparison of thematic summaries to theoretical constructs relating to context, self-change processes and action-states respectively.

RESULTS: Qualitative validation demonstrated a high degree of congruence with SAT across data-sets. Patients' experience of illness (physiological state) community HIV-related knowledge and attitudes, gender and cultural norms (relationship systems), work place and health facility contexts (organisational systems), and experiences of poverty and food security (socioeconomic settings) combined to create a critical 'context' in which individuals' operated. Individual's knowledge and understanding which informed both imagined and real possibilities of HIV and treatment (generative capabilities), personal acceptance or denial of status and expectations of seeking treatment (motivations), capacity to disclose as well as relationships with health providers (social interactions) combined to form dynamic responses influencing engagement decision behaviors. The relative influence of spouses or close family members (social interdependence), combined with immediate physiological outcomes of treatment (side effects, recovery and/or illness), completed a dynamic loop feeding back into the 'contextual' experience of illness and personal affect.

CONCLUSIONS: The challenge of how to strengthen engagement in HIV treatment in both general and targeted epidemics remains ubiquitous, yet also paradoxically context-specific. Social Action Theory extends current models by more consciously linking social and structural factors (particularly structural poverty, power-dynamics, and health system drivers) to well-recognised behavioral drivers of engagement. It provides a promising tool for conceptualizing 'whole-of-system' planning for improving HIV retention accounting for the dynamic relationship between factors while remaining sufficiently flexible to use across political, cultural and geographic settings.

OAD04 PANORAMIC VIEW OF DRUG USE AND HIV

OAD0402

A NEW GENERATION OF DRUG USERS IN ST. PETERSBURG, RUSSIA? A PRELIMINARY TESTING OF THEORY OF DRUG GENERATIONS BASED ON A MIXED-METHODS PILOT STUDY OF YOUNG HARD DRUG USERS

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BACKGROUND: Russia has a widespread injection drug use epidemic with high prevalence of HIV and HCV among people who inject drugs (PWID). Thus, HIV prevalence among PWID in St. Petersburg is around 60%, HCV - 95%. Most research to date was concentrated on older cohorts, mostly opioid users, of PWID while young drug users in Russia have not received proper attention. The goal of the pilot study was to gain some preliminary understanding of possible drug generation's change. Our theoretical approach was 'drug generation theory', according to which drug generations succeed each other when a previously fashionable drug falls into disrepute.

METHODS: Mixed methods study of young (age 18 - 26) hard (opiates, stimulants, NPS) drug users in St. Petersburg using HIV and HCV oral tests (OraQuick) in addition to behavioral data (10 semi-structured interviews and 40 structured interviews).

RESULTS: Almost half (49%) of the sample used amphetamines, 21% used amphetamines and mephedrone (NPS) – also a stimulant (thus, 70% of the sample used only stimulants). Only 18% ever used opioid (and only episodically). Mean IDU experience was 4.2 years. 0 HIV cases and 2 HCV cases were detected among 30 PWID subsample. None of the participants shared a syringe in the last 12 months. Opioid use, syringe sharing and HIV and HCV statuses were heavily stigmatized. The informants avoided older (30+) PWID. Qualitative data shows some of the participants used opioids episodically but were disappointed by their effects.

CONCLUSIONS: These data indicate that a new generation of drug users in St. Petersburg may have emerged. Though the sample was small, the discrepancies—0% vs. 65% on HIV and 7% vs. 95% on HCV can hardly be attributed to chance. Thus, this cohort seems to be much safer in its injection practices than older PWID cohorts. It is also opiate aversive in comparison to older cohorts. Thus, this generation of drug users can be called "amphetamine generation" or given the rapid spread and popularity of stimulant type NPS "stimulants generation." The pilot data give some confirmation to the theory of drug generation's change. However, given the small sample size these conclusions are very preliminary.

OAD0403

HIV AND HEPATITIS C VIRUS CO-INFECTION AMONG PEOPLE WHO INJECT DRUGS IN CAMBODIA: FINDINGS FROM A NATIONAL SURVEY USING RESPONDENT DRIVEN SAMPLING METHOD

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BACKGROUND: Despite the evidence of the relationship between human immunodeficiency virus (HIV) and hepatitis C virus (HCV) in people who inject drugs globally, studies on the co-infection among this key population remain scarce in resource-poor countries. This study was therefore conducted to explore the prevalence of and factors associated with HIV/HCV co-infection among people who inject drugs in Cambodia.

METHODS: This study was conducted in 2017 as part of the National Integrated Biological and Behavioral Survey. The Respondent Driven Sampling method was used to recruit participants in 12 provinces for face-to-face interviews and HIV and HCV testing. Weighted multivariable logistic regression analysis was conducted to identify risk factors associated with HIV/HCV co-infection. This study was approved by the National Ethics Committee for Health Research.

RESULTS: This study included 286 people who inject drugs with a mean age of 31.6 (SD= 7.5) years. The prevalence of HIV and HCV was 15.2% and 30.4%, respectively. Almost one in ten (9.4%) of the total study population were co-infected with HIV and HCV. After adjustment, the odds of HIV/HCV co-infection was significantly higher among participants who were female (AOR= 2.17, 95% CI= 1.03-6.08), were in the older age group of 35 and older (AOR= 3.67, 95% CI= 1.04-9.80), were widowed/divorced/separated (AOR= 3.25, 95% CI= 1.76-13.94), were living on the streets (AOR= 4.83, 95% CI= 1.23-9.02), and had received methadone maintenance therapy in the past year (AOR= 4.02, 95% CI= 1.13-18.96) compared to their respective reference group. The odds was significantly lower among participants who reported having attained ≥10 years of formal education compared to those who had attained only primary education or lower (AOR= 0.68, 95% CI= 0.15-0.96).

CONCLUSIONS: The prevalence of HIV/HCV con-infection among people who inject drugs in Cambodia is considerably high, particularly in older and more vulnerable subgroups. Tailor-made interventions are required to increase access to culturally sensitive harm reduction interventions to prevent both HIV and HCV infection. In addition, there is an opportunity to expand HCV screening, diagnosis, and treatment in this key population given its small population size and the availability of new directly-acting antiviral agents in the country.

OAD0404

EFFECTS OF CIGARETTE SMOKING AND SUBSTANCE USE ON HIV VIRAL SUPPRESSION OVER TIME IN A COHORT OF YOUNG MEN WHO HAVE SEX WITH MEN

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BACKGROUND: Cigarette smoking and substance use behaviors often co-occur in HIV-positive populations. Although smoking and substance use have been linked to HIV viral suppression (VS), limited data are available on their independent and joint effects on VS longitudinally. Determining whether there is an interaction between these behaviors on VS over time could inform syndemic approaches in managing HIV.

METHODS: The Men who have sex with Men and Substance Use Cohort at UCLA Linking Infections, Noting Effects (mSTUDY) is a cohort study primarily among men of color in Los Angeles, CA. This analysis included mSTUDY participants enrolled from 2014 to 2018 who were HIV-positive, reported being prescribed antiretroviral therapy (ART), and had available data on smoking and substance use. Independent and joint effects of time-varying smoking (at least one cigarette/day) and substance use (opiates, fentanyl, cocaine, amphetamine-type stimulants, or nitrites) on VS (viral load < 200 copies/mL) at each six-month follow-up visit were estimated using a mixed-effects logistic regression model, accounting for repeated measures and adjusting for time, age, race/ethnicity, employment, and history of psychiatric illness.

RESULTS: Among 227 HIV-positive participants with a median follow-up of two years, 126 (56%) reported smoking, 181 (80%) reported using substances other than cannabis, and 205 (90%) experienced viral suppression at least once over follow-up. At each visit, participants who reported smoking had significantly decreased adjusted odds of experiencing VS compared to nonsmokers (aOR=0.59, 95% CI: 0.36-0.97). Similarly, participants who reported using substances other than cannabis had less than half the adjusted odds of experiencing VS compared to those reporting either cannabis only or no drug use (aOR=0.46, 95% CI: 0.28-0.74). There was not a significant interaction between smoking and substance use on VS at each six-month visit.

CONCLUSIONS: Reported cigarette smoking and substance use other than cannabis independently reduced the odds of experiencing VS at each six-month visit. However, individuals who reported both smoking and using substances other than cannabis did not experience an enhanced decreased odds of VS compared to either smoking or substance use alone. Further research will focus on ways to understand the roles of smoking and substance use over time in this study population.

OAD0405

PREP AWARENESS AND PERCEIVED HIV STIGMA AMONG PEOPLE WHO INJECT DRUGS, SAN FRANCISCO, 2018

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BACKGROUND: "Getting to Zero" efforts require achieving zero HIV stigma. Unfortunately, interventions to reduce stigma lag behind HIV treatment to reduce mortality and PrEP to prevent infection. Research has shown HIV stigma as a barrier to prevention options such as PrEP; however, the direction of this association may go both ways. Education on PrEP may reduce HIV stigma as people at risk become aware of effective ways to prevent infection. Meanwhile, awareness of PrEP's ability to prevent HIV transmission is low among people who inject drugs (PWID) compared to other populations at risk. We therefore analyzed data from a community-based survey of PWID in San Francisco to illuminate the effects of PrEP awareness on perceptions of HIV stigma.

METHODS: PWID were recruited through respondent-driven sampling from July-December 2018. Eligibility criteria included San Francisco residence, 18 years of age or older, and injection of drugs within the past twelve months. Participants completed a structured survey including questions on PrEP awareness and ranking of how strongly they agreed with the statement, "Most people in San Francisco would discriminate against someone with HIV."

RESULTS: Among 464 participants, 38.1% were ≥50 years old, 55.0% were non-white, 66.5% were male-identified, 78.0% were unstably housed, and 9.1% had previously tested HIV positive. Among HIV-negative PWID, 37.2% were aware that PrEP could prevent HIV transmission from sharing injection equipment, and 38.8% agreed that most people would discriminate against someone with HIV. Black/African Americans (OR 3.61, 95%CI 2.14-6.08; p < 0.01) and Hispanics (OR 1.93, 95%CI: 1.05-3.57; p=0.035) had greater perceptions of HIV stigma compared to white PWID. Those who perceived less HIV stigma were more likely to be aware of PrEP (OR 1.55, 95%CI 1.04-2.30, p=0.030) and know that PrEP can prevent HIV transmission through sharing injection equipment (OR 1.66, 95%CI 1.09-2.51 p=0.018).

CONCLUSIONS: Increased promotion of PrEP for prevention of transmission through sharing injection equipment is needed among PWID together hand-in-hand with HIV stigma reduction programs. Getting to zero HIV infections may increasingly depend upon HIV stigma reduction as the remaining infections increasingly occur among groups experiencing intersecting stigma and discrimination.

OAD0406

ASSOCIATIONS OF RECREATIONAL DRUG USE WITH HIV-RELATED SEXUAL RISK BEHAVIOURS AMONG MEN WHO HAVE SEX WITH MEN IN JAPAN: RESULTS FROM THE CROSS-SECTIONAL LASH STUDY

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BACKGROUND: While there are indications that recreational drug use promotes high-risk sexual behaviours among men who have sex with men (MSM), there is a scarcity of recent research focusing in Japan which has made a series of legislative changes surrounding drug control over the past decade. This research aims to assess recreational drug use patterns among MSM in Japan and evaluate their potential associations with HIV-related sexual risk behaviours.

METHODS: Between September 2016 and October 2016, study participants were recruited in a cross-sectional behavioural survey through a geosocial networking application for MSM. Participants were asked to complete an anonymous, self-administered online questionnaire which included information on sexual behaviours and drug use.

RESULTS: The mean age of the 6,921 respondents who were included in the analysis was 33.8 (95% CI: 33.6 – 34.0). 25.4% (1756/6921) of them reported that they had used recreational drugs some time in their life, and 11.3% (780/6921) in the past six months. The most commonly used drugs in the past six months were erectile dysfunction drugs (7.6%), alkyl nitrites (4.1%) and codeine-containing cough medicines (1.8%). Drug users were more likely than non-drug users to be older, have lower education level, self-identify as homosexual (gay), drink alcohol almost every day, know their HIV status, and have a better knowledge of HIV/STI. Recreational drug use in the past six months were independently associated with each of the following high-risk sexual behaviours in the same period: (i) >5 sexual partners (aOR = 2.70, 95% CI: 2.30 – 3.17); (ii) unprotected anal intercourse (aOR = 2.88, 95% CI: 2.43 – 3.42); (iii) group sex (aOR = 2.60, 95% CI: 2.22 – 3.05); and (iv) sex work (aOR = 2.30, 95% CI: 1.67 – 3.16).

CONCLUSIONS: This study suggests that recreational drug use is common among MSM in Japan amid tighter controls in the country. Furthermore, drug users were more likely to report high-risk sexual behaviours despite having a better knowledge of HIV/STI. Instead of merely prohibiting the use of drugs, it is important for the public and the private sector to work in concert to develop community outreach programmes to minimise the harm caused by drug use.

OAD05 POWERING HIV TESTING: TOWARDS THE TARGET

OAD0502

THE ROLE OF POPULAR OPINION LEADERS IN DISTRIBUTING HIV/SYPHILIS SELF-TESTS AMONG MEN WHO HAVE SEX WITH MEN IN CHINA

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BACKGROUND: Novel strategies are needed to increase HIV testing, especially among key populations like men who have sex with men (MSM). Targeting MSM popular opinion leaders (POL) for distributing self-tests may increase access to HIV testing.

METHODS: This was a secondary analysis of a cohort study in Zhuhai, China. Men 16 years or older, born biologically male, ever had sex with a man, and applying for HIV/syphilis dual self-test kits were enrolled as indexes. Indexes who scored in the top 15% of a sexual influencer scale were deemed POL (Cronbach alpha 0.87). All indexes received up to five self-tests per application and were encouraged to distribute self-tests throughout their social networks. Recipients (alters) were instructed to upload their self-test results and complete a survey. The primary outcome was the average alters recruited per index. Poisson regression was used to calculate the rate ratio (RR) of recruitment by POL versus non-POL.

RESULTS: From June 17, 2018 to November 12, 2019, 371 indexes successfully applied for self-tests, 64 of whom were POL and 307 were non-POL. Compared to non-POL, more POL had disclosed their MSM status (86% vs. 67%, p<0.01) and were MSM community volunteers (20% vs. 3%, p<0.01). Eighty percent of all indexes had prior HIV testing, with no significant difference between POL and non-POL. Two hundred seventy-eight alters returned a verified test result. The average recruitment was 1.7 alters per POL index, versus 0.5 alters per non-POL index (RR 3.19, 95% CI 2.51-4.05). POL were also more efficient than non-POL at recruiting first-time testers (RR 2.57, 95% CI 1.73-3.83), HIV-positive alters (RR 5.48, 95% CI 1.99-15.12), and syphilis-positive alters (RR 4.80, 95% CI 1.20-19.18). Alters of POL were more likely than alters of non-POL to live rurally (47% vs. 25%, p<0.01), have a below-college education (55% vs. 41%, p=0.02), and have multiple male sexual partners in the past 6 months (43% vs 30%, p=0.03).

CONCLUSIONS: POL were more efficient than non-POL at distributing self-tests among MSM, and reached alters with higher risk for HIV/syphilis but less access to testing. Future randomized control trials are warranted to explore POL targeting for self-test distribution.

OAD0503

HOUSEHOLD COUPLES-BASED HIV SELF-TESTING IS EFFECTIVE IN PROMOTING MALE TESTING, IDENTIFYING DISCORDANT COUPLES, AND LINKING POSITIVE PARTNERS TO CARE: RESULTS FROM THE WENZA HURU STUDY IN KISARAWE, TANZANIA

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BACKGROUND: Many HIV infections in sub-Saharan Africa occur within stable couples, yet engaging couples in testing together is uncommon. Men are less likely to test for HIV than women. Serodiscordant couples are typically overlooked in HIV prevention despite being high-risk. HIV self-testing has been proven highly acceptable, accurate, and preferred over clinic-based testing. We assessed whether engaging couples as a dyad in HIV self-testing would promote testing uptake, disclosure of test results, identification of serodiscordant couples, and engagement in care for positive partners.

METHODS: In Kisarawe, Tanzania we recruited 446 cohabitating couples (aged 18 years or older, with at least one member aged 55 years or less) via door-to-door sampling. Couples received pre-test education and two OraQuick® Rapid HIV-1/2 test kits, then answered a brief survey. Two-weeks later we returned, offered rapid blood-based HIV testing, and conducted an additional survey. Post-test referral and counseling were offered if HIV+. At six months, a random subset of 30 participants completed a brief follow-up survey to assess care engagement for HIV+ participants.

RESULTS: 65% of households had a cohabiting couple, 76% of couples were home when contacted, and 89% of those couples accepted self-test kits. We enrolled 446 couples (N=892). The 2-week follow-up rate was 89% (n=796). Of those, 97% (n=775) had used the self-test kit, 72% (n=558) tested together with their partner, and 97% (n=748) disclosed their self-test result to the partner. Over 90% of participants found the kits easy to use and trustworthy, were satisfied with the experience, and would recommend self-testing to a friend. HIV prevalence was 3.9% (n=31), two-thirds (n=20) of whom were positive partners in serodiscordant relationships. The overall serodiscordancy rate was 5.2% (n=20/388 couples with complete data). Only 25% of negative partners reported knowing their partner's positive status prior to self-testing. Among 22 HIV+ persons completing the 6-month follow-up survey, 82% (n=18) enrolled in HIV care.

CONCLUSIONS: Household-based couples HIV self-testing was highly acceptable, increased male testing, almost universally facilitated couples jointly testing, identified a large number of discordant couples, yielded high disclosure of test results within couples, and resulted in high rates of linkage to care for HIV-infected participants.

OAD0504

HIGH ACCEPTABILITY OF HIV SELF-TESTING IN AN ONLINE RANDOMISED CONTROLLED TRIAL FOR MEN WHO HAVE SEX WITH MEN IN ENGLAND AND WALES

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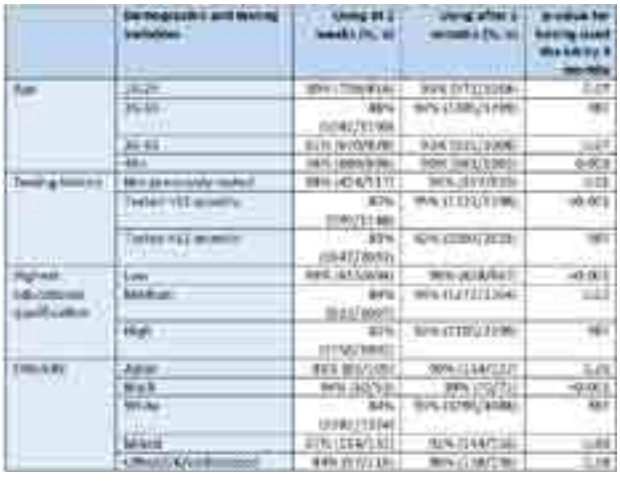
BACKGROUND: SELPHI is an online randomised controlled trial evaluating whether free HIV self-testing (HIVST) increases the rate of HIV diagnoses compared to standard of care. SELPHI recruited 10,111 cis and trans men who have sex with men (MSM), =>16 years old, without diagnosed HIV, reporting lifetime anal sex, and resident in England or Wales. We describe baseline characteristics and intervention acceptability.

METHODS: Individuals, recruited through geo-location hook-up apps and social media, registered with SELPHI then completed an online enrolment survey before randomisation. Initial randomisation was to Baseline Test (BT) arm to receive one free HIVST kit (BioSURETM) or no HIVST kit (nBT). Post-randomisation follow-up surveys were sent at two-weeks asking about kit use and at three-months asking about kit use and intervention acceptability.

RESULTS: 10,111 men were randomised (6049 BT; 4062 nBT); median age 33 years (IQR 26-44); 89% white; 20% born outside UK; <1% trans men; 47% degree educated; 15% never tested for HIV; 8% ever used PrEP; 4% currently using PrEP.

Of 6049 randomised to BT, 65% (n=3895) completed a two-week survey, by which time 96% (n=3728) had received the kit and 84% (n=3128) had used it. Kit use rose to 93% (n=4262) after 3-months. Men over the age of 46 were least likely to have used their kit, while those with lower educational qualifications and black ethnicity were most likely (table 1).

Acceptability was high: 97% (3584/3682) found the instructions easy to understand, 97% (3538/3630) the test simple to use and 98% (3625/3687) reported an overall good experience.



[Table 1: Use of HIVST by time point by key demographic and testing characteristics]

CONCLUSIONS: HIVST was acceptable and uptake substantial; the vast majority of participants reported using their kit by 3-months. Encouragingly, men with least educational qualifications and those of black ethnicity were most likely to use their kits, ameliorating known health inequalities related to access to testing.

OAD0505

APPROACH TO SCALE AND OPTIMIZE CASE FINDING TO MINIMIZE THE GAP IN UNAIDS FIRST 90 TARGET IN NEPAL

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BACKGROUND: The HIV epidemic in Nepal is concentrated among members of key populations who face both elevated infection risks and obstacles to accessing lifesaving HIV services. While 56% of all people living with HIV (PLHIV) in Nepal have an HIV diagnosis and are receiving treatment, an estimated 8,000–9,000 do not know their status. The USAID- and PEPFAR-supported LINKAGES project in Nepal introduced index testing to both improve PLHIV support and focus testing services among individuals more likely to have had exposure to HIV.
DESCRIPTION: Over the course of a year, the project expanded capacities to implement index testing in 17 districts in Nepal. In the process of providing treatment support in community and clinical settings, index testing was offered to both newly and previously identified PLHIV. A provider-facing tracking tool was developed to confidentially support and monitor successful referrals of the biological children and sexual and injecting partners of PLHIV to testing, treatment, and prevention services. We analyzed program data through this tool to identify opportunities to improve beneficiary support and program performance.
LESSONS LEARNED: From October 2018 to September 2019, index testing accounted for only 5% of the overall project-supported testing volume (2,835 of 54,518 individuals tested) but accounted for 44% of the number of individuals newly diagnosed with HIV (423 of 972). Of the individuals newly diagnosed through index testing, 87% (366 of 423) were successfully linked to treatment which accounted for 40% of total individuals linked to treatment (366 of 905). Index testing has distinguished itself as an efficient strategy to focus and enhance testing services to close gaps in ensuring 90% of all PLHIV know their status in Nepal.
CONCLUSIONS/NEXT STEPS: The relatively low volume of index testing compared to other testing approaches suggests important opportunities for further expansion. The project will continue this expansion, seeking guidance from both index clients and providers for ongoing improvement. In addition, the high case-detection rate among the contacts of index clients suggests a need to prioritize prevention and HIV pre-exposure prophylaxis (PrEP) support among these networks.

OAD0506

IMPROVING HIV TESTING USING A COMMUNITY-BASED HIV+PARENTING PROGRAM IN RURAL LESOTHO: A CLUSTER-RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Since 1990, the lives of 48 million children under the age of 5 have been saved because of increased investments in reducing child mortality. However, despite these unprecedented gains, more than 200 million children in low and middle income countries (LMIC) cannot meet their developmental potential. Lesotho has high levels of poverty, HIV and malnutrition, all of which affect child development outcomes.
METHODS: In this cluster-randomised trial, we assessed the effectiveness of a manualised, HIV+parenting intervention – a early-years parenting plus intervention that included psychosocial stimulation, HIV testing and nutrition components. We randomly assigned 34 clusters (villages) to either the intervention or waitlist control arm (17 clusters per arm). Participants within villages were caregiver-child dyads, where the child was 12-60 months of age at the baseline assessment. The intervention consisted of eight weekly group sessions delivered at local village preschools, followed by a ninth top-up session one month later. Thereafter, mobile health events were hosted in both intervention and control clusters, offering HIV testing and other health services to all community members. The primary outcome was child HIV testing rates, as reported by their caregivers.
RESULTS: 1040 children and their caregivers (531 intervention; 509 control) were enrolled into the study. The intervention group showed higher child HIV-testing at three months and one-year post-intervention. The intervention group showed improved child receptive language at three months and one-year post-intervention. The intervention group showed improved child language development at one-year post-intervention. Child attention did not differ significantly between groups.
CONCLUSIONS: Community-based, integrated child health and development interventions, delivered to caregivers by trained community health workers, can improve targeted health behaviour, such as child HIV testing, and child language development one year after the end of intervention.

OAD06 PREP 360: PREP AROUND THE WORLD

OAD0602

PREVALENCE, TRENDS, AND CORRELATES OF HIV PRE-EXPOSURE PROPHYLAXIS (PREP) USE DURING SEXUAL EVENTS BY SEXUAL MINORITY MEN IN CANADA'S THREE LARGEST METROPOLITAN AREAS

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BACKGROUND: While most behavioural research uses individuals as the unit of analysis, sexual event-level analyses provide more granularity. We examined prevalence, trends and correlates of sexual event-level PrEP-use among urban Canadian gay, bisexual, and other men who have sex with men (gbMSM).

METHODS: Beginning 02/2017, sexually-active gbMSM (cisgender and transgender) ≥16 years of age were recruited into a prospective cohort study using respondent-driven sampling (RDS) in Vancouver, Montreal, and Toronto. Follow-up data were collected every 6-12 months (depending on site) to 08/2019. At each visit, participants completed computer-assisted self-interview, including questions on up to their five most recent sexual encounters (different partners; past 6 months). Participants reported event-level PrEP-use for themselves and their partners. We used general estimating equations accounting for clustering by repeated visits and multiple events/participant to evaluate temporal trends (6-monthly prevalence) and correlates of PrEP-use. Multivariable models were built using backward selection to minimize QIC. Analyses applied RDS-II weights.

RESULTS: 2449 participants completed 4672 study visits and reported on 15071 sexual events, of which 31.6% included event-level PrEP-use. There was a significant temporal increase in PrEP-use (11.9% during 08/2016-02/2017 to 43.6% during 03/2019-08/2019, OR=1.34, 95%CI:1.24-1.44). Overall, PrEP-use was higher in Toronto (34.9%, AOR=1.72, 95%CI:1.25-2.38) and Vancouver (42.3%, AOR=1.86, 95%CI:1.34-2.57) compared with Montreal (22.9%). PrEP-use varied by participant-partner HIV status: 44.8% (n=684/1526) if serodifferent, 42.6% if serosame (n=3074/7208), and 18.7% (n=1003/5356) if status unknown partner. PrEP-use was positively associated with younger age (<30 versus 45+: AOR=2.05, 95%CI:1.36-3.08), higher income (>$60,000CAD versus <$30,000CAD: AOR=1.52, 95%CI:1.10-2.08), postsecondary education (AOR=1.75, 95%CI:1.08-2.81), one-time versus romantic partner (AOR=2.85, 95%CI:2.19-3.70), poppers-use (AOR=1.62, 95%CI:1.32-1.98), and expecting sex with that partner again (AOR=1.50, 95%CI:1.23-1.82). PrEP-use was negatively associated with Indigenous race/ethnicity (AOR=0.12, 95%CI:0.03-0.41), bisexual identity (AOR=0.34, 95%CI:0.20-0.59), living with HIV (AOR=0.22, 95%CI:0.15-0.34), and condom-use (e.g. condom-protected receptive anal sex: AOR=0.43, 95%CI:0.33-0.58).

CONCLUSIONS: Event-level PrEP-use increased threefold over the 2.5-year study period, approaching half of sexual events in the final time period; publicly-funded PrEP access varied over time, by jurisdiction (e.g. publicly-funded in Vancouver in 01/2018). Given differences by geography and social determinants (i.e. income, education, race/ethnicity, sexual orientation), comparisons across jurisdictions should inform PrEP policy, service delivery, and health promotion.

OAD0603

TRANS-FORMING PREP IN VIETNAM: RETHINKING SERVICE DELIVERY TO ENHANCE ACCESS AMONG TRANSGENDER WOMEN

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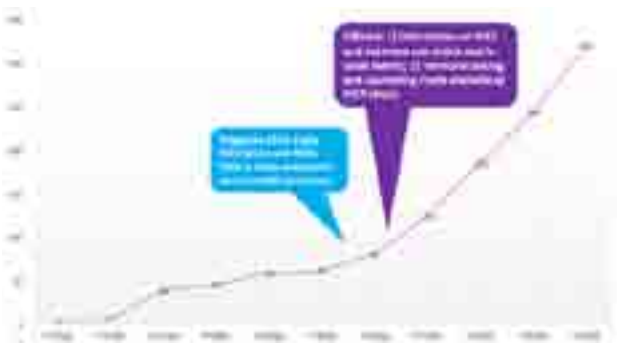
BACKGROUND: Although HIV prevalence among transgender women (TGW) who have sex with men in Vietnam is high (18%), awareness and uptake of PrEP is very limited. PrEP services were first made available in March 2017, and while there was a significant increase in PrEP enrollment among men who have sex with men and HIV sero-discordant couples, enrollment among TGW remained consistently low with an average of 3.4 new enrollments monthly over the first year. A rapid assessment identified that TGW were worried that PrEP would reduce the efficacy of feminizing hormones, and/or lead to severe side-effects.

DESCRIPTION: TGW leaders and the USAID/PATH Healthy Markets team co-formulated and advanced three key actions: 1) directly addressing hormone-PrEP drug interaction concerns through online content (primarily through a dedicated Facebook page), engagement with TGW peer experts (online and in-person), and small events that enabled Q&A with TGW peer experts and health workers; 2) training PrEP clinic staff and community providers in transgender competent care (provided by Tangerine Clinic in Bangkok) 3) offering routine hormone level testing and counseling at PrEP clinics.

LESSONS LEARNED: Through these combined efforts, average monthly TGW PrEP enrollment increased to 25.7 new clients per month – a 7.6 fold increase pre-intervention, as of the last quarter of measurement from September to December, 2019. TGW reported feeling more knowledgeable about PrEP and having greater confidence in taking it. However, while new enrollment increased substantially, early PrEP continuation at month three was 74% during the same time period, lower than the average. continuation rate across all populations (84.7%).



[Figure. Cumulative transgender women PrEP users March 2017-September 2019]

CONCLUSIONS/NEXT STEPS: To ensure PrEP is acceptable and accessible to TGW in Vietnam, services that aim to reach them need to offer trans-competent care and make efforts to address underlying concerns about PrEP use. In addition, TGW who wish to remain on PrEP may need additional support than is currently offered.

OAD0604

HIV RISK PERCEPTION AND SALIENCE ARE PARADOXICALLY ASSOCIATED WITH PRE-EXPOSURE PROPHYLAXIS (PREP) DISCONTINUATION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN LESOTHO

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BACKGROUND: Adolescent girls and young women (AGYW) are disproportionally infected with HIV in Lesotho with an annual incidence of 1.5% compared to 0.13% for their male counterparts. Despite the excellent protection provided by oral pre-exposure prophylaxis (PrEP), 78% of new AGYW PrEP users in Lesotho discontinue PrEP in the first month of use.
METHODS: We conducted a cross-sectional survey of current PrEP clients and recent drop-outs in three districts of Lesotho (Maseru, Berea, Leribe). An interviewer-administered questionnaire assessed demographics, sexual behavior, experiences with PrEP, depression symptoms using the PHQ-9, lifestyle choices, and a composite measure of salience and perceptions of HIV risk. Using univariate logistic regression, we identified factors associated with continued PrEP use and we adjusted statistically significant associations by age (18-21 or 22-24) which was determined a priori to be the most influential confounding factor.
RESULTS: One hundred and ninety-three (193) AGYW participated, of which 40 were new PrEP clients, 65 were continuing use without interruption, 72 had discontinued PrEP and not restarted, and 16 were restarting. Of the discontinuers, only 12.5% felt they were no longer at risk of HIV infection, but none were "doing other things to prevent HIV infection". Among the 72 who had discontinued, reasons reported for stopping varied: negative experience with provider (30.6%); side effects (19.4%); partner disapproval (5.6%); and, concern about being mistaken as HIV-positive (5.5%). Discontinuers showed a higher prevalence of depressive symptoms (37.5% vs 30.8, p=0.4) and recreational drug use (5.6% v 1.5%, p=0.2) than continuers, although not statistically significant. Having a higher HIV perception and salience score was associated with greater likelihood of being a discontinuer (median 9 versus 7, p=0.02) and remained significant after adjusting for age (p=0.04).
CONCLUSIONS: The majority of AGYW (88%) stopped PrEP despite feeling they were still at infection risk due to a mix of service-, product-, and community-level factors. HIV risk perception and salience were significantly higher among discontinuers than current users suggesting an unmet need among the former. Motivators other than risk need to be identified to compel AGYW to stay on PrEP, particularly those who are aware of their risk and attach importance to it.

OAD0605

WHO IS BEING DIAGNOSED WITH SYPHILIS WHILE ON PREP IN BRAZIL?

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BACKGROUND: Preexposure prophylaxis (PrEP) is safe and highly protective against HIV when adherence is ideal. Considering that individuals who can benefit from PrEP are also likely to be at increased STIs risk, we aimed to describe the profile of users diagnosed with syphilis while on PrEP and predictors of diagnosis after the second follow-up visit in the Brazilian daily dosing PrEP program (BPP).
METHODS: We used programmatic data from the Ministry of Health of Brazil, including individuals with two or more visits in BPP, between January 2018 and November 2019. We considered a syphilis diagnosis when it occurred on the second or any other subsequent visit. Multivariable logistic regression model was used to assess the likelihood of syphilis diagnosis while on PrEP considering demographic and behavioral predictors.
RESULTS: Among 8,566 enrolled PrEP users, 786(9%) had a syphilis diagnosis at second visit or later. Median age of diagnosed users was 33 yo (IQR28-39). Users from 40 to 49 years old were 48% more likely to be diagnosed for syphilis (aOR1.477,95%CI:1.100-1.983) as well as users who reported, in the first visit, having had STI symptoms in the past 6 months (aOR:1.486,95%CI:1.248-1.769). Compared to heterosexual cis men, transwomen were more than 6 times more likely to be diagnosed for syphilis (aOR:6,046; 95%CI: 5.599-14.063), and more than 5 times for MSM (aOR:5.627;95%CI: 2.625-12.062).Users who reported, in the first visit, having more than 10 sexual partners were 109% more likely to be diagnosed (aOR2.087,95%CI:1.673-2.603) than those who reported only one partner. No association was found with condom use frequency.

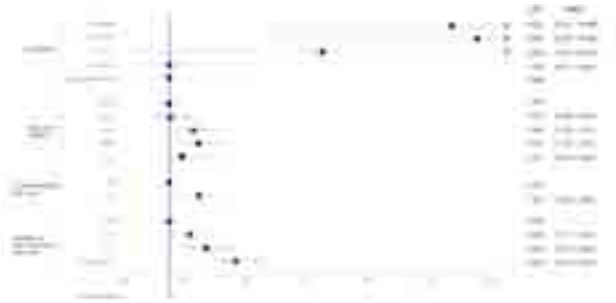

Figure. Multivariate regression model for syphilis diagnosis while on PrEP, Brazil, 2018-2019

CONCLUSIONS: It is crucial to take advantage of PrEP services to improve diagnosis and treatment of other STIs. Therefore, understanding characteristics of users most-likely to be diagnosed with syphilis while on PrEP may help health services to target the most affected populations with a more comprehensive "combination prevention" approach.

OAD0606

JUST4US: A THEORY-BASED PREP UPTAKE INTERVENTION STUDY FOR PREP-ELIGIBLE WOMEN IN TWO HIGHLY AFFECTED U.S. CITIES SHOWS FAVORABLE PREP-USE INTENTIONS BUT MANY BARRIERS ALONG THE PREP CASCADE

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BACKGROUND: Merely 2% of women eligible for PrEP take it in the U.S. We conducted an R34 feasibility pilot to assess preliminary efficacy of a theory-based PrEP uptake intervention for women. Formative research guided intervention development.

METHODS: Women ages 18-55 years were recruited from community sites (e.g., drug treatment, shelters), online, and through participant referral. Eligibility criteria were consistent with U.S. guidelines for PrEP initiation. Based on the Integrated Behavioral Model and the Theory of Vulnerable Populations, the Just4Us (J4U) intervention included an in-person, individually-tailored, technology-enhanced, 1-1.5 hour-long information, motivation, skill-building, problem-solving, and referral session with follow-up phone calls to support linkage to community-based PrEP care. The control arm (C) received a packet of handouts on PrEP facts, cost and PrEP providers. From 11/2018-10/2019, 83 women were enrolled and randomized 3:1 (61: J4U; 22: C). Participants completed baseline, immediate post-intervention and 3-month follow-up (3MFU) computer-assisted surveys, which included some open-ended questions. Descriptive analyses were conducted.

RESULTS: At baseline: mean age was 37 years (SD:12); 79% were Black, 26% Latina, 83% had recent economic insecurity; 50% recent drug use. At 3MFU (90% retention, n=75) there was a limited difference in having made an appointment to see a provider for PrEP (J4U: 25/54 [46%]; C: 9/21 [43%]); or PrEP initiation (J4U; 6/54 [11%]; C:2/21 [10%]) between study arms. Among those who had not yet initiated PrEP at 3MFU (n=67), slightly more Just4Us participants (21/48; 44%) planned to start PrEP in next 3 months than control participants (7/19; 37%). Uptake barriers identified included: concern about PrEP side effects; perceived adherence inability; low perceived HIV risk; structural barriers i.e., competing material priorities (e.g. housing, money, time, immediate health issues), provider discomfort with PrEP, and/or insurance issues.

CONCLUSIONS: The biggest step-off along the PrEP care cascade was between making an appointment for starting PrEP with their preferred provider and starting PrEP among both groups. Key personal and structural barriers were identified, notably limited provider PrEP knowledge. Just4Us shows promise as a woman-focused PrEP-uptake intervention. Next steps are intervention refinement based on these results and a study with a larger sample and longer follow-up to assess the efficacy of Just4Us.

OAD07 THE WHOLE PERSON: ADDRESSING ALL ASPECTS OF HEALTH OF PEOPLE LIVING WITH HIV

OAD0702

EFFECTS OF FINANCIAL INCENTIVES FOR CLINIC ATTENDANCE ON HIV VIRAL SUPPRESSION AMONG ADULTS INITIATING ANTIRETROVIRAL THERAPY IN TANZANIA: A THREE-ARM RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Several trials demonstrate that financial incentives promote retention in HIV care and may improve antiretroviral therapy (ART) adherence. However, few evaluations have assessed impacts on a related biological outcome, nor compared the effectiveness of different incentive sizes. Moreover, complex delivery mechanisms used in previous studies may prove difficult to implement in practice. We sought to determine the effects of small, automated financial incentives for clinic attendance on viral suppression (VS) among patients starting ART in Tanzania.

METHODS: We conducted a three-arm parallel-group randomized controlled trial. At four clinics in Shinyanga region, we recruited HIV-positive adults (≥18 years) who initiated ART ≤30 days prior. Participants were individually allocated (1:1:1) to usual care (control group) or to additionally receive a monthly cash incentive, conditional on clinic attendance, in one of two amounts: 10000 TZS (≈US $4.50) or 22500 TZS (≈US $10.00). Cash transfers were delivered for up to six months via mobile health technology (mHealth), which monitored attendance and automatically disbursed mobile payments. We evaluated the relationship between incentive size and VS (<1000 copies/ml) at six months using logistic regression.

RESULTS: From April 24 to December 14, 2018, we randomized 530 patients (184 control; 172 smaller incentive; 174 larger incentive). At six months, approximately 73.0% of participants in the control group remained on ART and achieved VS, compared to 82.9% in the smaller incentive group [risk difference (RD)=9.9, 95% CI: 1.2–18.5] and 86.1% in the larger incentive group (RD=13.1, 95% CI: 4.5–21.5); the incentive groups did not significantly differ (RD=3.2, 95% CI: -4.6–11.0). Testing for trend showed a positive relationship between increasing incentive size and VS (OR=1.10 per 2500 TZS, 95% CI: 1.03 to 1.17, p-trend=0.003), although the pairwise comparisons suggest a threshold effect. Improvements were additionally found for all pre-specified secondary outcomes, including retention on ART, VS among those retained on ART, and appointment attendance.

CONCLUSIONS: Small, automated financial incentives improved retention in care and viral suppression among adults starting ART in Tanzania. These findings strengthen the evidence for implementing incentives within standard HIV care.

OAD0703

AN RCT IN ZIMBABWE FOUND AN INTERVENTION INCREASED PARENTAL DISCLOSURE OF HIV AND IMPROVED PARENT, CHILD, AND FAMILY OUTCOMES

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BACKGROUND: Globally, HIV status disclosure remains a key challenge facing parents living with HIV (PLH), who especially face challenges in disclosing their status to their non-adult children. Disclosure of one's status to family members is an important strategy for improving treatment and care outcomes. Robust studies are needed to test the impact of disclosure-support on family outcomes in sub-Saharan Africa where most families living with HIV reside. Our study examines the efficacy of an intervention to increase PLH's disclosure of their HIV status to their children and examines the impact of disclosure on family outcomes.

METHODS: We conducted a randomized controlled trial with 326 families (one parent and one randomly chosen adolescent child aged 10 – 18 years) recruited from 19 health centers in Mutoko District (Zimbabwe). PLH were assigned to either an: 1) experimental condition, 3-session disclosure intervention (n = 168) or 2) attention control condition, a 3-session nutrition intervention (n = 158). The intervention's impact was assessed over 18 months (recruitment, 3, 6, 12, and 18 months). The culturally tailored experimental and control interventions were conducted only with the parents and were delivered by study nurses.

RESULTS: PLH were predominantly female (79%) and had a mean age of 43.65. Children were 54% male and 48% were 10 – 13 years of age. Almost all PLH completed all 3 sessions of the intervention (89% disclosure, 93% nutrition) and 97% of parents and 94% of children completed the 18-month follow-up. Significantly more parents in the intervention condition (71.4%) reported disclosing to their child at the 3 month assessment compared to those in the control condition (26.8%; $\chi 2=62.51$, df=1, p<.001). Overall, at 18 months, parents and children in the intervention arm had better outcomes over the nutrition only arm, including better psychological functioning, and parental health behavior and coping, and fewer adolescent delinquent behaviors.

CONCLUSIONS: Our intervention provided families with important options for planning, care and support. Our study also provides guidance to organizations, such as ministries of health, on how to improve disclosure. Our findings lay the groundwork for future culturally tailored disclosure interventions.

OAD0704

IS RELUCTANCE TO RESTART ART A RISK OF ATI TRIALS?

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BACKGROUND: Controversies surround analytic treatment interruption (ATI) in HIV remission trials. ATI is presented as a risk during informed consent, but it has also been perceived by volunteers as a benefit. Further, some acutely-diagnosed individuals perceive themselves to be particularly suited for ATI and the potential for long-term remission. Given these findings, is it possible that trials with ATI unintentionally foster reluctance to resume ART?

METHODS: From 2016-2019, we conducted longitudinal interviews with 54 participants in 4 HIV remission trials with ATI, assessing ATI experiences and attitudes about restarting ART. These trials recruited from the Thai SEARCH010 cohort, who are mainly male/MSM and diagnosed with acute HIV infection. For 34 participants in the two most recent trials, employing additional coding and thematic analyses, we explored factors that might predict reluctance to restart ART, including the primary reason for testing (after experiencing acute retroviral syndrome [ARS] or triggered by worry about a risky event), and ongoing side effects and/or psychosocial challenges with ART.

RESULTS: Participants in all 4 trials described ATI as a way to challenge their bodies. At trials' end, all but one participant experienced viral rebound. Response to their own rebound varied, from expecting this outcome, to regret about their "failed body." Most were disappointed but reported adjusting quickly. We found no evidence of more negative attitudes about ART after ATI, nor did participants report having or anticipating additional problems with adherence. In contrast, many participants indicated that rebound confirmed the importance of ART for their health. Among the smaller group in the two most recent trials, we found no support for associations among perceived ARS symptoms at diagnosis, pre-trial difficulties with ART, and attitudes about restarting ART.

CONCLUSIONS: It would be a major concern for trials with ATI if participants did not restart their ART. Despite expectations that pre-trial challenges with ARS and/or ART and experiences with ATI might impact ART resumption, we found no supporting evidence. In contrast, our data suggest that viral rebound during ATI may reinforce the need for ART adherence in acutely-diagnosed individuals. Additional research in other remission trial populations is needed.

OAD0705

PSYCHOSOCIAL CARE BUNDLES TO IMPROVE THE MENTAL HEALTH OF PEOPLE LIVING WITH HIV IN TAIWAN

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BACKGROUND: Depression and anxiety are among the most common comorbidities among people living with HIV (PLWH). These mental health complications are associated with suboptimal outcomes including high mortality. Evidence has suggested that psychological interventions could improve mental health, quality of life, and HIV care outcomes. This study aimed to evaluate the effectiveness of bundle-designed psychosocial interventions in the reduction of anxiety and depression in PLWH enrolled in the Taiwan VA system.

METHODS: This prospective cohort study tested the effectiveness of a bundle-designed psychosocial intervention package (HIV-STAR) mainly including adherence, psychology, social support and individual case management. Anxiety and depression evaluation was performed using the Hospital Anxiety and Depression Scale (HADS) at the hospital admission and discharge. McNemar test was used to assess changes of HADS before and after HIV-STAR and between HIV-STAR and control. Logistic regression was performed to identify risk factors.

RESULTS: Among the 97 PLWH enrolled after screening, 36% were positive for anxiety and 30% for depression. The overall incidence of anxiety and/or depression was significantly decreased from 46% at admission to 23% at discharge after HIV-STAR with an average intervention duration of 14 days, ($p<0.001$). The mean score of HADS was 11.2 (SD, 7.4) at the admission and 8.1 (SD, 6.2) at the discharge ($p<0.001$). The historical control group without HIV-STAR did not show marked improvement. In multivariate analysis, female sex (OR=23.64; 95% CI, 1.43–392.26), current recreational drug use (OR=3.07; 95% CI, 1.16–8.13), and risk group for HIV infection other than MSM (OR=3.32; 95% CI, 1.02–10.86) were statistically significant associated factors with high HADS (≥ 8.0) at the discharge.

CONCLUSIONS: The high prevalence of mental health complications among PLWH in Taiwan underscores the importance of integrated psychosocial care. While the newly developed HIV-STAR has provided an effective intervention to reduce anxiety and depression in general, more advanced psychosocial care bundles will be warranted to address specific risk factors for intervention-resistant anxiety and depression.

OAD0706

FACTORS INCREASING USE OF SEXUAL AND REPRODUCTIVE HEALTH SERVICES AMONG PEOPLE LIVING WITH HIV (PLH) IN PERU. NEW NEEDS AND CONCERNS FROM PLH AND SEXUAL AND REPRODUCTIVE HEALTH PROVIDERS

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BACKGROUND: The rise of biomedical prevention has minimized efforts in social/behavioral prevention in HIV/STIs and sexual and reproductive health (SRH), sometimes failing to provide a broad perspective for client-provider interaction. To develop a Brief Sexuality Communication based on the Motivational Interviewing Model (MI) and Information, Motivation and Behavioral skills (IMB) framework, we conducted a formative study to assess the feasibility of implementing MI in public health facilities. We report findings for PLH.

METHODS: 18 In-depth-interviews with providers, 23 Focus-Groups with Key-populations, including 6 FG with PLH. Goal was to identify and understand PLH's SRH needs and perceptions, including provider-client interaction. Interviews were recorded, transcribed and analyzed using the Dedoose qualitative software.

RESULTS: PLH explained that a trust based interaction is crucial to attending SRH services. Otherwise, a discussion on sexuality would be impossible. They claimed providers must be sensitized on PLH issues, as some still blame them for their diagnosis based on prejudices about their sexual orientation, gender identity or sexual behavior. Moreover, in other services than SRH they use old markers ('white code') in their clinical records, leading to a stigmatizing treat. PLH expressed new SRH needs, they are concerned about to have children because sometimes providers tell them to avoid have children due to their diagnosis and their "life-style", women want to know about sexual consent and sexual/physical violence.

Providers lack training and sensitization on sexual-diversity, gender-identity and gender-based-violence. Their practice is still influenced by prejudices on sexuality stigmatizing PLH, so they avoid in-depth discussions about sexuality. However providers seemed willing to implement intervention thinking it would help fulfill PLH clients' expectations. Some realized that if people are treated with respect and care, they will demand SRH services.

CONCLUSIONS: Trust/friendly based interaction is crucial in a client-provider interaction where PLH can establish effective sexual/SRH communication. Sometimes their experiences suggest a degree of discrimination based on a stigmatized PLH condition. New PLH needs on SRH appear related to sexual and gender issues that must be address in public health system. Providers' efforts and dedication are valued, but it depends on each professional's ability to establish empathy and trust.

OAD08 TIKTOK: TIME'S RUNNING OUT FOR ADOLESCENT AND YOUNG PEOPLE'S HEALTH

OAD0802

PREDICTORS OF ATTEMPTED SUICIDE AMONG YOUTH LIVING WITH PERINATAL HIV INFECTION AND PERINATAL HIV EXPOSED UNINFECTED PEERS

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BACKGROUND: Suicide is a global crisis and attempted suicide is a leading risk factor for completed suicide. Our recently published analysis from a longitudinal study (CASAH) of youth living with perinatally-acquired HIV infection (YLPHIV) and perinatally HIV-exposed but uninfected peers (YPHEU), showed significantly more YLPHIV attempted suicide vs YPHEU (24% vs 13%). To inform preventive interventions for these populations, we examined psychosocial and sociodemographic predictors of attempted suicide.
METHODS: YLPHIV and YPHEU participants in CASAH were recruited from four medical centers in New York City (n=340; mean age 12.5 years at baseline) and interviewed every 12-18 months with 7 follow-ups (FU) to date (mean age 24.5 years at FU 7). We compared youth who did and did not report a suicide attempt on a structured psychiatric interview at any FU on the following baseline variables; gender, sexuality, race, ethnicity, age, HIV status, city stress inventory score (CSI), negative stressful-life events, spirituality, social problem-solving inventory score, Tennessee self-concept score (TSCS), Child Depression Inventory (CDI), and among only YLPHIV, HIV-stigma – measured by the Social Impact Scale. We used two backward stepwise logistic regression models, one for the overall sample, and one for only YLPHIV, and each model predicted lifetime suicide attempt with baseline demographic and psychosocial variables.
RESULTS: At baseline, 51% of participants were female, 65% Black, and 42% Latinx. In the overall sample those who attempted suicide at any FU were more likely to: be YLPHIV (Adjusted Odds Ratio (AOR) 1.96 95% CI 1.06-3.62), Black (AOR=3.00, 95% CI 1.35-6.69), Latinx (AOR=2.88, 95% CI 1.29-6.40); have lower family self-concept (AOR=0.37, 95% CI 0.21-0.65); better social self-concept (AOR= 1.85, 95% CI 1.17-2.93); and higher depression scores (AOR= 1.06, 95% CI 1.00-1.13). In the second model, among only YLPHIV, attempted suicide was associated with lower personal self-concept (AOR=0.33, 95% CI 0.15-0.71), less spirituality (AOR=0.42, 95% CI 0.20-0.90) and greater HIV stigma (AOR=3.18, 95% CI 1.06-9.52).
CONCLUSIONS: Our analyses indicate mental health services should address YPHEU and YLPHIV self-concept and depression and stigma for YLPHIV. In addition, we see an urgent need for routine integration of suicide risk assessment into treatment for YLPHIV.

OAD0803

YOUNGER INITIATION OF SELLING SEX AND DEPRESSIVE SYMPTOMS AMONG FEMALE SEX WORKERS IN ESWATINI

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BACKGROUND: Youth who sell sex likely have complex mental health needs that may persist into adulthood and potentiate HIV transmission and acquisition risks. Preliminary evidence from female sex workers (FSW) in Malawi suggests negative mental health outcomes are more common among those initiating sex work as minors (MacLean, et al 2018), but additional research is needed on this understudied topic in Africa.
METHODS: FSW aged 18+ recruited through venue-based sampling from October-December 2014 in eSwatini completed a survey including a question about the age at which they started selling sex and the Patient Health Questionnaire (PHQ-9) to measure depressive symptoms. Younger initiators were defined as those who started selling sex prior to age 18. Bivariate and multivariable logistic regression analyses were conducted to assess associations.
RESULTS: 16.62%(128/770) of FSW with complete data on the PHQ-9 and age of initiation started selling sex as minors. Younger initiators had higher mean and median PHQ-9 scores and greater depression severity (Table 1). The prevalence of probable depression (PHQ-9 score ≥10) was 55.47%(71/128) among younger initiators, compared to 40.65%(381/642) among older initiators (p=0.002). Younger initiators were more likely to have probable depression (aOR 1.56;95% CI 1.03-2.37;p=0.037) after controlling for number of years selling sex, days per month selling sex, frequency of past-month condom failure, and anticipated healthcare stigma. Being orphaned before age 18 and carrying condoms less often were significantly associated with younger initiation but not probable depression. FSW who started selling sex to feed themselves or their families and those who did not know their HIV status were more likely to have probable depression, but these factors were not correlated with younger initiation.

	PHQ-9 score		Severity % (n)				
	Median	Mean	Minimal [0-4]	Mild [5-9]	Moderate [15-19]	Moderately severe [15-19]	Severe [20-27]
Started selling sex <18 (n=128)	11	10.45	20.31 (26)	24.22 (31)	30.47 (39)	14.84 (19)	10.16 (13)
Started selling sex 18+ (n=642)	8	8.93	28.82 (185)	30.52 (196)	20.72 (133)	10.59 (68)	9.35 (60)
Total (n=770)	9	9.18	27.40 (211)	29.48 (227)	22.34 (172)	11.30 (87)	9.49 (73)

[Table 1. Depression severity by younger or older age of initiation of selling sex among female sex workers in eSwatini, 2014]

Dependent variables ↓	Independent variables→	Selling sex <18	Probable depression	Current age	Orphaned <18	Number of years selling sex	Days per month selling sex	Number of times condom slipped off or broke in the last month	Frequency of carrying condoms when selling sex	Ever afraid of or avoided seeking healthcare due to fear of someone learning they sell sex	Does not know her HIV status
Selling sex <18	Odds ratio (95% Confidence Interval)	-	1.82 (1.24, 2.67)*	0.87 (0.83, 0.91)*	3.38 (1.89, 6.01)*	1.09 (1.05, 1.13)*	1.03 (1.00, 1.05)*	1.13 (1.01, 1.25)*	0.76 (0.62, 0.93)*	1.66 (1.11, 2.50)*	1.34 (0.81, 2.19)
	Adjusted odds ratio (95% Confidence Interval)	-	1.54 (1.02, 2.34)*	-	-	1.09 (1.05, 1.13)*	1.02 (0.99, 1.05)	1.05 (0.94, 1.18)	-	1.41 (0.90, 2.20)	-
Probable depression	Odds ratio (95% Confidence Interval)	1.82 (1.24, 2.67)*	-	1.00 (0.98, 1.03)	0.89 (0.51, 1.55)	1.03 (1.00, 1.06)*	1.02 (1.00, 1.04)*	1.28 (1.15, 1.42)*	0.89 (0.75, 1.07)	3.26 (2.32, 4.58)*	2.51 (1.68, 3.77)*
	Adjusted odds ratio (95% Confidence Interval)	1.56 (1.03, 2.37)*	-	-	-	1.01 (0.98, 1.04)	1.00 (0.98, 1.02)	1.21 (1.09, 1.35)*	-	3.12 (2.18, 4.45)*	-

[OAD0803 Table 2]

CONCLUSIONS: Depression among FSW in eSwatini was highly prevalent and linked to experiences of selling sex before age 18. Scaling up mental health interventions in the African context is needed for this key population.

OAD0804

DESIGNING FOR HOPE: ADDRESSING ADHERENCE BY LOOKING BEYOND THE PILL. A CO-CREATION APPROACH TO ADDRESSING MULTIDIMENSIONAL FACTORS THAT IMPACT ART ADHERENCE AND RETENTION AMONG ADOLESCENTS LIVING WITH HIV IN MOZAMBIQUE

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BACKGROUND: Retention rates, adherence to antiretroviral treatment (ART), and viral suppression are alarmingly low among adolescents living with HIV (ALHIV), who are often poorly equipped to manage their disease during a time of rapid physical and psychological development. The CombinADO study aims to develop and test an adolescent-focused intervention to improve 90-90-90 targets among ALHIV in Mozambique. Formative work led by IDEO.org employed human-centered design (HCD) — a novel methodology that involves co-creating solutions with adolescents and testing them through rapid prototyping.

METHODS: In late 2019, IDEO.org led a 4-month co-creation and rapid prototyping process in and around 2 health facilities (HF) in Nampula, Mozambique. The HCD approach began with design research and co-creation activities — including individual interviews and focus groups using interactive methods like card sorting and storytelling. Findings were synthesized to inform the development of potential interventions. During the prototyping phase, the team sought to learn about effective strategies for engaging ALHIV and HF staff, collect further feedback from ALHIV to iterate the interventions, and test variations and combinations of the interventions.

RESULTS: The team interviewed 52 participants during the initial phase, which yielded 13 key insights used to inform potential interventions. Ninety-six participants tested 12 potential interventions during the rapid prototyping phase. The most critical finding was that social support alone is not sufficient to drive adherence among ALHIV. The journey of adherence relies on a more intrinsic foundation: hope for a future worth living for. In order to shift pill-taking behavior among adolescents, results suggested that ALHIV require support with three key inputs: contextually appropriate and culturally connected medical literacy; an increased sense of belonging through peer connection; and ongoing demystification and destigmatization messaging within the wider community.

CONCLUSIONS: HCD research allows for deep insight into the motivations, experiences, and needs of young people that impact adherence and retention among ALHIV. Co-creation builds trust among ALHIV and engages them in shaping the solutions that will be available to them—building ownership and confidence. Prototyping allows for multiple iterations before implementation—maximizing learning and improvements prior to a pilot investment.

OAD0805

FACTORS ASSOCIATED WITH POOR ADHERENCE AMONG NON-VIROLOGICAL SUPPRESSING SCHOOL GOING ADOLESCENTS: LESSONS FROM THE AIDS SUPPORT ORGANIZATION (TASO) IN MASAKA, UGANDA

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BACKGROUND: According to the 90-90-90 UNAIDS ambitious target by 2020, viral load suppression is key among patients on antiretroviral therapy (ART). Whereas there is a growing number of people on ART, limited information is known about virological non-suppression and its major determinants among HIV-positive school going adolescents enrolled in many resource-limited settings. We investigated the factors leading to poor adherence among adolescents with non-suppressed viral load attending the Adolescent HIV/AIDS care clinic at The Aids Support Organization (TASO) in Masaka.

DESCRIPTION: Between January and December 2017, we identified adolescents with non-suppressed viral load attending the HIV clinic specifically those in upper primary and secondary school. Blood samples were taken to the central government laboratory for analysis and non – virological suppression was considered as

having ≥1000 copies/ml of blood. A six-month viral load testing interval followed by three months repeat for the non -suppressors was the selection criteria. Through one on one and group counseling by trained counselors, we identified adolescent with poor adherence (below 95%) to explore the causes.
Adolescents were grouped in age ranges of 10-13, 14 -17, and 18- 19 years respectively, and to each group a trained counselor, clinician and adolescent peer educator was attached to facilitate intensive adherence counseling. Information on social demographic characteristics and causes of poor adherence was collected using an interview guided questionnaire, data were analyzed using Stata 14.
LESSONS LEARNED: Out of 355 adolescents on ART, 325 (91.8%) had their viral loads taken; 127 (39%) had non- suppressed viral load, of which 47(37%) were boys and 80(63%) were girls. 17 (13.4%) of the non-suppressors had adherence above 95%, 110 (86.6%) had adherence below 95%. Reasons for non-adherence were; 54(42.5%) joined a candidate class for National promotional exams, 20(15.7%) changed care takers, 17(13.4%) joined a new school, 15(11.8%) joined boarding school, 13 (10.2%) took a self-drug holiday, 8 (6.3%) missed morning doses, and 119 (94%) of all had not disclosed to any one at school.
CONCLUSIONS/NEXT STEPS: Non-disclosure among School going adolescents is the leading cause of poor adherence hence there is need for interventions that promote disclosure.

OAD0806

ADOLESCENT HIV RESEARCH PARTICIPATION IN LOW- AND MIDDLE-INCOME COUNTRIES: ETHICAL CHALLENGES AND SOLUTIONS FROM SEVEN COUNTRIES AND A SCOPING REVIEW

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BACKGROUND: Countries have varying ethical and legal guidance for adolescent participation in HIV research. Parental permission requirements effectively exclude some groups of adolescents from research. Excluding youth with or at risk of acquiring HIV can have the unintended consequences of limiting access to innovative prevention and care, and impairing progress in addressing the epidemic in low- and middle-income countries (LMICs). We examined ethical and practical challenges in adolescent research participation across seven LMICs and potential solutions for including adolescents in HIV-related research in LMICs.
METHODS: We report lessons from the field for seven countries with adolescent HIV studies in the PATC3H consortium. Supported by the U.S. NIH Eunice Kennedy Shriver National Institute of Child Health and Development, the consortium comprises HIV prevention and treatment studies among adolescents in Brazil, Kenya, Mozambique, Nigeria, South Africa, Uganda, and Zambia. We describe the ethical-legal frameworks for adolescent research participation in these countries and their associated ethical and practical challenges. PATC3H researchers reviewed seven scenarios to clarify these ethical-legal considerations.
Finally, we conducted a scoping review to supplement PATC3H experiences on strategies to enhance adolescent participation in LMIC HIV studies.
RESULTS: Consortium researchers identified many ongoing challenges, including limited guidance for determining whether adolescents can consent to research without parental permission, regulations that fail to account for the complexity of adolescent lived experiences (e.g., key population identities, related stigmas), and exclusion of many adolescents under 18 years old. We identified several strategies to enhance adolescent participation in LMICs' HIV studies, including adolescent independent consent, selective waiving of parental consent, and surrogate decision-making. Independent consent and waiving of parental consent under select study conditions can enhance participation among at-risk adolescents, including sexual and/or gender minorities.
Additionally, surrogate decision-makers (i.e. individuals providing consent in place of a parent or guardian) can be beneficial when parental/guardian involvement may be inappropriate or unavailable. Each of these solutions has been implemented in resource-constrained settings and helped to broaden adolescent participation.
CONCLUSIONS: Despite multiple barriers and uncertainties, we identified several practical strategies to enhance ethical participation of adolescents in LMIC HIV studies. This analysis supports the feasibility of expanding adolescent HIV research in LMICs.

OAD09 YOUNG @ HEART: AGEING AND HIV

OAD0902

CHALLENGES FACED BY A POPULATION AGING WITH HIV: BASELINE DATA FROM THE CORE HEALTHY AGING INITIATIVE (CHAI)

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BACKGROUND: As people with HIV (PWH) age, there are increasing medical and psychosocial comorbidities that impact quality of life (QOL). The CORE healthy aging initiative 2.0 (CHAI 2.0) was designed to better understand and address the medical and psychosocial needs including social isolation among PWH >60years receiving care at the CORE center, Chicago.
METHODS: Between 2/1/19 and 12/17/19, a needs assessment survey was distributed to PWH >60 years identified during clinic visits by CHAI peer navigators (ages 62 and 65). We present the cross-sectional analysis on 331 PWH who completed CHAI 2.0 baseline survey.

RESULTS:

Significant differences by Gender in CHAI 2.0			
	Male (n=287)	Female (N=119)	p-value
Talk to family about health problems?	41%	53%	p=0.025
Do you have any of the following concerns? Retirement planning	20%	11%	p=0.036
Do you have any of the following concerns? Sexual Health	7%	22%	p<0.000
Are you sexually active?	49%	25%	p<0.000

415 PWH>60 years with a median age of 64years (60—82) were surveyed. Seventy percent (n=287) were male, 30% female. Eighty-three percent (n=339) were African American, 9% white and 6% Hispanic/Latino. Seventy-nine percent (n=318) had been diagnosed with HIV>10years; 52%>20yrs. Eighty-two percent reported undetectable viral loads. 24% reporting taking >6 medications daily. current smoking was 37%, hypertension 50%, depression 30%, hyperlipidemia 25%, diabetes 20%, and kidney disease 14%. Thirty percent had >1 fall in the last 12 months. Fifty-five percent lived alone, 41% reported feeling lonely sometimes in the last month. Self-rated good/excellent in 57% and 37% had concerns about getting older with HIV. The top five concerns were money concerns (41%), living with HIV (37%), other medical concerns (30%), housing (29%) and who will care for me in old age (24%). Other concerns: memory issues (23%), stigma (21%), retirement planning (18%), loneliness (14%), finding a partner (14%), sexual health (14%) and mental health concerns (13%). 22% reported had not disclosed their HIV status to anyone outside of clinic staff.

CONCLUSIONS: Among older, predominantly African American PWH, 55% lived alone. The interplay of polypharmacy, social isolation, and comorbidities increase the risk of falls and other adverse outcomes. Programs addressing these issues remain important to optimizing QOL in PWH.

OAD0903

CLINICAL AND SOCIODEMOGRAPHIC CHARACTERISTICS ASSOCIATED WITH POOR SELF-RATED HEALTH ACROSS MULTIPLE DOMAINS AMONG OLDER ADULTS LIVING WITH HIV

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BACKGROUND: Efforts to improve the wellbeing of older adults have sometimes focused on a single aspect of health; holistic approaches must however consider all aspects. We characterized older persons living with HIV (PLHIV) who consistently reported sub-optimal health on multiple domains.

METHODS: The 24-country 2019 Positive Perspectives survey included 648 PLHIV aged ≥50 years. Self-rated health was assessed across four health domains (physical/mental/sexual/overall), each of which was dichotomized as optimal ("Good"/"Very good") or sub-optimal ("Neither good nor poor"/"Poor"/"Very poor"). We tallied the number of domains suboptimal health was reported (overall domain also included to account for unmeasured sub-domains e.g., intellectual/emotional). Multinomial logistic regression among all older adults (n=648) measured for associations between health domains and various sociodemographic/clinical characteristics including past ART drug-drug interactions (DDIs), resistance, side effects, adherence, and polypharmacy (≥5 pills/day or taking medicines for ≥5 conditions), adjusting for gender and disease duration (p<0.05).

RESULTS: Median disease duration was 19 years. Overall, 82.7% reported ≥1 comorbidity, 54.6% polypharmacy, 10.8% past DDI, 16.7% past resistance, and 7.7% were very treatment-experienced (changed ART ≥4 times, including ≥once in past year because of resistance/poor tolerability). Common co-morbidities were hypertension (32.4%), hypercholesterolemia (30.4%), mental illness (26.5%), and insomnia (24.4%). Overall, 45.4% (294/648) reported suboptimal physical health, 39.4% (255/648) suboptimal mental health, 61.7% (400/648) suboptimal sexual health, and 47.2% (306/648) suboptimal overall health; Within mutually exclusive groups, 24.1% (156/648) reported suboptimal health on all domains. 24.4% (158/648) reported optimal health on all domains, 22.7% (147/648) on three domains only, 11.9% (77/648) on two domains only, and 17.0% (110/648) on one domain only. The strongest predictors of reporting sub-optimal health on all domains included having ≥2 co-morbidities (AOR=10.24, 95%CI=4.85-21.63), being dissatisfied with treatment (AOR=9.83, 95%CI=5.12-18.86), missing ART for ≥5 days/past month (AOR=7.52, 95%CI=3.52-16.07), and experiencing gastrointestinal ART side effects (AOR=6.72, 95%CI=3.48-12.99).

CONCLUSIONS: One-quarter of older adults reported suboptimal health on all domains; groups at greatest risk included those reporting poor adherence, polypharmacy, gastrointestinal side effects, and treatment dissatisfaction. Treatment optimization as part of holistic care may improve overall wellbeing.

OAD0904

KILLING TWO BIRDS WITH ONE STONE – RESPONDING TO HEALTH CHALLENGES OF THE ELDERLY LIVING WITH HIV AT AIDS INFORMATION CENTRE

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BACKGROUND: Global HIV/AIDS statistics (UNAIDS 2018) estimated 37.9 million people were living with HIV with an estimated 3.6 million aged 50 years or older (UNAIDS 2013). The majority of these (2.9 million) are in low-and middle-income countries where the percentage of adults 50 years or older living with HIV is above 10%. In high-income countries almost one-third of adults living with HIV are 50 years or older.

Elderly patients attending ART clinics have faced a number of challenges related to their HIV status although there have been limited interventions to address them. In sub-Saharan Africa this group has particularly been neglected despite the distinctive healthcare and socio-economic needs.

DESCRIPTION: The elderly clinic was started (July 2019) in response to challenges identified during a support group meeting for the elderly living with HIV specifically to address HIV related issues and promote screening and management of non-communicable diseases (NCDs). This clinic was composed of clients aged 50 years and above. Only elderly clients had visits scheduled on Fridays in order to reduce waiting time and allow adequate time for psychosocial support and comprehensive clinical reviews. Staff were sensitized to periodically update the list of elderly clients and the screening and psychosocial support these clients required.

LESSONS LEARNED:

- From July to December 2019 the number of elderly clients in the clinic increased from 118 (69 males, 49 females) to 130 (75 males, 55 females).
- Through basic screening we were able to newly identify clients with diabetes (7), hypertension (10), prostate disorders (3), mental illnesses namely depression (20), anxiety disorders (1) and mild dementia (15). Other ailments previously undocumented included arthritis and erectile dysfunction.
- Most clients could not afford some of the screening tests and where medically advised were referred to public facilities. However the majority didn't go because of socioeconomic reasons.
- Health workers lack knowledge about geriatric care and NCDs therefore not all clients are comprehensively screened.

CONCLUSIONS/NEXT STEPS: The elderly living with HIV require:

- Health workers trained to adequately respond to their health challenges.
- Provision of subsidized/ no cost comprehensive screening and standard health care packages

OAD0905

ASSESSING THE FACTOR STRUCTURE AND PSYCHOMETRIC PROPERTIES OF THE HIV/AIDS RESILIENCE ASSESSMENT TOOL IN A SAMPLE OF NYC-BASED HIV-POSITIVE GAY MEN AGED 50-69: THE GOLD STUDIES

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BACKGROUND: By 2025, people over 50 will constitute the majority of those living with HIV/AIDS (PLWHA) in the United States and similar projections are expected globally within the next decade. This aging population of PLWHA face different physical, mental, and psychosocial health challenges related to living with HIV/AIDS, the general aging process, and the long-term impact of being on antiretroviral treatment. Emergent literature suggests that resilience may act as a buffer to the negative impact of these myriad challenges. However, measuring resilience among PLWHA has been inconsistent. Given the variance of understanding and conceptualizing resilience in PLWHA, theoretically designed and validated instruments are needed specifically within the lens this population. To address this gap in the literature, we developed and examined the initial factor structure and psychometric properties of the 10-item HIV Resilience Assessment Tool (H-RAT).

METHODS: Data for the present cross-sectional study are drawn from n=250 gay HIV-positive men aged 50-69 living in New York City. Participants were sociodemographically diverse with regard to race/ethnicity, SES, age, and education. Exploratory (EFA) and Confirmatory Factor Analyses (CFA) along with tests of reliability and validity were conducted in this sample.

RESULTS: Results from the EFA indicated that a three-factor model was the most parsimonious solution based on eigenvalues and model fit. The items were examined for their underlying relationships and the three factors were labeled: adaptive coping, optimism, and effective coping. Taken together, the 10 items produced a Cronbach's alpha of 0.84 with the three sub-scales producing a Cronbach's alpha of at least 0.72. Convergent and discriminant validity were established using other psychosocial (e.g. grit, loneliness, etc.) and physical (e.g. BMI and blood pressure) outcomes.

CONCLUSIONS: The H-RAT is a psychometrically sound instrument to assess resilience among PLWHA. With three sub-scales compromising the H-RAT (adaptive coping, optimism, and effective coping) the multidimensional tool can be used in future research and clinical settings. Looking forward, we recommend continued testing in different populations of PLWHA to ascertain its stability within different groups, geographic locations, and over time. The H-RAT will help clinicians, researchers, and practitioners move towards a more holistic strengths-based approach to working with PLWHA.

OAD0906

"IS IT HIV OR JUST OLD AGE?" UNCERTAINTIES OF 'SUCCESSFUL' AGEING WITH HIV

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BACKGROUND: Globally, the population of people living with HIV is ageing. In Australia, around half of all people living with HIV (PLHIV) are now over 50. Understanding 'successful ageing' for PLHIV is a critical question for researchers, HIV communities and policy makers.

METHODS: Living Positive in Queensland (LPQ), is a participatory qualitative longitudinal study examining ageing in people living long term with HIV. LPQ, one of the largest research projects of its kind to be undertaken internationally, interviewed 73 participants annually over three years. Inductive thematic analysis was used to draw themes from over 200 interviews. This presentation discusses participants' perceptions and experiences of ageing.

RESULTS: Participants described uncertainty about ageing, expressing ambivalence in the face of debates surrounding adverse HIV ageing discourses and unknown futures. Alongside uncertainties about health and increasing comorbidities, participants described uncertainty about social determinants of 'successful ageing'. Older participants, particularly those from the Pre-HAART era, experienced cumulative disadvantage related to disrupted employment trajectories, limited resources, long-term welfare access and limited social support arising from service cuts and the corresponding fracturing of communities. These issues generated worries about living and ageing in disadvantage.

Care for older people was often considered synonymous with residential aged-care. Having experienced stigma and discrimination in healthcare settings, many were concerned about discrimination in aged-care settings and worried the aged-care sector would not respond to the needs of PLHIV. Some participants described 'back up plans' of treatment non-adherence when confronted with accessing aged-care.

CONCLUSIONS: Ageing with HIV is biosocial, lived within diverse intersections of embodied experiences of HIV, generational, social, and locational contexts. 'Successful ageing' as it is currently portrayed in the broader ageing literature must move beyond individual actions and acknowledge the role of social determinants of health. HIV and ageing literacy; quality and culturally competent aged-care services; and coordination and partnership between the aged-care sector and HIV communities are urgently needed.

The presentation will consider how policy and program responses must integrate these elements in the development of services to move beyond the biomedical to address the social aspects of health and support 'Healthy ageing' for PLHIV.

OAE01 ACROSS THE CASCADE: RESEARCH METHODS IN IMPLEMENTATION SCIENCE

OAE0102

THE EFFECTIVENESS OF IMPLEMENTING UNIVERSAL HIV TREATMENT: A REGRESSION DISCONTINUITY ANALYSIS FROM ZAMBIA

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BACKGROUND: Universal treatment for all persons living with HIV (PLWH) has only been assessed under experimental conditions in cluster-randomized trials, but the public health effectiveness of actually implementing treat-all policies on the HIV care cascade under real-world conditions is not known.

METHODS: We used a regression discontinuity design (RDD) to assess the real-world effectiveness of Zambia's January 1,2017 adoption of universal HIV treatment. Using data from Zambia's routine electronic medical record, we analyzed ART-naïve adults newly enrolling in HIV care between January 1, 2016 to December 31, 2018 at 58 clinics supported by CDC/PEPFAR and the Centre for Infectious Disease Research in Zambia. We excluded patients enrolling 30 days prior to, and 90 days after, implementation to minimize bias from cross-over and clinic-to-clinic variations in guideline uptake. Under the assumption that those presenting immediately before and after this period are balanced on both measured and unmeasured characteristics, we estimated the effects of implementing treat-all on both ART initiation and retention in care on ART at 12 months (defined as any clinic attendance 9 to 15 months after enrollment and 6 months on ART). We also performed an instrumental variable (IV) analysis to obtain unbiased estimates of the effect of same-day ART initiation on 12-month retention.

RESULTS: Among 77,361 newly enrolling HIV patients (62.1% female, median age 32 years [IQR 26–39], median CD4 286 cells/μL [IQR 147–465]), implementing universal treatment increased same-day ART initiation from 42.2% to 78.9% (risk difference [RD] +36.7%, 95% CI 35.2-38.3%), ART initiation by 1 month from 69.6% to 89.1% (RD +19.6%, 95% CI 18.3-20.8%), and 12-month retention in care on ART from 53.4% to 62.7% (RD +9.1%, 95% CI 7.4-10.8%). An IV analysis demonstrated that same-day ART initiation due to universal treatment led to a 13.4% (95% CI 11.7-15.1%) increase in 12-month retention on ART.

CONCLUSIONS: Implementing universal HIV treatment in Zambia substantially increased same-day and overall ART initiation among newly enrolling patients. Retention in care also improved, but overall levels remained suboptimal and were lower than in randomized trials. Strategies that leverage the short-term impacts of universal treatment to cultivate long-term treatment success are needed.

OAE0103

UNDERSTANDING PREFERENCES FOR HIV CARE AMONG PATIENTS EXPERIENCING HOMELESSNESS OR UNSTABLE HOUSING: RESULTS OF A DISCRETE CHOICE EXPERIMENT

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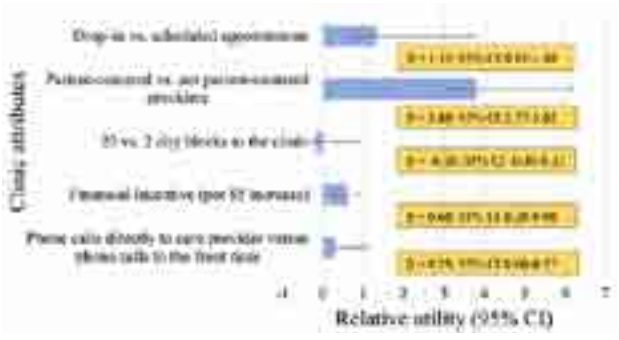
BACKGROUND: Homelessness and unstable housing (HUH) negatively impact primary care visit attendance, viral suppression and overall survival rates among people living with HIV (PLWH). To incorporate patient preferences into solutions for more effective care for HUH-PLWH, we quantified patient preferences and financial trade-offs across multiple possible HIV-service domains for this program using a discrete choice experiment (DCE).

METHODS: The San Francisco General Hospital's "Ward 86" HIV clinic has a 37% prevalence of HUH. We sequentially sampled Ward 86 patients reporting HUH who had missed primary care visit in the last year and recent viremia to conduct a DCE.

Subjects chose between two hypothetical clinics which varied by five service attributes: patient-centered care team ("get to know me as a person" versus not), gift cards ($10, $15 or $20/visit), drop-in versus scheduled visits, distance to clinic (2 versus 20 blocks), and direct phone communication to care team versus front-desk staff.

We estimated relative utility (i.e., preference) for attribute levels using mixed-effects logistic regression and calculated the monetary trade-off of preferred options.

RESULTS: Of 65 individuals enrolled, 61% were >40 years-old; 45% white; 77% male; 46% heterosexual; 56% lived outdoors or in emergency housing and 44% in temporary housing, Strongest preferences were for having patient-centered providers (β = 3.80; 95% CI 2.57-5.02) and drop-in clinic appointments (β = 1.33; 95%CI 0.85-1.80), with a willingness to trade $32.79 (95% CI 14.75 - 50.81) and $11.45 (95% CI 2.95 - 19.95) in gift cards/visit, respectively, for each component (Figure).



[Figure. Patient preference for clinic attributes]

CONCLUSIONS: HUH-PLWH, who live on the economic margins and who often lack basic subsistence, were nevertheless willing to trade significant financial gain in a DCE to have a personal relationship with and immediate access to the primary care team. These findings can inform "Ending the HIV Epidemic" by guiding innovative programming to improve retention in HIV care.

OAE0104

DRUG SHOPS ARE AN EFFECTIVE STRATEGY TO REACH ADOLESCENT GIRLS AND YOUNG WOMEN WITH HIV SELF-TESTING AND CONTRACEPTION: A RANDOMIZED TRIAL IN TANZANIA

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BACKGROUND: Adolescent girls and young women (AGYW, ages 15-24) comprise 25% of new adult HIV infections in sub-Saharan Africa and disproportionately bear 44% of all reported unintended births. Located in nearly every community, drug shops are extensions of the health system which offer unparalleled reach of health services to underserved populations. Thus, we designed and evaluated a girl-friendly intervention to deliver HIV self-testing (HIVST) and contraception to AGYW at privately-owned drug shops in Tanzania.

METHODS: We conducted a 4-month randomized trial at 20 drug shops in Shinyanga, Tanzania, to determine if the Malkia Klabu ("Queen Club") intervention increased AGYW patronage, provision of HIVST and contraception, and health facility referrals to AGYW. Drug shops were randomized 1:1 to the intervention or comparison arm. Both intervention and comparison shops were provided with OraQuick HIVST kits to give AGYW customers for free. Intervention shops implemented Malkia Klabu, a loyalty program designed for AGYW using behavioral economics and human-centered design.

We measured AGYW patronage through time-location surveys at randomly selected 3-hour blocks at baseline (n=109) and endline (n=246). In intent-to-treat analyses, we used Poisson regression to estimate rate ratios via a difference-in-differences approach. We measured HIVST and contraception distribution and referrals with monitoring data. The trial was pre-registered (clinicaltrials.gov: NCT04045912).

RESULTS: Drug shops implementing Malkia Klabu had higher AGYW patronage at endline than comparison shops (mean AGYW per survey 2.86 vs. 0.91; rate ratio: 3.16; 95% confidence interval: 1.94, 5.16). Over the study period, intervention shops distributed 140% more HIVST kits to AGYW (1,275 vs. 532), provided more contraception (5,237 vs. 148 products), and made more referrals for HIV services (71 vs. 2) and family planning (379 vs. 43) to AGYW than comparison arm shops. No adverse events were reported.

CONCLUSIONS: The Malkia Klabu intervention dramatically increased AGYW patronage and HIVST and contraception distribution, despite HIVST being freely available at all participating shops. A future effectiveness and sustainability study is warranted to evaluate Malkia Klabu's impact on HIV diagnoses and unintended pregnancy among AGYW, assess its potential for scale up, and confirm underlying theories for behavior change.

OAE0105

THE IMPACT OF IMMEDIATE ART INITIATION ON PATIENTS' HEALTHCARE EXPENDITURES: A STEPPED-WEDGE CLUSTER-RANDOMISED TRIAL IN ESWATINI

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BACKGROUND: Healthcare expenditures for HIV care pose a major economic burden on households in sub-Saharan Africa. Immediate initiation of antiretroviral therapy (ART) for all HIV-positive patients is thought to have important health benefits but it is unknown how this profound change in HIV care provision will affect patients' healthcare expenditures. This study, therefore, aims to determine the causal impact of immediate ART initiation on patients' healthcare expenditures in Eswatini.

METHODS: This stepped-wedge cluster-randomised controlled trial took place from September 1 2014 to August 31 2017. Fourteen public-sector healthcare facilities in rural and semi-urban Eswatini were paired and then randomly assigned to transition at one of seven time points from the standard of care (ART eligibility at CD4 counts of < 350 cells/mm3 until September 2016 and <500 cells/mm3 thereafter) to the immediate ART for all intervention (EAAA). During each of the study's eight steps, we administered a questionnaire to a random sample of HIV patients at each healthcare facility. The primary outcome was total patient-borne healthcare expenditures during the preceding 12 months. We used mixed-effects negative binomial regressions adjusted for secular trends and clustering at the facility level. This study is registered with ClinicalTrials.gov, number NCT03789448.

RESULTS: 2261 participants were interviewed over the study period. Participants in the EAAA phase reported a 45% decrease (RR: 0.55, 95% CI: 0.39, 0.77, p<0.001) – or a mean reduction of 8.73 USD (95% CI: -14.39, -3.09), in absolute terms – in their total past-year healthcare expenditures compared to the standard-of-care phase. Patients' healthcare expenditures for private and traditional healthcare providers were 93% (RR 0.07, 95% CI: 0.01, 0.77, p<0.001) lower in the EAAA than the standard of care phase. Self-reported health status was similar between study phases.

CONCLUSIONS: Despite a higher frequency of HIV care visits for newly initiated ART patients, immediate ART initiation lowered patients' healthcare expenditures, at least in part because they sought less care from private and traditional healthcare providers. This study adds an important economic argument to the World Health Organisation's recommendation for countries to abolish CD4-count-based eligibility thresholds for ART.

OAE0106

ROOT CAUSE ANALYSIS AS QUALITY IMPROVEMENT TOOL FOR IDENTIFICATION OF BARRIERS TO IMPROVE RETENTION IN HIV CARE: THE CASE OF UGANDA

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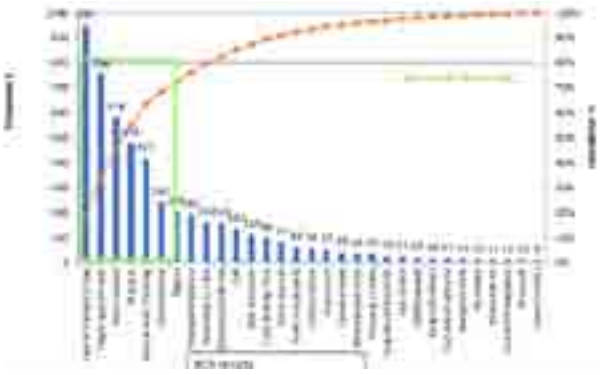
BACKGROUND: In Uganda, 81% of PLHIV know their HIV status, 89% on ART and 78% virally suppressed (UNAIDS 2018). With more HIV+ clients starting treatment, there was a need to address the gaps in retention and viral suppression to enable achievement of the 95-95-95 targets by 2030. Continuous quality improvement (CQI) efforts to close the quality gaps in the HIV/AIDS care cascade have been previously implemented at small scale with pockets of success for , however, these efforts have not yield significantly visible results at national level.

DESCRIPTION: As of Dec 2018, Uganda reported 1,004,162 PLHIV receiving ART services. Between Oct-Dec 2018, 36,702 patients were reported as lost to follow-up (LTFU) Through implementation of Root Cause Analysis (RCA) initiative starting Jan 2019, patients initially categorized as LTFU were traced and interviewed by community peers or reached by phone by facility staff using a customized tool. The RCA as a tool for CQI was implemented to identify barriers to retention in care. The barriers identified and their frequencies ranked using Pareto analysis.

LESSONS LEARNED: Of the 36,702 patients initially categorized as LTFU, 5008 were traced by community peers or reached on phone by facility staff; 95% (4,758) were >15 years, 60% (3,005) females. From the RCA, of those LTFU were a result of lost clients reported lack of transport or long distance, 19% (950), forgot appointment; 15% (758) while travel away from home, sickness, or work accounted for 12%, 10% and 8.3% respectively.



CONCLUSIONS/NEXT STEPS: Large scale implementation RCA is feasible and useful in identifying gaps in service quality that impact programming. For retention, while roll out of differentiated service delivery may address transport challenges, further analysis is required to determine best solutions Disclaimer

OAE02 BREAKING THE CYCLE: FROM AID TO SUSTAINABLE DEVELOPMENT

OAE0202

SUSTAINING PROGRESS IN PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION SERVICES – HOW LOW-VOLUME SITES HAVE AN IMPACT IN TANZANIA

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BACKGROUND: Prevention of mother-to-child transmission of HIV (PMTCT) services have been successfully rolled out across all health facilities offering maternal and child health services in Tanzania. However, in recent years, progress in PMTCT services uptake appears to have slowed. As part of the PEPFAR "pivot", which shifts attention and PEPFAR resources to high-volume sites, the Elizabeth Glaser Pediatric AIDS Foundation also shifted its direct site-level support from both high- and low-volume sites to high-volume sites only.

METHODS: A retrospective analysis was conducted for a two-year period (October 2017 - September 2019) to assess the uptake of PMTCT services nationally. We used the national DHIS2 database to extract aggregated, routine PMTCT data at national level, compiled the standard PMTCT indicators and analyzed the yearly performance trend. For the six EGPAF supported regions, we also compared PEPFAR supported sites to non-supported sites.

RESULTS: Comparing the periods October 2017-September 2018 and October 2018-September 2019, nationally the uptake of HIV testing among pregnant women remained at 97% (2,181,015/2,254,107). However, antiretroviral therapy (ART) initiation among newly identified women dropped from 90% (35,350/39,467) to 80% (28,240/35,500) and the uptake of early infant HIV diagnosis (EID) dropped from 57% (47,403/82,772) to 54% (46,069/85,020). During the October 2018- September 2019 period, the uptake of HIV testing among pregnant women between between EGPAF-supported high-volume sites (n=417) versus non-supported low-volume sites (n=1285) remained the same (97.1% vs 97.7%), but there is a significant difference in ART uptake (99% vs. 49%, p<.0001) and EID testing uptake (72% vs. 26%, p<.0001). These non-supported low-volume sites covered 45% (3,015/6,647) of the newly identified HIV-positive pregnant women within the year.

CONCLUSIONS: While the PEPFAR pivot has shifted efforts and resources for high-quality ART service delivery models to high-volume sites, services are not sustained at the low-volume non-supported sites. As these sites still cover nearly half of the newly identified pregnant women living with HIV, it has a negative impact on reaching elimination. Therefore, PMTCT programs need consistent support across all service delivery platforms and a reboot to address the challenges at low-volume sites to sustain the progress towards reaching elimination.

OAE0203

LIFE AFTER PEPFAR'S DIRECT SERVICE SUPPORT: PROGRAM SUSTAINABILITY AMONG SOUTH AFRICAN HIV/AIDS ORGANIZATIONS FUNDED BY PEPFAR

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BACKGROUND: Public health practitioners have little guidance of how toplan for the sustainability of donor sponsored programs. The literature is broad and provides no consensus on a definition ofsustainability. This study used a robust mixed-methods methodology to develop a list of program sustainability factors to inform donor-funded programs.

METHODS: This study examined 61 health facilities in the Western Cape, South Africa, supported by four PEPFAR non-governmental organizations (NGO's) from 2007 to 2012. Retention in Care (RIC) was used to determine health facility performance. Sustainability was measured by comparing RIC during PEPFAR direct service, to RIC in the post PEPFAR period (2012 to 2015). Crude and adjusted risk differences were calculated to estimate the association between the type of government ownership, PEPFAR NGO support, ART treatmentpolicy change, size of ART patient cohort, human resource transition and our outcome of RIC at 12 and 24 months on ART.

Forty-three semi-structured in-depth interviews were conducted with key informants. The qualitative data was usedto examine how predictor variables were operationalized at a health facility and NGO level.

RESULTS: Though the linear regression models showed no difference in RIC pre and post 2012, our graphed descriptive results showed a dip in RIC among the majority of the study facilities in 2012/2013. The RIC decrease was likely due to PEPFAR's move from direct service to technical assistance: the decrease in the numbers of community health workers (CHW's) and a change in HIV treatment eligibility guidelines.

Our qualitative results suggest the following lessons for the sustainability of future programs:

- Sufficient and stable resources (i.e. financial, human resources, technical expertise, equipment, physical space)
- Investment in organizations that understood the local context and have strong relationships with local government
- Strong leadership at a health facility level.
- Some disease specific staff (i.e. clinical, administrative, community)
- Joint planning and formalized skill transfer:
- Local positive perceived value of the program
- Stable financial and political support for the program

CONCLUSIONS: Sustainability is complex, context dependent, and reliant on various processes and outcomes. This study suggests additionalhealth facility and community level staff should be employed in the health system to ensure RIC sustainability.

OAE0204

KEY POPULATIONS DOING IT FOR THEMSELVES: THE RISE OF SOCIAL ENTERPRISE APPROACHES TO INCREASE FINANCIAL SUSTAINABILITY OF THE COMMUNITY-BASED HIV RESPONSE

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BACKGROUND: Despite a complex HIV epidemic, with a rise in HIV infections among men who have sex with men and transgender women, external financing for HIV prevention has declined significantly over the past ten years in Vietnam. Declining resources directly impacted the viability of fledgling key population (KP)-led civil-society organizations (CSOs) that were the backbone of community HIV prevention efforts.

DESCRIPTION: Starting in 2014, the USAID/PATH Healthy Markets (HM) project partnered with 25 KP-led organizations to co-grow areas of organizational health and wealth. This included: 1) measuring progress towards sustainability through a locally developed social enterprise organizational capacity assessment tool; 2) developing and implementing an organizational growth plan; 3) CSO mentoring from a local social enterprise incubator; and 4) supporting to generate market insights and accessing capital. Three distinct KP-led business (KPLB) models emerged: CSOs with integrated sales activities (mainly condoms); legally registered social enterprises selling health goods and services; and private clinics offering HIV and related health services.

LESSONS LEARNED: A 2019 assessment of organizational capacity and financial viability of a sample of nine KPLB found that all but one broke even by month eight of operations, with private clinics taking the longest time, and 100% reporting annual increases in sales and revenue. Overall profit for the nine KPLB increased from US$73,791 to US$129,685 between 2016 and 2018. All private clinics, 75% of social enterprises, and 67% of CSOs achieved their financial sustainability goals. The KPLB reported that the joint capacity assessment, business training, and tailored mentoring were most valuable in enabling their transition from CSO to a KPLB.

CONCLUSIONS/NEXT STEPS: As donor funds decline, and where public financing for KP CSOs is not assured, enabling financial independence is essential to sustain the presence of community-led HIV and related health service providers.

OAE0205

SUSTAINABILITY, HIV FINANCING, AND TRANSITION PREPAREDNESS: BUILDING FINANCING LITERACY TO STRENGTHEN THE HIV COMMUNITY RESPONSE

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BACKGROUND: HIV-financing and transition planning are relatively new and technical areas for key-population (KP) communities. Challenges remain for communities to understand the scope of HIV-financing, funding sustainability, and the urgency of transition planning. These knowledge areas are sometimes perceived as too technocratic, with low community literacy resulting in limited empowerment to drive advocacy and community mobilization.

DESCRIPTION: The Sustainable HIV Financing in Transition (SHIFT) Program was a two-year (2017-2018) Global Fund advocacy program implemented by the Australian Federation of AIDS Organisations (AFAO) aimed at empowering civil society organizations and KP networks to influence domestic HIV funding processes. SHIFT's objectives were to ensure a sustainable, cost-effective and strategically-allocated funding for HIV in four transition countries (Malaysia, Philippines, Indonesia, and Thailand).

LESSONS LEARNED: A crucial component of ensuring transition preparedness and sustainability of HIV responses is the meaningful inclusion of, and buy in from, KP groups. Two main challenges were noted:

Limited meaningful KP inclusion in country transition decision-making processes.

While there was KP representation on CCM and transition planning working groups, there is a lack of inclusion of their voices or is often tokenistic. As KP are perceived as not technically qualified in these knowledge areas, their inputs were often put aside, with discussions dominated by policymakers and government technocrats.

Limited community-literacy and awareness around HIV-financing and transition preparedness.

HIV-financing information and other key strategic data to advocate for KP investment and allocatively efficient funding are often dense and difficult to understand, given that community representatives have limited interest and capacity for technical jargon. HIV-financing information and other data need to be made more readily available and accessible at the community-level. Capacity development activities are needed to help KP communities better understand and utilize data for programmatic and financial advocacy.

CONCLUSIONS/NEXT STEPS: An empowered and informed civil-society, crucial to the success of a sustainable response in HIV financing, requires increased community understanding, awareness, and engagement on HIV-financing and transition. Technical HIV-financing and transition planning information need to be distilled into community-friendly knowledge products. Communities must be trained on how to use and transform this information into advocacy for effective increased KP-investments and allocatively efficient funding policies.

OAE0206

HIV INTEGRATION FOR A MORE SUSTAINABLE AND RESILIENT HIV RESPONSE IN LOW AND MIDDLE-INCOME COUNTRIES

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BACKGROUND: Much of the HIV/AIDS response has been financed by external donors, stabilizing the epidemic for many countries. This led to programmatic and external financing shifts as many countries approach sustained epidemic control. Now countries must increase domestic financing but minimize or eliminate out-of-pocket spending at point of care. Leveraging well-functioning social health insurance (SHI) or social protection schemes to include HIV/AIDS is one approach with recent success to increase domestic financing. This provides more sustainable and resilient HIV/AIDS service delivery systems.

DESCRIPTION: The PEPFAR-funded Sustainable Financing Initiative for HIV/AIDS (SFI) supports several countries to integrate HIV/AIDS services into SHI or social protection benefits package. In Vietnam, the project focused on integrating donor-supported HIV treatment centers into the public health system; enrolling people living with HIV/AIDS (PLHIV) into SHI; and domestically-financed antiretroviral (ARVs) procurement. In Cambodia, despite a challenging political environment, SFI supported passing a HIV/AIDS policy circular through evidence generation, continued engagement with government, and identifying champions for policy achievement. In the Domican Republic (DR), the project is working with government to integrate ARV financing into their SHI.

LESSONS LEARNED: In Vietnam, this work resulted in $5.9 million in ARVs procured domestically, enrolling 90% of HIV patients in SHI (36% in 2016), and integrating 87% of outpatient facilities into SHI-supported facilities. This provided savings of $5.9 million to PEPFAR with increased government contributions; a 3:1 return on investment. In Cambodia, the HIV/AIDS circular provides a 6-pronged approach for a more sustainable and equitable HIV/AIDS response. This includes all PLHIV being eligible for the Health Equity Fund (HEF) - providing free access to all health services and social protection schemes. SFI is supporting circular implementation, including a cost analysis for including PLHIV into HEF. In the DR, financing ARVs using SHI ensures commodity sustainability with shifting $3.7 million annually from government financing to regular insurance contributions, and potential savings by transferring procurement responsibilities.

CONCLUSIONS/NEXT STEPS: HIV integration into health insurance and social protection schemes provide a sustainable way to increase domestic financing while increasing coverage for care and treatment.

OAE03 HEALTH FOR ALL: UHC AND SOCIAL PROTECTION

OAE0302

THE EFFECT OF HEALTH INSURANCE TO HIV-POSITIVE CAREGIVERS CARING FOR ORPHANS AND VULNERABLE CHILDREN IN TANZANIA

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BACKGROUND: Sustainable Development Goal 3 promotes universal health coverage to achieve well-being for all. In Tanzania, only 32% of the 55 million population are covered by health insurance, of which 72% is community health fund, 23% is national health insurance, and 3% is private insurance. This study explores the relation of having health insurance coverage and enrolling into HIV Care and Treatment Clinics (CTC) while holding other factors constant.

METHODS: A PEPFAR-funded orphans and vulnerable children (OVC) project collected individual and household data between April 2017 and September 2019 using a project-specific Family and Child Assets Assessment tool. The data was collected by lay community social welfare volunteers at household level during screening of the household at enrolment and repeated after two years of

service delivery. Data was analyzed for caregivers with known HIV status. The respondents who did not know their HIV status and/or refused to disclose were excluded from the analysis. The multivariate logistic regression was examined using Stata.

RESULTS: Of the 129,406 caregivers who declared their HIV status, 32.4% self-reported as HIV+ and, of these, 91.4% were enrolled in a CTC. Health insurance coverage was 15.8% at enrolment, and 24% at two-year reassessment. At enrolment (before OVC services) the presence of health insurance had no influence on HIV+ enrolment to CTC (OR=1.05 CI=0.89–1.24). At reassessment, the result depicted that HIV+ covered by health insurance were more likely to be enrolled to CTC (OR=0.1.61 CI=1.47–1.77). These effects were adjusted for respondent ability to cover the emergency medical needs (self-reported), age, sex and residence.

CONCLUSIONS: Although caregivers received a variety of needs-based services once enrolled into the project (including case management, counselling, economic strengthening, and escorted referrals),the inclusion of health insurance in the package of services opened up more demand and utilization of health care. The data suggests that insurance contributes to uptake of HIV services, even though the HIV services are free, because general health services were made more accessible With insurance the HIV+ can acquire the needed health services where available, without the barrier of limited resources, and this includes access to health services that complement their HIV care.

OAE0303

LEVERAGING PRIVATE PROVIDERS TO IMPROVE AND EXTEND HIV TREATMENT ACCESS IN SOUTH AFRICA: COST IMPLICATIONS FOR UNIVERSAL HEALTH CARE IN SOUTH AFRICA

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BACKGROUND: Despite significant gains towards HIV epidemic control in South Africa, expanding treatment access remains a priority. The proposed South African National Health Insurance aims to re-engineer primary healthcare by leveraging private-sector providers to achieve universal healthcare. We conducted a cost-outcome analysis to explore the possible implications of expanding HIV access using private providers.

METHODS: Four sites in South Africa's Gauteng province were included: two government, primary health clinics (PHC) (PUB1&PUB2), one NGO-run PHC which accesses public-sector drugs and laboratory tests (PRV1), and one contracted doctor model which utilises private clinicians to manage public sector patients (PRV2). We sampled adult HIV-positive patients initiating, or newly presenting for, HIV treatment at sites in 2017 and 2018 and followed them for 12 months. Retention in care with viral suppression (IC suppressed) at 12 months was the primary outcome.

Bottom-up costing from the provider perspective was based on patient-level resource usage. PRV1 charged patients a means tested fee of <USD5 per visit; PRV2 charged a donor-covered annual capitation fee per patient paid quarterly based on attendance. Costs are reported in 2019 USD.

RESULTS: Sites reported similar mean age, days in care, and number of visits. The public sites performed both the best(64%) and worst(33%) in terms of IC suppressed, with the private sites falling between. In the private models, uptake is higher in men and those most at need(lowest CD4); cost is variable but similar once non-clinical staff is excluded. Costs for non-clinical staff performing services that were largely not HIV-related drove the higher average cost for PRV1.

	Public Site 1 (PUB1), n=76	Public Site 2 (PUB2), n=75	Private Site 1 (PRV1), n=75	Private Site 2 (PRV2), n=75
Male, %	22%	28%	39%	47%
Baseline CD4, mean	425	333	282	440
In care (IC)	61 (80%)	55 (73%)	47 (63%)	*58 (77%)*
Suppressed, n (%)	*49 (64%)*	*25 (33%)*	*31 (41%)*	*42 (56%)*
Suppression unknown, n (%)	*6 (8%)*	*26 (35%)*	*11 (15%)*	*9 (12%)*
Unsuppressed, n (%)	*6 (8%)*	*4 (5%)*	*5 (7%)*	*7 (9%)*
Not in care (NIC), n (%)	15 (20%)	20 (27%)	28 (37%)	17 (23%)
Lost after 1 visit, n (%)	*4 (5%)*	*3 (4%)*	*10 (13%)*	*3 (4%)*
Lost after >1 visit, n (%)	*11 (14%)*	*17 (23%)*	*18 (24%)*	*14 (19%)*
Avg total cost/px - all (12 mon)	$290	$188	$357	$239
Drugs - HIV	*$79*	*$76*	*$71*	*$69*
Drugs - Other	*$15*	*$4*	*$13*	*$13*
Laboratory tests	*$44*	*$24*	*$47*	*$41*
Staff costs - Clinical	*$100*	*$52*	*$87*	-
Staff costs - Non clinical	*$15*	*$20*	*$80*	-
Fixed costs	*$36*	*$13*	*$59*	*$116**
Avg total cost/px - IC suppressed	$332	$230	$475	$282
Avg total cost/px - IC suppression unknown	$324	$226	$511	$259
Avg total cost/px - IC unsuppressed	$279	$234	$481	$278
Avg total cost/px - NIC	$144	$77	$145	$106

*Capitated annual fee

[Table 1. Cohort demographics, outcomes and costs]

CONCLUSIONS: If we are to reach the goal of universal HIV treatment access we need to utilize existing resources across sectors. Using private providers to move towards universal healthcare may expand HIV treatment access to under-reached populations without significantly increasing costs nor reducing outcomes.

OAE0304

FUNERAL AND LIFE INSURANCE IN SOUTH AFRICA: HOW TYPE 2 DIABETES MELLITUS SURVIVAL CAN INFORM ACCESS TO AND AFFORDABILITY OF LIFE AND FUNERAL INSURANCE IN ADULTS WITH HIV-1

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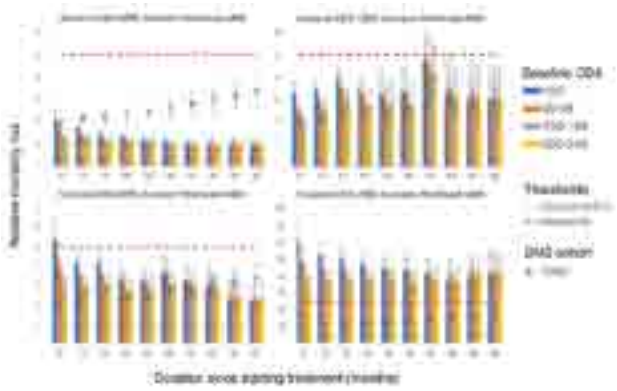
BACKGROUND: Funeral insurance, and to some extent, life insurance are common in South Africa, and access to affordable policies for people living with HIV (PLWH) is important. Insurability is measured by relative rather than absolute mortality or life expectancy, but these data are not commonly reported.

METHODS: Using private medical scheme data from South Africa, we identified 3 patient groups: PLWH on antiretroviral therapy (ART), HIV-negative with type 2 Diabetes Mellites and on treatment (DM2), and a control group with neither. Relative all-cause mortality risk (relative risk) was estimated using a generalized linear model (GLM) assuming a Poisson error distribution and with expected numbers of deaths based on the control cohort mortality according to age, gender and population group specified as on offset; for PLWH, current CD4 count, viral load, baseline CD4 count, and time on ART are also included.

RESULTS: In the ART group, 8,920 deaths were observed recorded in 77,325 patients starting ART between 2000 and 2013 contributing 315,341 person-years of observation (PYO) (median follow-up of 3.23 years [IQR 2.04;5.30]). In the DM2 group, 7,970 deaths were recorded in 67,705 patients starting antihyperglycaemic therapy over the same period contributed 365,547 PYO (median follow-up of 6.20 years [IQR 3.85;9.53]). Our relative risk ratios compared with Kaulich-Bartz et. al. (2013) from a high-income setting. Using our methodology, 90% in the ART group had a relative risk from 6 months within the insurance industry threshold (i.e., <5 when compared to the control) and a lower or comparable relative risk to the DM2 group from 12 months – see Figure 1.



[Figure 1. Adjusted (multivariate) relative mortality risk (with bootstrapped 95% confidence intervals) by time-updated CD4 count and viral load, baseline CD4 count and duration since initiating ART. Benchmarks included: control (relative risk = 1), DM2 cohort and insurance industry threshold (relative risk = 5)]

CONCLUSIONS: Most PLWH have both insurable and comparable relative risk to DM2. Both current VL and CD4 were clearly prognostic over the whole period and therefore are likely to remain a requirement for life insurance, but not for HIV programs or funeral policies.

OAE0305

THE INFLUENCE OF HEALTHCARE FINANCING ON CARDIOVASCULAR DISEASE PREVENTION IN PEOPLE LIVING WITH HIV

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BACKGROUND: People living with HIV (PWH) are diagnosed with age-related comorbidities including cardiovascular disease (CVD) at higher than expected rates. Medical management of comorbidities frequently occurs in HIV specialty clinics. In recent years, changes in the healthcare financing for PWH in the U.S. has been dynamic. There is little evidence examining how healthcare financing characteristics shape primary and secondary CVD prevention among PWH. Our purpose was to examine the perspectives of PWH and their healthcare providers on how healthcare financing influences CVD prevention.

METHODS: As part of the NHLBI-funded PreCLUDE initiative, we conducted in-depth, semi-structured interviews with 34 multidisciplinary healthcare providers and 51 PWH at 3 U.S. HIV clinics from October, 2018 to March, 2019. Using Braun and Clark's (2006) thematic analysis framework, we examined barriers and enablers of CVD prevention for PWH related to health care financing.

RESULTS: Three themes emerged across sites and disciplines: (1) Health systems organized around relative value units (RVUs) experience pressures that may disincentivize CVD prevention efforts by HIV specialty care providers. Increasingly, HIV clinics are internally co-locating services such as smoking cessation and cardiovascular health clinics to prevent CVD. Yet, this expansion of services strains clinic personnel and processes in a way that threatens their effectiveness. (2) Grant-based services enable locally-tailored CVD prevention strategies but are limited by the funder's priorities. (3) While commercial insurances support innovative CVD prevention tools, PWH with these payers experience increased barriers compared to public insurances. Examples include potential discomfort in being referred to new primary care providers, co-pays for specialty visits with one's longstanding HIV provider, and challenges in medication authorization due to HIV and CVD drug interactions.

CONCLUSIONS: As healthcare financing for PWH evolves, an understanding of the effects of various payers on patient and provider behavior and responses of the healthcare systems in which this care is provided, is important. HIV specialty clinics can consider implementing comprehensive CVD prevention strategies into everyday HIV care that align with a dynamic reimbursement landscape. HIV clinics should also be at the forefront of advocating for healthcare delivery and reimbursement models responsive to the evolving medical needs of PWH.

OAE0306

TOWARDS UNIVERSAL HEALTH COVERAGE AMONG PEOPLE LIVING WITH HIV IN NIGERIA: ARE THEY WILLING TO ENROLL IN A HEALTH INSURANCE SCHEME?

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BACKGROUND: High out-of-pocket expenditures for HIV-related services can limit access to care, and also result in financial catastrophe, particularly among the poor. While these consequences can be avoided by providing financial protection through a health insurance scheme, it is largely unknown whether people living with HIV (PLHIV) in Nigeria will be willing to participate in it. In this study, we assessed willingness of PLHIV in Nigeria to enroll in and pay for a health insurance scheme.

METHODS: The study was a cross-sectional survey of 229 PLHIV 18 years and older receiving antiretroviral therapy in three secondary health facilities in the Federal Capital Territory, Nigeria. Data on sociodemographic characteristics, financial burden of HIV care,

knowledge of health insurance scheme, willingness to enroll for health insurance scheme, and the premium respondents were willing to pay was collected using a pre-tested semi-structured self-administered questionnaire. We performed descriptive statistics, and linear regression analyses to examine factors associated with the premium the respondents were willing to pay.

RESULTS: Approximately 67% (129/193) indicated willingness to enroll in an insurance scheme. The maximum monthly premium the respondents (n=126) were willing to pay ranged from N100 ($0.3) to N1000 ($3.2), with a median of N500 ($1.6). In the bivariate analyses, gender, education, marital status, and religion were significantly associated with the monthly premium the respondents were willing to pay. In the multivariate linear regression model which contained the significant factors at bivariate level, gender, education, and marital status remained significant. Females were willing to pay N108 ($0.4) more than males (p=0.014). Those who were single were willing to pay N141 ($0.5) more than the married respondents (p=0.004). Compared to those with tertiary education, those with secondary education were willing to pay N124 ($0.4) less (p=0.011).

CONCLUSIONS: About two-thirds of PLHIV in our study indicated interest in risk pooling to cover HIV services. However, they were only willing to pay a little premium. More information about health insurance and its benefits may improve willingness of PLHIV in Nigeria to enroll. Poor PLHIV may also require subsidies for enrollment into health insurance schemes.

OAE04 INNOVATION IN INITIATION, TREATMENT AND CARE: DIFFERENTIATED SERVICE DELIVERY

OAE0402

TREATMENT OUTCOMES IN A COMMUNITY PHARMACY ANTI-RETROVIRAL THERAPY PROGRAM

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BACKGROUND: The use of community based models for scaling up HIV treatment has been recommended by the World Health Organization. In a community base project providing antiretroviral therapy, we investigated retention in care, adherence to medications and virologic suppression among the participants who willingly chose to refill prescriptions in registered Community Pharmacies (Co-Pharm). Viral suppression (<20 copies/mL) was the measure of outcome.

METHODS: This is a non-randomized intervention study. Adults living with HIV that were virologically suppressed (i.e., having a viral load of less than 20 copies/mL) were recruited and enrolled in a community based program where patients refilled prescription in registered Co-Pharm in northern Nigeria [Nasarawa state, Katsina state, Kano state and the Federal Capital Territory (FCT), Abuja, Nigeria], from January 2017 to June 2019. Sociodemographic and treatment data (medication regimen, prescription refill, retention in care and viral load) were collected. Baseline virologic suppression before patients devolved to the Co-Pharm was compared with the patients' virologic suppression data after twelve months of devolvement. Descriptive statistics and multivariable linear regression analysis were applied.

RESULTS: Twenty nine public hospitals and 64 registered community pharmacies were recruited. Of the 2,938 patients included in the analysis; 56.7% (1,665) were men and mean age was 53 years [SD= 3.2]. Majority of the patients were retained in care [98.1% (2,882)] and 85% (2,497) had optimal adherence (≥95%). Baseline log viral load was 3.7 (SD=1.2); no significant difference in median viral load (VL) before and after participants devolved to the Co-Pharm [before median VL = 2.9 log copies/mL [IQR-2.9 – 7.1] Vs after median VL = 2.9 log copies/mL [IQR=2.9 – 10].

CONCLUSIONS: Patients remained virologically stable with optimal adherence and retention in care. This suggests that patients who are already virologically suppressed may remain stable even if they are devolved from the hospitals to the Co-Pharm. Registered Co-Pharm linked to public hospitals may therefore provide a viable option for treating patients who are virologically suppressed. In developing countries, over-crowded hospitals could be decongested by allowing patients who are virologically suppressed to devolve to the Co-Pharm.

OAE0403

BUILDING CAPACITY FOR MANAGEMENT OF PATIENTS ON ADVANCED ART REGIMENS THROUGH GUIDED PRACTICE USING THE ECHO TELE-MONITORING MODEL IN KENYA

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BACKGROUND: Increasing numbers of people with HIV are transitioning to advanced (i.e., second- and third-line) antiretroviral therapy (ART) regimens in resource-limited settings. Interventions are needed to scale-up the clinical capacity for management of these complex cases when virologic failure occurs. We evaluated the feasibility of implementing Project ECHO's teleECHO clinic training model at the Academic Model Providing Access to Healthcare in Kenya.

METHODS: From March-July 2019, HIV clinical staff at 19 public facilities throughout western Kenya participated in a teleECHO curriculum developed and led by HIV management experts in Eldoret, Kenya. Eight weekly sessions utilizing a case-based curriculum presented patients failing advanced ART regimens, followed by expert-led didactics based on Kenya National HIV treatment guidelines. Clinical officers (COs) at each site were purposefully sampled to complete pre- and post-intervention semi-structured surveys to investigate their knowledge and self-efficacy regarding the management of patients on advanced ART and the barriers/facilitators to implementing the intervention. The data were analyzed using descriptive and thematic analyses and paired t-tests. Viral suppression (<40 copies/mL) among the patients discussed was assessed at six months post-intervention.

RESULTS: A total of 245 clinical staff (68% female; median age 38 years; 68% with >5 years of experience providing HIV services) participated in the intervention (average 58 participants/session), including: nurses (22%), COs (25%), counsellors (32%), nutritionists

(7%), social workers (4%) and other staff (10%). Among 32 COs surveyed, pre/post surveys demonstrated improved ability and self-efficacy to monitor patients on second- and third-line ART, construct a multi-disciplinary team plan, and switch ART for patients failing second-line ART (p<0.05 for all). Facilitators to implementation included the interactive nature of the sessions, provision of pre-paid internet bundles, and regular access to expert consultants. Barriers included unstable internet connectivity at rural sites, technology issues, and schedule interruptions. Of 16 patients ages 4-64 years discussed during the sessions, the median number of months with continuous pre-intervention viremia was 47 (interquartile range 15-53), and 5 of 10 patients with an available viral load achieved suppression.

CONCLUSIONS: The teleECHO model is a feasible and scalable tool to improve the management of patients failing advanced ART regimens in resource-limited settings.

OAE0404

IMPROVING ANTIRETROVIRAL THERAPY INITIATION IN HOSPITAL AND AFTER DISCHARGE IN JOHANNESBURG, SOUTH AFRICA

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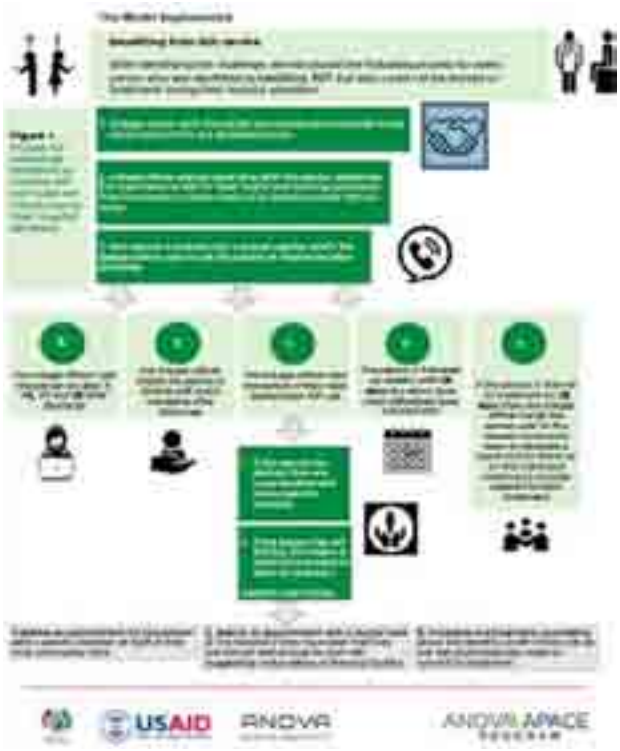
BACKGROUND: In South Africa, despite increasing access to antiretroviral therapy (ART), HIV -related mortality has changed very little over the last 5 years. Many people living with HIV are identified for the first time during an admission to hospital because of advanced HIV and related illnesses. Although same-day ART initiation has been implemented since October 2016, up to 40% of people diagnosed in hospital are either clinically ineligible or not psychologically ready to start antiretroviral therapy (ART) during their admission. After discharge, these clients often struggle to link to care and treatment at their local primary healthcare facility (PHC), leading to delays in ART initiation, and further morbidity and mortality.

DESCRIPTION: We implemented a linkage to care model (Figure 1) at the two largest hospitals, in Johannesburg, South Africa. The model supported people who were identified as needing ART to either initiate ART during their hospital admission or link to ART initiation at their local PHC as soon as possible after discharge. We used routine data to measure linkage rates before and after implementation.

LESSONS LEARNED: Before implementing the model, an average of 55% of clients needing ART were confirmed to have initiated treatment following hospital admission. After implementation, over 90% of clients had initiated ART within 28-days post-discharge (549 clients over 2 months). Poorly established referral pathways and communication between hospitals and PHCs can undermine linkage to ART care but a structured post-discharge client support model can help overcome these barriers. Delayed ART initiation is common due to acute clinical complications or lack of client psychological readiness to commit to lifelong treatment.



CONCLUSIONS/NEXT STEPS: Our model successfully improved linkage to ART and strengthened referral pathways between hospitals and PHCs following discharge. This model will be scaled-up to all hospitals in the district to minimise loss to follow up and positively impact HIV-related morbidity and mortality.

OAE0405

HEALTHCARE WORKERS PERSPECTIVES ON CLIENT VOLUMES AND WORKLOAD WITH DIFFERENTIATED SERVICE DELIVERY MODELS IN THE KINGDOM OF ESWATINI

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BACKGROUND: In response to overcrowding at health facilities (HF) and the importance of client-centered care, Eswatini is scaling up less-intensive differentiated service delivery models (DSDM) for adults and adolescents doing well on antiretroviral therapy (ART). DSDM are anticipated to improve the satisfaction of both clients and healthcare workers (HCW) but little data are available on the HCW experience of DSDM implementation, including HCW perceptions on how clinic workload has been impacted by DSDM.

METHODS: We conducted a mixed-methods study to explore HCW perspectives on the impact of DSDM on client volumes and HCW workload. Between August and October 2019, we administered 172 quantitative surveys and conducted 20 semi-structured in-depth-interviews (IDI) with HCW representing multiple cadres, including expert clients, at 39 purposively selected HF in Eswatini. Quantitative data were analyzed using Stata 12 and interview transcripts were coded and analyzed using Dedoose.

RESULTS: Respondents included 78 nurses (45%), 53 expert clients (31%), 16 nursing assistants (9%) and smaller numbers of medical officers, community health workers, counsellors, pharmacy staff, and others. When asked about the impact of DSDM on the daily volume of ART clients, among the 67% of respondents stating there was an impact, 78% perceived a decrease while 22% perceived an increase in client volume. In IDIs, many HCWs described shorter client queues and waiting times. Reflecting on their individual workloads, 64% felt their workload had decreased with the advent of DSDM, 16% noted no change and 18% reported an increased workload. In IDIs, HCW noted that some DSDM were more labor intensive than others, noting the need for increased documentation for Community Antiretroviral Groups, pre-packing of medication and preparation of files for Fast Track, and working on Saturdays for Teen Club.

CONCLUSIONS: The majority of HCWs reported that DSD scale-up has decreased their workloads by reducing the volume of ART clients at HFs, but there is substantial heterogeneity in their responses. Understanding the impact of different DSDM and the impact on different HCW cadres will be important as DSDM are scaled up nationwide.

OAE0406

POP-UP CLINIC: A MULTICOMPONENT MODEL OF CARE FOR PEOPLE LIVING WITH HIV (PLHIV) WHO EXPERIENCE HOMELESSNESS OR UNSTABLE HOUSING (HUH)

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BACKGROUND: In San Francisco, homelessness is the single greatest risk factor for HIV viremia. At San Francisco General Hospital's "Ward 86" HIV clinic, over one-third of patients experience HUH, with increasing housing instability associated with higher likelihood of viremia, higher frequency of drop-in and emergency room visits, and lower adherence to primary care. UNAIDS "Getting to Zero" and U.S. "End the Epidemic" goals will not be achieved without innovative models of care and greater housing access for PLHIV-HUH. We launched "POP-UP" in January 2019, a no-appointment ("low-threshold"), incentivized primary care clinic, to address structural and individual-level barriers to care for PLHIV-HUH.

METHODS: POP-UP eligibility includes 1) HIV RNA ≥200 copies/mL or off ART, 2) HUH, and 3) ≥1 missed primary care appointment and ≥2 drop-in visits in the prior 12 months. Patients are identified through the electronic health record and clinic-based referrals. POP-UP provides drop-in primary care, which includes mental health and substance use treatment, housing assistance and case management, financial incentives, and patient navigation with frequent contact. We describe program uptake, ART initiation, return to care by 90 days post-enrollment, and cumulative incidence of first instance of viral suppression (HIV RNA<200) at 6 months post-enrollment, estimated via Kaplan-Meier.

RESULTS: 64 patients were enrolled into POP-UP from January-December 2019: 83% cis-men, 11% cis-women, 6% transgender/non-binary; 47% white, 36% black, 8% Latinx; 55% street homeless; 100% with a substance use disorder; 76% with a mental health disorder; and 39% with CD4<200. Among the 64 patients enrolled, 59 (92%) restarted ART, most at enrollment (median 0, IQR 0-12 days); 59 (92%) returned for follow-up within 90 days. Cumulative incidence of viral suppression at 6 months post-enrollment was 60% (95%CI 47-74%). Nine patients were unenrolled from the program (3 died, 1 moved, 2 transferred back to PCP, 3 for threatening behavior).

CONCLUSIONS: The POP-UP program at Ward 86 demonstrates early success in engaging viremic PLHIV-HUH in care and improving viral suppression. Low-threshold, high-contact primary care programs offering comprehensive services and incentives similar to POP-UP may improve patient outcomes for this vulnerable population in other urban settings.

OAE05: IT'S RAINING MEN: HOW TO EFFECTIVELY ENGAGE MEN INTO CARE

OAE0502

TRANSITION TO DOLUTEGRAVIR-BASED REGIMENS IMPROVES OVERALL VIRAL-LOAD SUPPRESSION IN THE NATIONAL ART COHORT IN MALAWI AND CLOSES THE GENDER GAP

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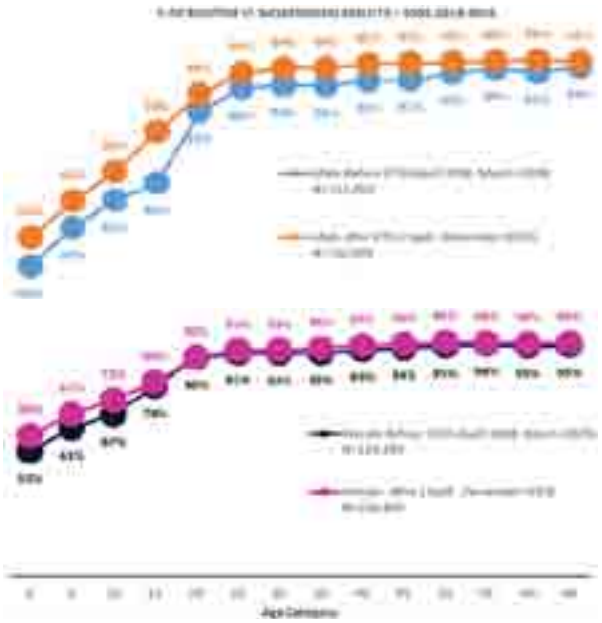
BACKGROUND: Malawi introduced dolutegravir (DTG)-based first-line regimens in January 2019, targeting all new and existing patients >20kg, but excluding women of reproductive potential due to concerns of risk of neural tube defects. Most adults transitioned from tenofovir/lamivudine/efavirenz (TLE) to tenofovir/lamivudine/dolutegravir; children 20-30kg to abacavir/lamivudine+dolutegravir. Confirmation of viral load suppression (VLS) was not required before transition due to limited monitoring capacity.

VL monitoring is scheduled 6 months from ART initiation and every 12 months thereafter. VLS rates were already high and it was unclear if DTG would yield additional population benefits.

DESCRIPTION: Before DTG-transition, 97% of all 805,254 patients on ART were on efavirenz- or nevirapine-based regimens and 92% of these were on TLE. Around 42% of patients received routine VL testing in the 12 months before transition; 89% of 334,233 results were <1000 copies/ml. VLS among women was 92-95% in age groups ≥25 years and it was consistently lower in men. VLS was much lower among children and adolescents, and boys had 5-12% lower VLS rates than girls.

By September 2019, 61% of all patients were on DTG-based regimens. VLS among the 311,956 results collected since the start of transition had increased to 93%. The VL gender gap in adults had disappeared. Boys and male adolescents showed the greatest increase in VLS.

LESSONS LEARNED: National lab information system (LIMS) data suggest an early increase in VLS following transition to DTG. The greatest increase was among patients selected for an early unconditional transition, where pre-transition VLS had been unsatisfactory.



[Figure. % of routine VL monitoring result <1000, 2018-2019]

CONCLUSIONS/NEXT STEPS: Completion of the DTG transition for all patients over the coming months may further increase VLS, approaching 95%. Ongoing transition of children <20kg from nevirapine to lopinavir may improve VLS until convenient DTG-based formulations become available.
Inclusion of current regimen and further patient characteristics in LIMS will add value for cross-sectional and longitudinal program monitoring.

OAE0503

"MISSING MEN" OR MISSED OPPORTUNITY? MEN'S FREQUENT USE OF HEALTH SERVICES IN MALAWI

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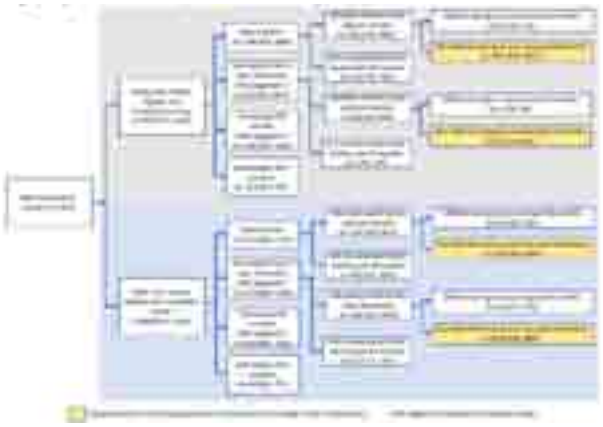
BACKGROUND: Men are underrepresented in HIV testing across sub-Saharan Africa. Community-based strategies are prioritized for reaching men, however, little is known about the frequency of men's facility attendance for non-HIV services, and if men attending facilities are offered HIV testing.
METHODS: We conducted a cross-sectional, community representative survey with men (15-64years) from 36 villages in rural Malawi. We used staged sampling to randomly select individuals using census data, and stratified by village and age. Primary outcomes were facility attendance (as client or guardian who supports services for others) and HIV testing within 24months. Descriptive statistics were conducted to examine facility visits among men in need of HIV testing.
RESULTS: 1,187/1,254 of men completed a survey, of whom 884 (74%) were adults (25+ years). 67 (6%) were known positive and excluded from analyses. 87% of young (≤24years) and 91% of adult (25+years) men attended a facility visit within 24months. 81% of facility visits were to outpatient departments. 58% of young and 38% of adult men were in need of HIV testing (i.e., tested >24 months ago or never tested). Among those in need of testing, ~81% of young and ~77% of adult men visited a facility within 24months for a non-HIV visit (Fig 1). Guardian visits comprised the majority of visits made. Only ~15% of men in need of testing were offered HIV testing services during recent facility visits. Reasons for not testing during recent facility visits were: not offered testing (32%); not at risk of HIV (19%); and (3) not ready to test (14%).



[Figure 1. Study flowchart: men's facility attendance and HIV testing (n=1254)

CONCLUSIONS: Most men regularly attended health facilities, especially outpatient departments. Men in need of testing were especially likely to attend facilities as a guardian, but few were offered HIV testing. HIV case finding interventions should capitalize on men's routine facility visits to reach the general male population.

OAE0504

FACTORS ENCOURAGING MEN TO TEST FOR HIV FOR THE FIRST TIME IN HPTN 071(POPART) COMMUNITIES IN ZAMBIA

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BACKGROUND: HPTN071 (PopART) was a 3-arm, community-randomized trial in 21 Zambian and South African communities that demonstrated a reduction in HIV incidence following implementation of a combination prevention package including universal testing and treatment. The intervention was delivered in three annual rounds (ARs) of home-based, door-to-door visits including HIV testing services by a pair of Community-HIV-care-Providers (CHiPs) working in zones. We aim to determine whether household/CHiP-related factors influenced men to test for HIV for the first time in 8 Zambian intervention communities during AR3.
METHODS: The outcome was acceptance of HIV testing among men >18 years who had "never-tested" during AR3 (September 2016—December 2017). Individuals were considered "never-tested" if they: never self-reported previous HIV testing, did not verbally confirm their HIV-positive status in current or previous rounds, and did not test with CHiPs during previous rounds. A multi-level

logistic model (zone/household-nesting) was fitted adjusting for: community, whether other adults in the household accepted testing, whether participant was resident in previous ARs, whether CHiPs were intervention community residents, CHiP pair gender composition, and age of CHiP pair in relation to participant.

RESULTS: During AR3, 6,605/9,172 previously "never-tested" men (72.0%) accepted HIV testing. Factors associated with accepting testing are shown in Table 1. Uptake of testing was highest in mixed-gender households where another man or woman tested for HIV (aOR=21.68; 95%CI:16.06-29.28), and households of adult men where another man tested for HIV (aOR=14.85;95%CI: 12.12-18.2). The age of the CHiP pair affected uptake of first-time testing. Men had higher odds of testing when approached by a CHiP pair in which both were >5 years older than the participant (aOR=2.28;95%CI:1.82-2.87), compared to a pair of younger CHiPs.

Description	n / N (%)	Adjusted Odds Ratio (95% CI)	P-value
Any Adult Accepts Testing In The Participant's Household			
No other adult accepted testing in participant's household/bachelors	433/1642 (26.4)	Reference	
Another adult man or woman accepted testing in participant's household of adult men and women	5259/6505 (80.8)	14.85 (12.12,18.2)	<0.001
Another adult man accepted testing in participant's household of only adult men	913/1025 (89.1)	21.68 (16.06,29.28)	<0.001
CHiP Pair and Male Participant Age Difference			
Both CHiPs >5 yrs younger to participant	399/708 (56.4)	Reference	
Both CHiPs >5 yrs older to participant	3401/4440 (76.6)	2.28 (1.82,2.87)	<0.001
At least 1 CHiP is a peer of participant (within +/- 5yrs)	2133/3028 (70.4)	1.84 (1.46,2.30)	<0.001
mixed age pair: older (>5yrs) and younger (>5yrs) CHiPs	443/658 (67.3)	1.76 (1.29,2.40)	<0.001

[Table 1.]

CONCLUSIONS: Identifying positive role-models, such as older (and therefore respected) health providers, or other adults in the household who accept testing, increases first-time testing among men who have never-tested before.

OAE0505

IMPLEMENTATION OF HIV SELF-TESTING (HIVST) TO REACH MEN IN RURAL UMKHANYAKUDE, KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: African women have higher rates of HIV testing, HIV prevalence and ART coverage, and consequently men have lower survival rates. KwaZulu–Natal, South Africa has one of the highest HIV prevalence rates globally, where persons <35 yrs and men account for most of the people who have not been tested for HIV. HIV self-testing (HIVST) may overcome some of the barriers of facility-based HIV testing in order to identify HIV positive young persons and men and link them to care.

METHODS: Teams made up of a nurse, clinic research assistant, and 4 recruiters distributed HIVST kits in rural Umkhanyakude, KwaZulu-Natal from August – November 2018 with a focus on testing men. Places where men could be found such as workplaces (farms), social venues, taxi ranks and homesteads were used as HIVST distribution points. Community sensitisation was done through community advisory boards (CABs). In areas without CABs, permission to distribute kits was granted by the local chiefs. The Department of Health assisted with confirmatory testing and linkage at their facilities, and a 24-hour cell phone number was provided in case of an emergency.

RESULTS: Over 11 weeks , we distributed 2634 HIVST kits with 2052 (78%) kits distributed to aged < 35 yrs and 582 (22%) kits distributed to aged ≥ 35 yrs. 2591 (98%) kits were distributed to males and 43 (2%) were distributed to females. Of those, 2107/2634 (80%) used the HIVST kits and provided results to the study team, among whom 157/2107 (7%) tested positive. Of those who tested positive, 153/157(97%) were males .102/157(65%) did a confirmatory test and were initiated on ART. No emergencies were reported.

CONCLUSIONS: Large scale distribution of HIVST kits targeting men in rural Umkhanyakude is feasible, acceptable in the community, and effective at reaching men who have not tested for HIV. While two-thirds of persons who tested HIV positive initiated ART, additional linkage strategies are needed for those who do not link after HIVST. This testing strategy should be used as a tool to reach men in order to achieve 95 coverage in the UNAIDS testing and care cascade in KwaZulu-Natal.

OAE0506

UNDERSTANDING MEN WHO HAVE SEX WITH MEN (MSM) USING HUMAN-CENTERED DESIGN APPROACH IN ZIMBABWE

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BACKGROUND: Like many African countries, Zimbabwe has a paucity of research on men who have sex with men (MSM). Against this backdrop, PSI Zimbabwe employed human-centered design (HCD) approaches to understand the lives of MSM and co-create solutions to improve their uptake of HIV prevention and treatment services. We explored the MSM journey to accessing services and created distinct archetypes based on barriers and motivators to service uptake.

DESCRIPTION: We used HCD techniques involving immersions, co-designing and prototyping solutions with the MSM community. We conducted 18 focus group discussions, 20 one on one interviews, 3 hotspot immersions and 3 observations across two urban areas over a two-week period. A total of 65 men from the MSM community and 5 service providers participated in this exploration. Thematic analysis was used to analyze the data.

LESSONS LEARNED: We identified 6 archetypes and a journey map detailing how each archetype accesses services. These archetypes included: The Glass Box - Identifies as gay only within the MSM community for fear of stigma; The Subtle Champion – Is an advocate providing social and health-related support to others; The Flag Bearer - Openly gay and unconcerned with societal stigma; The Dual Life - Conforms to heterosexual societal expectations and embraces his sexuality only in safe spaces; and The Conflicted Heart - Fighting the fact that he has just realized his attraction to men. Although the journey was fairly the same across all the archetypes there were some differences in experiences

by different archetypes which resulted in archetypes with more comfort self- identifying as MSM, like the Flag Bearer, being most likely to engage with HIV services. A gay man relates to HIV when a man he had sex with dies from HIV. He contemplates getting tested but fears social fall out. After testing, the need to disclose his MSM activity and a lack of provider empathy prevent him from returning.

CONCLUSIONS/NEXT STEPS: MSM archetypes and their journey to the uptake of HIV prevention and treatment services differ based on their mindsets and behavior. Understanding these archetypes presents an opportunity to tailor-make the provision of HIV services and mobilization activities to their unique needs.

OAE06 MONEY MAKES THE WORLD GO AROUND: DOMESTIC FINANCING FOR AN EFFECTIVE HIV RESPONSE

OAE0602

DOMESTIC PUBLIC SPENDING IN LOW-AND-MIDDLE-INCOME COUNTRIES 2006-2018: LEVELS AND TRENDS

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BACKGROUND: Domestic public investments in HIV/AIDS have consistently increased annually in LMICs. Understanding the correlates and predictors of domestic public spending on HIV can inform sustainability plans.

METHODS: Country reported domestic public AIDS spending data from Global AIDS Monitoring were considered. A panel of data using data from 2005-2018 from 114 low-and-middle-income countries were used for regression analysis resulting in 1224 country year data points. All the estimations are based on panel data random effects models.

A panel data regression using reports to UNAIDS for 2005-2018 from 114 low-and-middle-income countries were used for the analysis resulting in 1224 country year data points. All the regression estimates are based on panel data random effects models.

RESULTS: There are significant positive associations between the log of GDP per capita (1.058, <0.001) of a country and its level of domestic public spending on HIV. The ART coverage (15.75, <0.001) and the HIV prevalence (0.05, <0.01) were also significant predictors. No significant effect was found for ODA for HIV or other independent variables.

The domestic public resources per person living with HIV in 2018 was US$184 in East and Southern Africa, US$50.6 in West and Central Africa, US$363 in Asia and the Pacific, US$209 in the Caribbean, US$659 in Easter Europe and central Asia, US$ 1406 in Latin America, and US$479 in Middle East and North Africa.

Domestic public spending has increased 70% between 2010 and 2018. In 2018, domestic resources (public and private) constituted 56% of the global AIDS resources; the majority of these being public funds. With the observed flat lining of international resources, sustained and efficient domestic public spending will be key in achieving fast-track targets to end AIDS by 2030.

There are still large gaps in donor dependency across geographies, for example while 95% of AIDS resources in Latin America come from domestic resources on the other extreme of dependency the share of domestic resources is 38% and 27% in West Central Africa and the Caribbean respectively.

CONCLUSIONS: The main determinants of domestic public spending for HIV are, as expected: ability to pay (GDP per capita), burden of disease (HIV prevalence) and ART coverage.

OAE0603

SCALING UP ANTIRETROVIRAL THERAPY IN A RESOURCE-LIMITED SETTING: MEXICO'S EXPERIENCE

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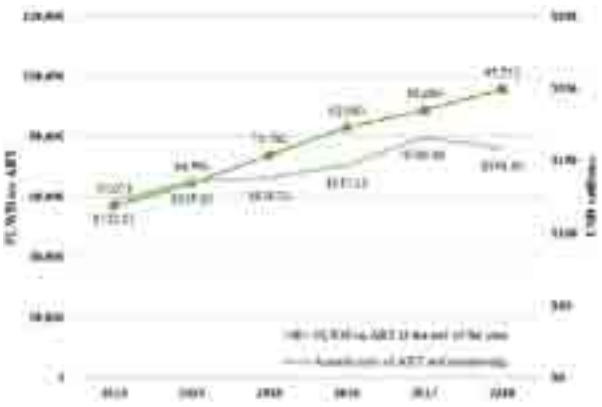
BACKGROUND: In 2013, the National Institute of Public Health of Mexico concluded that if the observed trends of antiretroviral therapy (ART) costs were maintained, and the number of people living with HIV (PLWH) on ART grew at the same observed rate, the current financial mechanisms in the Ministry of Health (MoH) would result insufficient by 2018. At the same time, evidence regarding the initiation of ART "as soon as possible" rapidly accumulated.

DESCRIPTION: As part of the national efforts to expand ART coverage and improve the optimal allocation of resources, the MoH implemented four key strategies: (1)a medical drug prescription monitoring group, which included the development and implementation of a prescription electronic algorithm according to the clinical guidelines, (2)encouraged competition among generic antiretroviral drug makers, (3)improved forecast accuracy and (4) data transparency.

LESSONS LEARNED: The prescription-monitoring group improve the quality of the prescription and allowed a more rational use of ART. The improvement of forecast accuracy and data transparency showed a more stable and attractive market which incentive competition. Finally, the number of available generic ARVs increase by 71% and achieved important savings. For example, the acquisition of efavirenz through a state-owned enterprise achieved a price reduction of 62% between 2014-2018; and the acquisition of the generics EFV/TDX/3TC and TDX/3TC, coformulations that were used in 74,188 of the 95,732 people on ART by the end of 2018, reached price reductions of 66 and 44%, resulting in savings of up to $68 million USD in 2019.



[Figure. Annual costs of ART and PLWH on ART in Mexico's Ministry of Health between 2013-2018]

CONCLUSIONS/NEXT STEPS: These strategies allowed a 68% increase in the number of people on ART between 2013-2018, while the expenditure only increased by 29%, generating savings of up to $125.4 million USD and contributing greatly to the sustainability of the universal access to ART program.

OAE0604

MAKING ARV MEDICINES AFFORDABLE: COMMUNITY ADVOCACY GOOD PRACTICE ON REDUCING ARV PRICE IN INDONESIA

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BACKGROUND: Indonesia has an increasing HIV rate. Fueled by stigma and discrimination against the AIDS-affected population, the number of people living with human immunodeficiency virus (PLHIV) in the country is among the highest in the region. According to a government survey, roughly 640,000 people are living with HIV in Indonesia, with only 124,813 (19.49 percent) of them undergoing crucial antiretroviral (ARV) treatment. The country has the lowest antiretroviral therapy (ART) coverage in the region. Since 2004, ARV treatment has been given for free since the government provided full subsidies for ARV medicine procurement. However, due to the inefficiency of the procurement system, the price of ARV medicines procured by the government is among the highest in the world.

DESCRIPTION: A rational price structure analysis was developed in 2016, supported by many partners both nationally and internationally, to assess the cause of this exorbitant price as well as to recalculate the rational price. These findings, which was compiled into a briefing paper, was circulated widely to stakeholders. Several press conferences also were conducted to raise awareness on this issue to a broader society.

LESSONS LEARNED: During the MoH meeting in November 2019, it was decided that GoI will procure the ARV TLE by price of IDR 210.000 (UDS 15) per bottle. This price is 48% lower than the usual price. With total of 48.981 PLHIV consuming these packed regimens, the government will have an estimated IDR 114 billion of saving, which is roughly USD 8 million per year. This savings will be able to add 45.482 PLHIV on treatment, using the same regimen.

CONCLUSIONS/NEXT STEPS: The price reduction that resulted from the patient group's advocacy efforts by using price structure analysis is a certifiable success. This bold action should trigger more government measures to lower other ARV regimens' prices. This could be replicated with other medicines as well. IAC plan to replicate this success to analyse other medicines to ensure that medicines price for HIV and Tb cheaper thus can expand access to more people who need it.

OAE0605

INTRODUCING RESULT BASED FINANCING (RBF) MODEL TO SCALE UP OPIOID SUBSTITUTION THERAPY (OST) IN UKRAINE

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BACKGROUND: Ukraine is implementing OST using methadone and buprenorphine since 2008 however, scale up and achieving national target for OST has been a challenge due to legal barriers and lack of motivation from the HCFs. Currently, only 4.2% of estimated PWID receives OST in Ukraine. Financial mechanism introduced under the health care reform in 2016 was an appropriate opportunity to introduce RBF model in order to scale up OST target in the country.

DESCRIPTION: RBF model within OST services is implemented under the modalities of direct contracting with 3 health care facilities and it aimed to improve access to OST for PWIDs by ensuring high quality services for clients; improve retention and introduce enhance monitoring mechanism for all OST services within new RBF model. Using incentivised monthly payments, simple billing system and direct contracting with the HCF for achieving target, has increased motivation of health care providers to scale up and improved retention in the program.

LESSONS LEARNED: 1038 OST patients were enrolled under the RBF service model from 2016 till 2019 in 3 different sites. The project selected 3 HCF sites similar to 3 RBF sites in terms of number of patients and the package of services provided. All results showed RBF-model indicators increased compared with HCF sites: patient's growth – by 16,4%, retention rate – by 24,1 %, number of patients on ART by 9,8%, retention rate of OST patients who received drugs within 7-10 days – by 17,5%.

Indicator	RBF model sites	Other HCFs	Difference between RBF model sites and Other HCFs
Number of patients as of 30.09.2016	751	660	
Number of patients as of 30.09.2019	1038	804	
Patient's enrollment growth	38,20%	21,80%	16,4%
Number of patients with HIV (as of 30.09.2019)	319	317	
Number of patients on ART (as of 30.09.2019)	316 (99,1%)	283 (89,3%)	9,8%
Percentage of OST patients who received drugs within 7-10 days (as of 30.09.2019)	711 (68,5%)	410 (51%)	17,5%
Retention rate of OST patients receiving treatment continuously for at least 6 months	74,10%	50,00%	24,1%

CONCLUSIONS/NEXT STEPS: While the payment for OST service provider is still under discussion and development of health care reform led by newly formed national health services, it is evident that a system of RBF method can be implemented within the government healthcare system of Ukraine. RBF is proven to improve attitudes of Head Doctors and representatives of oblast authorities towards acceptance and contributing to OST scale-up. RBF model should be implemented in all OST sites in Ukraine.

OAE0606

RESULTS FROM A PERFORMANCE-BASED FINANCING (PBF) PILOT TO INCENTIVIZE HIV CASE-FINDING AND VIRAL LOAD SAMPLE COLLECTION IN HAUT KATANGA IN THE DEMOCRATIC REPUBLIC OF THE CONGO (DRC)

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BACKGROUND: In a time of stagnating international HIV/AIDS financing and increasingly ambitious targets to enable ending AIDS as a public health threat by 2030, identifying cost-effective and efficient financing methods is critical to ensure value for money and achieve more with available resources. Through the USAID-funded Integrated HIV/AIDS Project (IHAP), PATH piloted a PBF mechanism to incentivize efficient HIV case-finding and increase viral load sample collection.

DESCRIPTION: In October 2018, IHAP introduced a PBF mechanism across 106 project-supported health facilities in Haut Katanga Province. Instead of receiving 100% of monthly stipends regardless of site-level achievement against monthly targets, under the PBF mechanism, 40% of providers' monthly stipends were paid based on site-level achievement against select indicators, including:

- Number of newly diagnosed people living with HIV (PLHIV).
- Number of viral load samples collected and transported to laboratories for analysis.

Programmatic data was used to compare facility achievement in HIV testing, new PLHIV identified, testing yield, and viral load sample collection between the pre-pilot period (October 2017 through September 2018) and the pilot period (October 2018 through September 2019).

LESSONS LEARNED: Programmatic data showed an improvement in targeted indicators with the introduction of PBF. Incentivizing identification of HIV-positive individuals resulted in more efficient HIV testing, with less individuals tested but more PLHIV identified during the pilot period, leading to an increase in testing yield from 4.1% during the pre-pilot period to 5.6% during the pilot period. There was also a 52% increase in the number of viral load samples collected by facilities during the pilot period.

Indicators	Pre-pilot period (October 2017—September 2018)		Pilot period (October 2018—September 2019)	
	Mean	Median (Interquartile range)	Mean	Median (Interquartile range)
Number of people tested	40,587	40,897 (37,602 – 43,571)	37,705	36,300 (35,104–40,306)
Number of new PLHIV identified	1,674	1,648 (1,382–1,967)	2,127	2,006 (1,646 – 2,608)
Testing yield	4%	4% (3%-5%)	5%	5% (4%–6%)
Number of viral load samples collected	3,521	3,505 (2,647–4,395)	5,363	5,441 (4,588–6,138)

CONCLUSIONS/NEXT STEPS: Our analysis shows an improvement in HIV case-finding and viral load sample collection between the pre-pilot and pilot periods, suggesting that PBF positively affected facility achievement in targeted programmatic areas. Based on these results, IHAP is continuing implementation of PBF with project-supported facilities to incentivize behaviors to support the DRC achieve epidemic control.

OAE07 PREP-ING FOR SUCCESS: ADAPTATIONS FOR IMPROVING PREP UPTAKE

OAE0702

LOW PROPORTION AND RETENTION RATES AMONG THAI MEN WHO HAVE SEX WITH MEN USING EVENT DRIVEN PREP

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BACKGROUND: Men who have sex with men (MSM) can take oral pre-exposure prophylaxis (PrEP) either daily or event-driven (ED) to prevent HIV acquisition. However, ED-PrEP, defined as PrEP initiated 2-24 hours in advance of sex, uptake in Thailand has been low. We compared characteristics and retention of daily and ED-PrEP clients to profile the clients and their respective retention to PrEP.

METHODS: Data from June 2018 – June 2019 were analysed from Thailand's Princess PrEP program, which is implemented in 8 community based clinics. All MSM clients were offered the choice between ED and daily PrEP. Retention was determined at 1, 3 and 6 months after initiation. Effective use was defined as taking ED-PrEP as instructed, or taking more than 4 pills per week for daily PrEP.

RESULTS: 2,655 MSM clients initiated PrEP, 2,516 (94.8%) daily, 139 (5.2%) ED-PrEP. Median age was 30 years (IQR 25-35), 93.6% reported inconsistent condom use, 61.8% reported using any drugs including alcohol during sex. Reasons for choosing daily PrEP included: frequent sexual intercourse (36.6%), and not being able to predict or delay sexual intercourse (43.5%). Reasons for choosing ED-PrEP included: infrequent sexual intercourse (49.4%), being able to predict or delay sexual intercourse (32.8%), unwilling to take pills everyday (9.8%), and worried about side effects of daily PrEP (4.6%). Retention at Month 1, 3 and 6 was 31.6%, 35.2%, and 38.4%, respectively, for daily PrEP and 18.7%, 22.3%, and 23.7%, respectively, for ED-PrEP ($p<0.001$). During 3,830 daily PrEP visits, 1.5% reported taking < 4 pills/week, among them 0.6% reported inconsistent condom use. During 190 ED-PrEP visits, 5.3% reported taking ED-PrEP incorrectly during their sexual encounters, and 5.3% also reported condomless sex during those periods.

CONCLUSIONS: Low proportions of clients choose ED-PrEP and significantly lower retention rates compared to daily PrEP were observed. Clients who engage in condomless sex while incorrectly taking ED-PrEP should have counselled to understand potential risks. ED-PrEP knowledge distribution, emphasising retention and adherence, should occur concurrently with daily PrEP promotion as an alternative. Strategies such as technology-assisted pill reminder notifications should be explored to further facilitate ED-PrEP roll-out.

OAE0703

PREPTECH - INTEGRATION OF AN ON- AND OFF-LINE HOLISTIC PREP SOLUTION FOR YOUTH

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BACKGROUND: In the United States, young men who have sex with men (YMSM) and transgender youth (TY) of color represent a high number of new HIV diagnoses annually. HIV pre-exposure prophylaxis (PrEP) is effective and acceptable to YMSM and TY of color; yet, PrEP uptake is low in those communities because of barriers including stigma, cost, adherence concerns, and medical distrust. PrEPTECH, a telehealth-based approach to PrEP initiation, may be a solution to those barriers.

DESCRIPTION: To pilot PrEPTECH, we enrolled 25 HIV-uninfected YMSM, aged 18–25 years, from San Francisco into a 180-day longitudinal study between November 2016 and May 2017. Participants received cost-free PrEP services through telehealth [i.e. telemedicine visits, home delivery of Truvada, and STI testing kits], except for 2 laboratory visits. Participants completed online survey assessments at 90 and 190 days querying PrEPTECH features and experiences, as well as PrEP adherence and stigma. The pilot demonstrated that PrEPTECH was confidential, fast, convenient, and easy to use, supporting participants to effectively access and maintain a PrEP regimen.

LESSONS LEARNED: Based on feedback from participants, we made several changes to the PrEPTECH platform to improve the user experience, and better reach key populations affected by HIV. We added an online pharmacy for PrEP distribution, in-home STI/HIV testing, and a telehealth platform to conveniently connect users to a PrEP provider. We also expanded the eligible participant definition to include TY [including but not limited to transgender men, transgender women, and gender non-conforming individuals], as well as increase the eligible age range to 15 through 27.

CONCLUSIONS/NEXT STEPS: Telehealth programs such as PrEPTECH can increase PrEP access for YMSM and TY of color by eliminating barriers inherent in traditional clinic-based models, support quick and convenient PrEP initiation, and transition users to a sustainable PrEP provider. Given promising pilot study findings, we are launching a multi-site randomized controlled trial to test the efficacy of PrEPTECH in enhancing PrEP uptake by comparing it to a knowledge-focused online website. We are also exploring opportunities to launch PrEPTECH in other countries most affected by HIV, including South Africa and India.

OAE0704

MONITORING CHARACTERISTICS OF EPISODIC HIV PRE-EXPOSURE PROPHYLAXIS (PREP) USE AMONG OVER 40,000 CLIENTS IN SUB-SAHARAN AFRICAN COUNTRIES PRESCRIBED DAILY ORAL PREP: INDEFINITE, CONTINUOUS USE NEITHER THE REALITY NOR THE GOAL

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BACKGROUND: Substantial drop-off rates of oral pre-exposure prophylaxis (PrEP) use within the first year are reported by many programs, which may be misconstrued as program failure. However, PrEP use may be non-continuous and still effective, since HIV risk fluctuates. Real-world PrEP use phenomena, like restarting and cyclical use, and the temporal characteristics of these use patterns are not well described.

METHODS: We analyzed demographic and clinical data routinely collected during client visits. A >14-day delay in returning for refill was defined as PrEP discontinuation. Clients resuming PrEP after discontinuation were deemed a restart. The initial start and subsequent restart(s) of PrEP defined the beginning of independent use cycle(s), with each continuing for as long as refills were obtained without delay. Using prescriptions as a proxy for actual use, we characterized duration on/off PrEP, and modeled the likelihood of spending time (in months) off PrEP using ordinal regression.

RESULTS: Through May 2019, Jhpiego-supported PrEP programs in Kenya, Lesotho, and Tanzania initiated 41,459 clients on a daily dosing (not event-driven) PrEP regimen. Among these, 10,809 (26.1%) discontinued and subsequently restarted PrEP at least once, with 20.7%, 27.5%, and 51.8% remaining off of PrEP for <30, 30-60, and 61+ days, respectively. The median days' duration of use for the first vs. subsequent use cycle(s) was 222 days. With each increase in cycle number, clients were 12.5% (11.1-14.8), 45.8%(26.4-60.1) and 24.1%(7.6-37.6) less likely to stay off PrEP for an extra month, in Kenya, Tanzania, and Lesotho programs, respectively. Females 15-24 yrs were 40.1% and 57.2% less likely to stay off PrEP for an extra month than the general population in Kenya and Lesotho, respectively.

CONCLUSIONS: PrEP users frequently cycle on and off PrEP, which may effectively protect them against HIV risk that is periodic. While duration of use didn't increase with cycle number, the duration spent off PrEP did decrease in all countries with subsequent use cycles, suggesting normalization of use with experience, particularly by young women. With the likely introduction of event-driven PrEP on the horizon, more nuanced measures of use are needed if successful use of PrEP is to be meaningfully distinguished from HIV treatment.

OAE0705

ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) AND FAMILY PLANNING (FP) INTEGRATION TO IMPROVE PREP CONTINUATION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) IN KENYA

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BACKGROUND: Despite steady progress in uptake among AGYW, PrEP continuation remains a significant challenge in Kenya, with majority of the new PrEP initiates discontinuing their PrEP use within the first month. This study analyses PrEP continuation outcomes among AGYW within the context of integrated PrEP and FP delivery.

DESCRIPTION: Jilinde, a four-year PrEP scale-up project in Kenya, delivers PrEP for AGYW in Migori County through twelve sites that include public and private health facilities, drop in centers and community safe spaces. Demand creation for PrEP is conducted by peer educators at the community and AGYW referred to the diverse service delivery points for uptake and follow-up monitoring. PrEP is provided as part of integrated services that includes pregnancy and HIV prevention interventions. PrEP and FP counselling and services are offered concomitantly by the same provider during the same session, while follow-up services are synchronized.

LESSONS LEARNED: Overall, 2662 AGYW initiated PrEP between May 2017 to November 2019, of these 991 (37%) revisited at month-one. Further, there was an upward increase of FP uptake from 53 PrEP clients in 2017 to 618 in 2019, contributed by increasing PrEP uptake. Although continuation remained a consistent challenge, Jilinde observed slightly better month-one continuation rates among AGYW who concurrently initiated both PrEP and FP (39.4%), compared to AGYW who only initiated PrEP (36.2%). Routine service delivery data from Jilinde elucidates that AGYW using FP, compared to those who don't, have lower odds of discontinuation at month 1 (OR 0.71(0.53-0.93), (p=0.01) and similarly lower odds at month 3 (OR 0.55 (0.30-0.98), (p=0.04). This suggests that delivering PrEP combined with FP to AGYW might be working synergistically to improve persistence for both interventions.

CONCLUSIONS/NEXT STEPS: AGYW demonstrate an appetite for PrEP, but struggle with persistence. When PrEP is paired with FP, there is promise for better persistence compared to PrEP offered alone. These findings suggest that pairing biomedical HIV prevention interventions such as PrEP with sexual and reproductive health services has the potential to optimize continuation outcomes, but warrants further investigation.

OAE0706

THE USE OF COMMUNITY-BASED APPROACH AND TELEMEDICINE AS AN ALTERNATIVE OPTION IN PROVIDING HIV PRE-EXPOSURE PROPHYLAXIS IN THE PHILIPPINES

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BACKGROUND: The World Health Organization recommended the use of PrEP in addition to other prevention methods may be an option to halt and reverse the HIV epidemic in the Philippines. However, roll-out efforts and scaling up PrEP use remains low because of various barriers. This results in very few facilities offering PrEP. Learning from the experiences from its demonstration project, LoveYourself, in this project, aims to offer PrEP in various locations in the country through an alternative method of service delivery: community-based approach and telemedicine.

DESCRIPTION: LoveYourself has partnered with Hi-Precision Diagnostics, a medical diagnostics facility with over 50 branches all over the Philippines, in order to provide other access points of all the diagnostic tests needed in order to access PrEP. A client goes to a Hi-Precision facility, and access tests for HIV, Hepatitis B, Syphilis, and serum creatinine. Once done, the results will be sent directly to LoveYourself. LoveYourself then schedules a telemedicine session with the client in order to provide: a consultation with a physician, and PrEP coaching session with a trained LoveYourself volunteer. The coaching sessions include information about PrEP, such as uptake, adherence, and side-effects management. It also includes counseling for HIV, STI, and sexual health management. After the session, the PrEP is delivered to the client via courier, with options for both door-to-door delivery and pick-up at delivery points.

LESSONS LEARNED: The partnership of LoveYourself and Hi-Precision effectively adds over 50 access points of PrEP in the Philippines. About 14.1% of people who expressed interest to obtain PrEP via LoveYourself channels have expressed to get it via this process. The clients who have accessed this process have also provided their feedback on how to further improve this process. This process has also provided ways for people who want to access PrEP conveniently, especially to some clients who prefer to access PrEP discreetly.

CONCLUSIONS/NEXT STEPS: While the project aims to effectively offer multiple access points for PrEP in the Philippines, this process has also provided a new avenue for the community to access PrEP in a convenient way. Futher promotions are needed to make more people aware of this process.

OAE08 TAKE THE WHEEL: COMMUNITIES IN THE DRIVING SEAT OF HIV SERVICE DELIVERY

OAE0802

LEADING FROM THE COMMUNITY: HOW KEY POPULATION ORGANIZATIONS IN VIETNAM TRANSFORMED FROM PEER SUPPORT GROUPS TO CLINICAL SERVICE PROVIDERS

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BACKGROUND: Reaching the last mile to achieve 95-95-95 and the goal of ending AIDS by 2030 requires breakthrough approaches. Key population (KP) leaders, government authorities and US-

AID/PATH Healthy Markets (HM) partnered to pilot and scale up KP–led HIV services as an critical way to increase reach and service uptake in Vietnam.

DESCRIPTION: Four key steps were employed to introduce and scale-up KP-led HIV services in Vietnam from late 2015 onward:
1) KP community-based organizations (CBOs) were enabled for the first time to pilot and then scale HIV lay and self-testing;
2) KP delivery of assisted partner notification services;
3) registration of first-ever KP owned and led clinics offering HIV and other health services; and
4) launching PrEP services.
The scope of KP-led HIV services expanded along with the transformation of KP groups from self-help groups to CBOs and social enterprises. In parallel, HM advocated for policy change by engaging the Ministry of Health (MOH) to endorse pilots, develop national guidelines, and amending regulations to facilitate nationwide scale-up.

LESSONS LEARNED: KP-led lay HIV testing reached first-time and infrequent testers and yielded high HIV-positive results. From Dec 2015 to Sept 2019, HM tested 124,285 clients through lay testing, 11,450 clients through self-testing, and 15,961 sexual and injecting partners through index testing, with HIV-positivity rates of 4.6%, 6%, and 9.2%, and antiretroviral therapy initiation of 94.8%, 94.1%, and 99.4%, respectively. KPs preferred PrEP services delivered by KP-led organizations. Among 3,631 PrEP users from Mar 2017 to Sept 2019, KP-led private clinics enrolled the majority of the users (81.4%). Promising pilot results served as a powerful tool for policy advocacy. As a result, Vietnam MOH approved national guidelines and nationwide scale-up plans for community HIV testing in 33 provinces and PrEP in 26 provinces out of 63 province of the country.

CONCLUSIONS/NEXT STEPS: KP-led HIV services are feasible, acceptable, and preferable by KPs and are therefore a critical addition to accelerating attainment of 95-95-95 and ending AIDS goals in Vietnam. KP-led HIV services has now been integrated as an essential part of the national action plan and national ending AIDS by 2030 strategy.

OAE0803

SCALING UP A LAY COUNSELOR-DELIVERED TRANSDIAGNOSTIC MENTAL HEALTH INTERVENTION (CETA) TO IMPROVE THE HIV CARE CASCADE IN SOFALA, MOZAMBIQUE

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BACKGROUND: Evidence shows that common mental illnesses are associated with poor HIV treatment outcomes and that lay-counselor-delivered mental health therapies can improve symptoms of common mental illness among HIV+ patients in low- and middle-income countries (LMICs). Yet, few LMICs have scaled-up lay-counselor-delivered therapies for HIV+ patients, and few studies have shown that such therapies can improve the HIV care cascade. The present study examined the scale-up of a lay-counselor-delivered psychological therapy (CETA) delivered in routine HIV care and its effect on mental health symptoms and HIV care cascade outcomes in Mozambique.

DESCRIPTION: CETA was integrated into routine public HIV care in five high-flow urban facilities in Beira City, Sofala, Mozambique. Beginning in May 2019, all newly-diagnosed adult (18+) HIV+ patients were screened for common mental illness and those with clinically-significant symptoms were offered weekly individual psychological therapy sessions. Mental symptoms were tracked at each visit and HIV care cascade outcomes were collected for CETA patients and compared with facility averages.

LESSONS LEARNED: 59% (148/250) of newly-diagnosed HIV+ patients showed clinically-significant mental symptoms and 16% (20/127) had suicidal ideation. Mental health symptoms of CETA-enrolled patients decreased 56% after 4 sessions and 90% after 6 sessions; suicidal ideation decreased to 0% after 4 sessions. The combined rate of ART initiation among CETA participants was 98%. Among CETA patients attending 2 or more sessions, the ART initiation rate was 100%. One-month retention among CETA participants was 69%, compared to the combined one-month retention rate of 60% for all HIV+ patients (those offered CETA + those not offered CETA). Three-month retention among CETA patients was 83%, compared to 64% among all HIV+ patients.

CONCLUSIONS/NEXT STEPS: Over 50% of newly-diagnosed HIV+ patients in Mozambique suffer from clinically-significant mental health symptoms and over 15% experience suicidal ideation. After 4 CETA sessions, mental health symptoms decreased over 50% and suicidal ideation decreased 100%. Compared to all HIV+ patients, CETA-enrolled patients had 9% higher one-month retention in HIV care (69%) and 19% higher three-month HIV retention (83%). CETA is a promising approach to reduce symptoms of common mental illness among HIV+ patients and improve HIV care cascade outcomes in areas with high HIV prevalence.

OAE0804

NURSE PRACTITIONER-LED MDR-TB/HIV TREATMENT MAY OFFER A SAFE APPROACH TO IMPROVE ACCESS TO CARE: RESULTS FROM A LONGITUDINAL COHORT IN KWA ZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Tuberculosis (TB) remains the leading cause of death among people living with HIV, with multidrug resistant (MDR) TB worsening outcomes. Delays in linkage to treatment and availability of a competent clinician are contributing factors. Nurse-led models are proven effective in both TB and HIV programs, yet evidence of safety and treatment outcomes are limited in MDR-TB/HIV populations.

METHODS: We evaluated a longitudinal cohort treated by clinical nurse practitioners (CNPs) between 2016 and 2018 from two MDR-TB outpatient clinics in Kwa Zulu-Natal, South Africa. The cohort was nested within a cluster randomized trial evaluating case management for MDR-TB patients. The CNPs were experienced in HIV management before hire and received a nationally accredited,

one-week, MDR-TB training plus a one-month supervised treatment period. After training, medical officers were available for consultation and referral, but did not complete routine audits. A standardized, five-drug, weight-based, MDR-TB regimen was utilized per South African guidelines. Descriptive and univariate statistics were used to compare treatment success to a composite negative outcome (loss to follow-up, death or treatment failure).

RESULTS: CNPs treated 120 (22%) of the 546 participants enrolled at the two sites. These participants were male (55.8%) with a median age of 35.3 years (IQR: 28.9-42.1) and a median BMI of 20.1 (IQR 17.9-23.0). The majority were living with HIV (75.8%) with a median CD4 count of 233 (IQR=111.5-409), with 55% on ART at baseline. MDR-TB treatment success occurred in 70% of CNP (84/120) patients. A negative outcome was associated with being: male (41.8% vs 15.4%, p=0.002); older (39.6 years vs 33.2 years, p=0.003); and having a lower BMI (18.8 vs 20.8, p=0.004). HIV status did not significantly impact outcome. A drug-by-drug prescription review demonstrated excellent guideline adherence. A single drug was documented to be under the recommended dose in 49/1200 (4.1%) prescriptions and only one patient had a single drug (<1%) prescribed over the recommended dosing.

CONCLUSIONS: Treatment success in this cohort was better than both South African and WHO estimates for the same period. CNP adherence to weight-based dosing was high. CNP-led treatment programs may offer a safe approach to improve access to care without compromising outcomes.

OAE0805

NURSES AND OUTREACH WORKERS ARE IMPORTANT BUT UNDERVALUED CARE PROVIDERS IN HIV CARE AND HARM REDUCTION PROGRAMS IN KAZAKHSTAN

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BACKGROUND: In Kazakhstan nurses and outreach workers in primary health care are one of the largest providers of HIV services and harm reduction programs to key populations. For this NIDA-funded Implementation research study (Bridge), we examined syringe exchange program (SEP) workers' roles in HIV care, job climate, level of job demands and satisfaction, training needs, and ability to perform their job on HIV care in SEPs.

METHODS: Structured surveys were conducted with 24 nurses and 44 outreach workers (OW) employed in 24 trust points - SEPs in 4 cities of Kazakhstan: Almaty (n=25), Shymkent (n=21), Karaganda (n=12), Temirtau (n=10). Surveys included sociodemographics, organizational readiness to change assessment (ORCA) RAPHIS and TCU Survey of Organizational Functioning. Descriptive analyses were conducted and data was collected using a tablet assigned to respondents.

RESULTS: Results indicate that the major motivation to work was to help people who use drugs (80.88%); however, 32.84% felt like they weren't making any differences and 19.41% felt organizational structure and procedures at work were a barrier. Respondents complained on limited resources: lack of computers (58.21%), human resources (28.36%), inadequate office and supplies (35.82%), staff turnover (31.35%). Participants expressed a tremendous need for training in assessing clients' needs (67.16%), increasing clients' participation in treatment (77.61%), and improving rapport with clients (62.68%). Respondents perceived they were not efficient enough due to security (22.39%), too slow in making changes (34.33%), stress and strain (23.89%), pressure (29.85%) and heavy workload (32.83%) that reduces program effectiveness.

CONCLUSIONS: In order to improve HIV testing and treatment cascade among PWID, nurses and outreach workers in SEPs need to be engaged in HIV linkage to care and treatment adherence services. There are two main issues they face at the trust points: organizational and individual. Staff reported that they are undervalued for their demanding and important job, underpaid, experience lack of training on how to work with PWID living with HIV, rapid HIV testing, linkage to care and HIV treatment. Additional training on HIV care, institutional changes and better funding will improve nurses and outreach workers level of job satisfaction and decrease job demands and improve treatment outcomes among PWID.

OAE0806

INFORMAL PROVIDERS CAN INCREASE UPTAKE OF HIV TESTING AMONG ADULTS OF UNKNOWN SEROSTATUS: RESULTS FROM A CLUSTER RANDOMIZED PILOT STUDY IN SOUTHWESTERN UGANDA

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BACKGROUND: Human immunodeficiency virus (HIV) infection and transmission continue unabated, despite biomedical advances in prevention, diagnosis, and treatment. In low resource settings, such as rural Uganda, a major barrier to epidemic control is poor engagement with HIV testing. Lack of HIV testing uptake has been attributed to frequent use of informal healthcare providers, such as traditional healers, who do not routinely discuss or offer HIV testing.

METHODS: We conducted a cluster randomized trial in southwestern Uganda in August 2019-January 2020. Traditional healers were randomized to offer point-of-care HIV testing (Oraquick©) with pre- and post-test counseling (n = 9 clusters) versus protocolized usual care (n = 8 clusters). Usual care entailed offering HIV education with referral to existing clinic-based testing services. Adults receiving care from participating healers were eligible for participation if sexually active and reported not receiving an HIV test within the prior 12 months. The primary outcome was receipt of an HIV test within 90 days of study enrollment. We conducted qualitative interviews with key informants at 90 days follow-up to gather contextual information regarding outcomes.

RESULTS: 433 participants were enrolled (intervention = 250, control = 183). Participant age, income and gender were similar among study arms. HIV testing was received significantly more often among participants treated by traditional healers randomized to the intervention group (100% vs 17%, adjusted risk ratio 5.90, 95% CI 4.3-8.1, p<0.01).

Ten (4%) participants in the intervention arm were newly diagnosed as HIV-infected, compared to no participants in the control arm (p=0.02). Four of these 10 HIV-positive participants linked to HIV care within 90 days of enrollment. Intervention participants

described the testing program as highly acceptable. Participants in the control arm reported lack of funds and time to travel to the biomedical clinic as primary barriers to HIV testing.

CONCLUSIONS: Informal providers, such as traditional healers, can effectively increase uptake of HIV testing in endemic regions. Our novel approach holds promise to identify HIV-infected adults in communities where conventional biomedical outreach has limited impact. Further work is needed to understand low rates of linkage to care among newly diagnosed HIV-infected participants.

OAF01 DEMYSTIFYING DATA: METHODOLOGIES AND MONITORING FOR EVIDENCE-BASED APPROACHES

OAF0102

MAINTAINING EPIDEMIC CONTROL IN NAMIBIA: DESIGNING THE OPTIMAL PACKAGE. LESSONS FROM ACS SUPPORT TO THE NAMIBIAN GOVERNMENT

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BACKGROUND: Namibia has achieved 94% of people living with HIV knowing their status, 96% of those HIV-positive persons were on ART and 95% of those have achieved viral suppression (by 2019). The Namibian Government wanted to develop a priority package of services for epidemic control, the process was driven by the reducing donor funding.

DESCRIPTION: From August to December 2019, the African Collaborative for Health Financing Solutions' (ACS) supported the Ministry of Health to work through the 10-step process suggested by Glassman et al (2016) to devise a package of HIV/AIDS services for epidemic control. Semi-structured interviews were conducted with 40 stakeholders critical to the HIV/AIDS response in Namibia to map existing HIV/AIDS-related interventions and identify the services needed to maintain epidemic control. Through a very collaborative process, ACS facilitated the agreement of the goal of the package of services, the definition of selection criteria, the shaping of package options based on the country epidemiological profile, and the determination of priority services.

LESSONS LEARNED: By the end of the process, we identified that:

1) A political economy analysis is critical to understand the role of all stakeholders involved in HIV/AIDS interventions to ensure a balanced consensus on the priority services.

2) Openness and regular communication among civil society, academia, government agencies and development partners were the critical catalyzers of the process.

3) Clarification and country-specific adaptation of the terminologies (such as epidemic control, fast tracking, critical vs noncritical) is essential at the outset of the process given the sensitivity regarding the Namibian context.

4) The engagement of local political networks and technical stakeholders from the beginning was instrumental to mobilize necessary resources to sustain the prioritization process.

CONCLUSIONS/NEXT STEPS: An inclusive stakeholders' engagement not only provides sound knowledge, critical thinking and hand-on-experience, but it serves as a vital ingredient to secure country ownership and therefore improving sustainability. As Namibia is one of the pioneers in developing an HIV epidemic-maintenance package, the lessons learned on its experience, especially those related to the drivers of an effective process, should be of inspiration for countries that have similar context or want to go through similar approach.

OAF0103

PROGRAMS SHAPING POLICIES: HOW PARTNERSHIPS AND PROGRAM DATA WERE USED TO TRANSFORM THE POLICY ENVIRONMENT FOR KEY POPULATIONS

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BACKGROUND: Since 2014, the USAID/PEPFAR-supported LINKAGES project led by FHI 360 has delivered HIV services to key populations (KPs)—female sex workers, men who have sex with men, people who inject drugs, and transgender people—in more than 30 countries. Throughout the project, LINKAGES forged partnerships and used program data to advocate for policy changes that increase KPs' access to HIV services.

DESCRIPTION: LINKAGES was characterized by strategic partnerships with host-country governments and funders, a focus on KP community-led services, and the use of data to understand and improve program performance. This approach created meaningful opportunities for KP members to have their voices heard, and for project staff and local partners to advocate with government stakeholders and country representatives from Global Fund and PEPFAR for supportive policies to engage KPs in services across the cascade.

LESSONS LEARNED: LINKAGES contributed to enabling policy environments in 22 countries. In each, LINKAGES facilitated updates to national HIV and/or STI policies and guidelines to better address the needs of, and incorporate evidence-based recommendations for, KPs. In 20 countries, LINKAGES program data showing the effectiveness of interventions, including the enhanced peer outreach approach, HIV self-testing, index testing, and peer navigation, led to endorsement of these approaches in government strategies, PEPFAR country operational plans, or Global Fund grants. In 13 countries, LINKAGES removed policy barriers to KP service uptake. For example, in Botswana, Kenya, Malawi, and Lesotho, LINKAGES increased treatment initiation by gaining government approval for antiretroviral therapy provision at KP-led drop-in-centers. LINKAGES also influenced policy-level processes by forming national KP technical working groups (nine countries), strengthening national data systems to include KP-specific data (19 countries), and mobilizing domestic resources for KP services (six countries). In Angola, Botswana, and Malawi, LINKAGES contributed to successful KP decriminalization efforts.

CONCLUSIONS/NEXT STEPS: By leveraging the project's routine data, working closely with local decision-makers, and amplifying KP voices, LINKAGES contributed to policy environments that enabled successful HIV programming, including in criminalized settings. These policy changes not only resulted in immediate improvements in service uptake but are also likely to have a sustained impact on epidemic control efforts and KP individuals' quality of life.

OAF0104

GREATER INVOLVEMENT OF PEOPLE LIVING WITH HIV IN RESEARCH: THE EXPERIENCE OF THE REGIONAL STUDY ON VIOLENCE AND WOMEN LIVING WITH HIV IN LATIN AMERICA

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BACKGROUND: The Regional Study on Violence and Women Living with HIV (WLHIV) in Latin America carried out by ICW Latina, Hivos, Development Connections and Salamander Trust in 2018, followed the GIPA principle. We documented WLHIV participation using the following criteria: knowledge and skills used, skills development, autonomy of decision-making, and ownership.

DESCRIPTION: 1) Design and preparation of the Study. The Study methodology and data collection tools were discussed with ICW Latina representatives from 15 countries in a regional meeting. Using their insights, concepts and operational definitions were revised including types of intimate partner relationships, partners' controlling behaviours and types of violence: emotional, economic, related to activism, perpetrated by State agents and organized crime.

2) Implementation. The representatives of ICW Latina in the 7 selected countries (Bolivia, Colombia, Dominican Republic, Guatemala, Honduras, Paraguay and Peru) participated in a five-week online course on research protocol and piloting the questionnaire. They coordinated the country study including: selecting and training the research team, budget management, interinstitutional planning for participants' recruitment, submitting the protocol to Ethical Committees (Dominican Republic, Guatemala), planning and supervising field work, and overseeing the adherence to ethical guidelines. The regional research team provided technical support throughout this phase.

LESSONS LEARNED: a) The involvement of 37 WLHIV ensured the quality of the study's, developed their skills for conducting research and strengthened interinstitutional alliances. The findings were used to design Regional Guidelines for Addressing Violence Against WLHIV; b) Fostering ownership led to a greater use of the findings for policy/program development, advocacy, and capacity building at country level. The study and guidelines are being disseminated through webinars, conferences, social media, websites, @bulletins. Advocacy materials and local adaptation of the regional guidelines were developed in Guatemala, and a proposal for capacity building in Paraguay; c) It is critical to include emotional support and referrals to services for the field researchers.

CONCLUSIONS/NEXT STEPS: Advocacy, dissemination and interinstitutional collaboration will continue aiming to translate the study into action. Activities will be integrated into the national plans of the 3-year (2019-2022) regional project ALEP coordinated by Hivos.

OAF0105

IS PRE-EXPOSURE PROPHYLAXIS SUITABLE FOR FILIPINO CIS-WOMEN? A REVIEW OF LITERATURE, POLICIES, AND CLINICAL GUIDELINES TO INTRODUCE PREP AS A REPRODUCTIVE HEALTH SERVICE FOR CIS-WOMEN IN THE PHILIPPINES

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BACKGROUND: There has been a focus on HIV prevention for men who have sex with men (MSM) and transgender women (TGW) in the Philippines notwithstanding the three-fold increase in new infection among cis-women in the past 5 years. Among all the cis-women cases, 90% are of reproductive-age upon diagnosis. Cis-women are less likely considered for HIV prevention measures considering that present epidemiologic data reflect TGW and MSM as priority populations for HIV and AIDS interventions. Thus, prevention opportunities for cis-women are limited. The objective of this study was to appraise policies and guidelines that would provide more options for prevention for cis-women.

METHODS: The legal and medical framework for reproductive health services cis-women was appraised through law and policy review and medical literature search to determine availability and accessibility to PrEP for Filipino cis-women.

RESULTS: Only the Reproductive Health Act of 2012 and HIV/AIDS Policy of 2018 ensure HIV-prevention services. Among currently available RH services, only screening and male-condoms function as HIV prevention. Surveys done among sexually active, reproductive-aged, unmarried cis-women consistently show majority (52-62%) knew that male-condoms decrease HIV-transmission yet there is low-uptake (3-9%). 62-72% of female sex workers (FSW) do not use male-condom due to partner objection. Aside from FSW to whom HIV screening is encouraged, studies show low uptake of HIV screening among cis-women (3%). Neither PrEP nor PEP is included in the local STI guidelines for pregnant women. These are consistent with one systematic review of literature on HIV prevention strategies in Filipino cis-women which revealed fixation of literature to no other biomedical strategy but male-condom usage.

CONCLUSIONS: A concentrated epidemic may lead to lapses in service delivery, neglecting those who are not considered high-risk. Given acceptable knowledge yet low uptake of male-condom and HIV screening demands further studies to analyze this disparity and efforts to increase the uptake. In addition, the inclusion of PrEP as another option is both promising and empowering. Although WHO recommendation suggests PrEP provision among high-risk groups, it also emphasized provision to those who desire it. Its integration into RH-service may ensure government-stewardship, financial-sustainability, and access through the community-based service delivery model.

OAF0106

HARMONIZATION OF THE LEGAL ENVIRONMENT ON ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS IN EAST AND SOUTHERN AFRICA

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BACKGROUND: The aim of the study commissioned by UNFPA and condcuted by the University of Pretoria was to assess the progress in laws, policies and other related sources that directly or indirectly either impede or enable ASRHR. The study measures the legal provisions of the East and Southern Africa countries against the international, continental and regional treaties and commitments.

METHODS: The legal review was conducted through a detailed perusal of various laws and policies in 23 ESA countries, as well as through the study of other sources that set out the legal environment for ASRHR in the relevant countries. The legislative and policy provisions that impact on ASRHR are varied and the desktop review identified 10 themes of relevant laws and policies to guide the assessment.

RESULTS: The study captured a number of relevant findings negatively impacting on ASRHR. To mention a few:

- All ESA countries do not have clear provisions that set the minimum age of consent to sexual activity in legislation.
- All 23 countries have set ages of consent to marriage. However, there is disharmony between the legislative provisions and the international standards; and between statutory and customary law provisions.
- The ages of consent to access HIV services are in the majority of the countries not provided for in laws; in some countries, however, the ages are provided for in policies.
- Sexual diversity is not recognized in the majority of the ESA countries and this is evident from legislative provisions that still criminalize sexual activity between men (variously referred to as acts against the order of nature, or unnatural acts).
- Although the majority of the ESA countries have provisions in their diverse policies indicating that CSE is key and should be implemented, only a handful appear to have CSE curricula in schools aligned to the international standards.

CONCLUSIONS: A particular challenge in the region is the coexistence of customary law, religious law and civil law. The harmonization of provisions directly influencing ASRHR must ensure that contradictions between laws and policies are removed, and that the amended law is infused with the rights-based approach evident in the many of the policies.

OAF02: EQUAL BEFORE THE LAW: EFFECTIVE STRATEGIES TO PROTECT HUMAN RIGHTS

OAF0202

PROGRESS TOWARDS 90-90-90 TARGETS IN CANADIAN CORRECTIONAL FACILITIES, 2019

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BACKGROUND: In support of global targets established by the Joint United Nations Programme on HIV/AIDS (UNAIDS), Correctional Service of Canada (CSC) has compiled 90-90-90 estimates for the federal inmate population for 2019.

METHODS: Federal inmates are offered voluntary HIV testing on admission and throughout incarceration. Data collected from CSC's enhanced surveillance system were analyzed to estimate the proportion of inmates in federal custody as of December 2019 that were aware of their HIV status, on treatment, and virally suppressed (< 250 copies/ml). Results were stratified by Indigenous status and gender.

RESULTS: In 2019, the HIV prevalence amongst federal inmates was estimated to be 0.95%, and 88% of inmates were aware of their status. Overall, ninety-eight percent were on treatment and of those, 93% had achieved viral suppression. The majority of inmates (84%) living with HIV were diagnosed in the community prior to incarceration. Over one-quarter of inmates living with HIV (28%) were diagnosed within the past 5 years.

Indigenous persons and women account for a disproportionately high number of HIV cases. Eleven percent of inmates living with HIV were women, and half (50%) self-identified as Indigenous.

These subgroups account for 5% and 30% of the overall inmate population respectively.

Ninety-two percent of Indigenous inmates and 94% of women offenders were aware of their status. All Indigenous inmates known to be living with HIV were on treatment (100%) and 92% had achieved viral suppression. Of the female inmates known to be living with HIV, 92% were on treatment and 87% had achieved viral suppression.

CONCLUSIONS: This analysis shows that a high proportion of inmates with HIV are on treatment and have achieved viral suppression. Almost 90% of inmates were aware of their HIV status. Women offenders and inmates of Indigenous ancestry were disproportionately affected by HIV. CSC is committed to continuing to monitor these indicators and working towards increasing testing uptake in order to achieve the UNAIDS 90-90-90 targets for the federal inmate population.

OAF0203

SUPPORTING THE JUDICIAL RESPONSE TO HIV AND TB IN AFRICA: THE AFRICA REGIONAL JUDGES' FORUM

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BACKGROUND: Building on the work of the Global Commission on HIV and the Law, UNDP Regional Service Centre for Africa (UNDP RSCA) initiated regional work to address HIV- and TB-related legal

barriers. The Africa Regional Judges' Forum, now in its sixth year, is a response to judges' requests for capacity building on issues surrounding HIV, TB and the law across the region. Judges have full ownership of fora proceedings, while UNDP RSCA acts as its Secretariat, providing technical and financial support.

DESCRIPTION: The forum convenes judges and magistrates representing 16 sub-Saharan countries to share successes, challenges, and advancements in human-rights based responses to HIV and TB. The goal is to support a new generation of judicial leaders able to preside over legal cases relating to HIV, TB, and human rights. Medical experts, scientists, civil society, representatives of key populations, TB survivors, and other community groups are invited to participate in the fora to maximise understanding of the issues being discussed. An evaluation was recently conducted comprising a review of relevant documents and key informant interviews with stakeholders including participating judges, UNDP staff and consultants.

LESSONS LEARNED: Judges are uniquely positioned to ensure that law is used appropriately in HIV responses. The forum acts as a safe space for peer discussion among judges, for judges to learn directly from key populations about the impact of the law on their lives, and for discussing the latest advancements in science and medicine. Cases addressing exclusion and inequalities, human rights and HIV/TB are shared to promote cross-country learning. Recently, Kenyan judges who participated ruled that the overbroad criminalization of HIV transmission was unconstitutional and that the imprisonment of patients with TB was unlawful and beyond the parameters of public health legislation, and Botswanan judges ruled on the need to provide HIV treatment to foreign prisoners with HIV.

CONCLUSIONS/NEXT STEPS: The sustained demand from the judges for the continuation of this forum demonstrates its relevance and acceptability for bringing HIV science and lived experience into the legal sphere. This is a replicable model for cultivating regional, cross-country knowledge transfers through engendering peer-to-peer collaboration, thereby supporting positive change in HIV-related legal environments.

OAF0204

INVOLVEMENT OF LAW ENFORCEMENT AGENCIES IN RESPONDING TO GBV AGAINST LGBTI PEOPLE AND IN REDUCING THEIR VULNERABILITY FOR BETTER ACCESS TO HEALTHCARE FOR KEY POPULATIONS IN THE CITY OF DOUALA

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BACKGROUND: In 2018, a national report indicated 1,134 cases of violence and violations of rights against LGBTI people in Cameroon, an increasing number. The impunity that surrounds this violence has the effect of legitimizing it, and of creating a psychosis among the victims, as well as consequences for their physical and mental health. Alternatives Cameroon decided to work with law enforcement forces to better respond to cases of violence against LGBTI people, and to reduce their vulnerability.

DESCRIPTION: We started by listing some cases of documented violence which did not receive any response. We targeted two police stations in which we had already sensitized the officers during the workshops on human rights and HIV. Then we went to the commissioners of these establishments to submit these cases to them and organize a response. They provided us with inspectors who coached our clients on how to file a complaint, avoiding the use of words which could incriminate them, and then they recorded the complaints, thus allowing the opening of legal proceedings.

LESSONS LEARNED: The collaboration with the police has allowed some of our beneficiaries to have the courage to file a complaint, and better still, to succeed, which strengthens their courage to resort to the police. in the event of violence against them. On the other hand, we were able to team up with fifteen police and gendarmes for the management of future cases of violence. The latter recently referred us to an MSM who was brought into their services. We tested positive for HIV and put him in care.

CONCLUSIONS/NEXT STEPS: In a win-win logic, we have successfully offered to the police forces with whom we collaborate, to often visit their posts to carry out HIV testing campaigns in their favor and in favor of those who may be detained there. . In return, we can always count on these police forces to accompany us in certain night activities, in order to ensure our safety and that of the beneficiaries. We also intend to involve them in a collective complaint procedure in favor of victims of violence without any procedure having been initiated.

OAF0205

THE BATTLE OF DEFEATING HIV STIGMA AND DISCRIMINATION CONTINUES: LESSONS FROM THE SOUTH AFRICAN HUMAN RIGHTS COMMISSION'S USE OF LITIGATION STRATEGY IN THE PROTECTION OF HUMAN RIGHTS

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BACKGROUND: According to Statistics South Africa (Stats SA) 2019, approximately 7,97 million people are HIV positive. Evidence is overwhelming on the importance, impact on society, link to systemic discrimination on the grounds of positive HIV status, clearly stringent measures need to be taken to ensure that HIV positive people are able to be productively employed and that their basic human rights are at all times respected. The South African Human Rights Commission (SAHRC) used the litigation strategy in challenges discriminatory practices and policies of the South African National Defence Force (SANDF) In respect of the right to equal treatment of HIV-positive individuals.

DESCRIPTION: In promoting the protection of human rights the SAHRC used the litigation strategy against the SANDF in the Western Cape High Court by seeking redress under the Promotion of Equality and Prevention of Unfair Discrimination Act 52 of 2002 in that a reservist was unfairly and unlawfully discriminated against on the basis of his HIV-positive status. The SANDF had failed to deploy the reservist on naval vessels on account of his status, contrary to its own policy in respect of members who are HIV positive. He complained to the SAHRC that the discrimination has been ongoing.

LESSONS LEARNED: Lessons were learned on how to use different strategies for using rights to impact on HIV stigma and discrimination, and to achieve social change. In order to achieve maximum success in advancing social change, litigation and other strategies can be used. The SAHRC successfully used the litigation strategy in combination with other strategies (i.e. public information; ad-

vice and assistance; and social mobilisation and advocacy), as empowered by its constitutional mandate, to secure redress and to enforce the protection of human rights.

CONCLUSIONS/NEXT STEPS: By litigating the SAHRC impacted on social change by holding government institutions accountable and in protecting the human dignity and right to equality of all who are or may be affected by HIV. The outcome of the litigation strategy found that the SANDF's implementation of its policies relating to HIV-positive members is inadequate. Accordingly, the court found that SANDF had unfairly, unlawfully and unjustifiably discriminated against the reservist.

OAF0206

SCALING UP PUBLIC HEALTH APPROACH TO LAW ENFORCEMENT TO REMOVE HUMAN RIGHTS-RELATED ABUSES AGAINST KEY POPULATIONS IN GHANA

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BACKGROUND: Police are a critical sector in determining the risk environment for HIV in most key affected populations (PAPs), especially Sex Workers, Men who Have Sex with Men; People who inject Drugs, and other marginalized communities. In the global response to HIV, the key importance of the police's role has been recognized. In most developing countries however, police continue to serve as barriers to effective HIV responses and their role in human rights violations against KAPs Targeted programs with the Ghana Police seeks to change most of these situations.

DESCRIPTION: A three prongs approach was adopted for this intervention:

Buy-in from the Police Hierarchy

In service training and sensitization for serving personnel

Pre-service training for recruits/students

LESSONS LEARNED: Three meetings with the top hierarchy of the Ghana Police Service were held to solicit their buy-in. These were: one on one with the Inspector-General of police and two separate meetings with the Police Management Board (POMAB).

Intense in-service sensitization meetings were held across 22 Global Fund Implementation Districts spread across 9 out of the 16 Political Regions. Topics treated in these sessions include Human Rights abuses, arrest procedures, SGBV, and the review of a video which highlights HR abuses. 100 master trainers from the Police Team including personnel who serve as UN trainers have also been sensitized to undertake step down trainings in the affected Regions across the country.

Curriculum drawing from the key sectors has been produced to serve as a textbook for all 7 police training institutions in Ghana to equip all personnel who would pass through them.

CONCLUSIONS/NEXT STEPS: It is expected that by the end of the 3-year program, 70% of those trained would become champions of the Public Health Approach to law enforcement, particularly in relation to protecting the rights of key populations. It is also expected that there is sustained change in Police policies, culture and practice with peer education (combined with law and policy reform) and increased partnerships with partners such as the Global Fund/WAPCAS and other key stakeholders to promote the Public Health Approach to Law Enforcement.

OAF03 LIVING IN THE SHADOW: STIGMA, SOCIAL JUSTICE AND SEXUAL VIOLENCE

OAF0302

EFFECT OF HOMOPHOBIC ATTACK TO ATTAINMENT OF 90-90-90 GOALS IN UGANDA: EXPERIENCES FROM TASO JINJA CLINIC

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BACKGROUND: In Uganda, the prevalence of HIV is 6.2% (UPHIA, 2017) and key populations are disproportionately affected. Men who have sex with Men HIV prevalence is double at 12.7% (Crane Survey 2017). MSM continue to face stigma and discrimination due to social, legal and policy environment. Cases of homophobic attack seem to be on resurgence after the repeal of anti homosexual act. We share experience of an attack on one MSM that is likely to affect the attainment of 90-90-90 targets at one of our centers of excellence offering HIV/AIDS services to key populations through the Deeper Engagement Grant (DEG).

DESCRIPTION: TASO began implementing the DEG project in June 2018. The goal of the project is universal access to health for all: Health and empowered LGBT communities. To reach the LGBT, the center uses the peer model, moonlight clinics to offer HTS and combination of other services, monthly adherence club meetings for HIV positive LGBT.

On 5th October 2019, the LBGT peer attached to TASO Jinja clinic was attacked and murdered in his residential room by un -known assailant. This murder left the entire LGBT community and health workers in fear. To mitigate the impact of loss, TASO organized a grief and bereavement counseling session for close peers to the deceased. Staff and peers were trained on security and safety.

LESSONS LEARNED: By November 2019, TASO Jinja clinic had registered 388 LGBT, 231 were reached with HIV Testing Services, 17 diagnosed positive, and 14 were initiated on ART. After the attack, 2 HIV positive LGBT were relocated, 02 who were on intensive adherence counseling due to high viral load went into hiding, and 05 missed their appointments. Only 05 of 14 HIV positive LGBT on ART are still active. No LGBT has since turned up for their routine monthly adherence meetings following the death of their fellow peer.

CONCLUSIONS/NEXT STEPS: Resurgence of homophobic attacks in Uganda is likely to dent the attainment of 90-90-90. Programs providing services to marginalized communities like LGBT in repressive environment should offer training on security and safety for LGBT groups and health workers to mitigate the effects of such attacks.

OAF0303

RE-ENVISIONING THE SOCIAL ENABLERS OF THE GLOBAL RESPONSE: AN EVIDENCE-BASED FRAMEWORK TO INFORM INVESTMENTS AND TARGETS FOR HIV-RELATED STIGMA AND DISCRIMINATION, LEGAL ENVIRONMENT AND SOCIAL JUSTICE, AND GENDER EQUALITY

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BACKGROUND: There is consensus that social enablers, like reducing HIV-related stigma and discrimination, modify the effectiveness of HIV prevention, care and treatment services and are important for achieving global HIV goals. While several social enablers were included in the 2011 HIV Investment Framework, it was not possible to set evidence-based funding and programmatic targets for countries to pursue due to the paucity of evidence on what interventions constituted social enablers, and for those interventions that were defined, their effects on HIV outcomes. Over the past decade, significant progress has been made to develop and test interventions to address structural impediments to HIV services, including seven widely promoted human rights programs. Based on this evidence, UNAIDS has been leading a process since June 2019 to re-envision the social enablers and more accurately include them in HIV modelling.

DESCRIPTION: The process began with a broad, multi-stakeholder technical consultation which identified evidence and elements to be highlighted as social enablers of the HIV response. Following the consultation, an in-depth review of the literature was conducted to gather the latest evidence on each social enabler to inform the updated framework and allow estimation of impact on HIV outcomes and resource needs. The resulting framework differentiates enablers based on the 3 S's of the HIV response: services, systems and society. The social context can greatly influence how well countries are able to implement HIV systems and services. We propose that national governments invest in four social enablers to strengthen their HIV responses: (1) HIV-related stigma and discrimination, (2) the legal environment and access to social justice, (3) gender equality, and (4) links with other SDGs.

LESSONS LEARNED: While there is increased evidence documenting direct and indirect effects of social enablers on HIV outcomes, there are still gaps that limit quantitative analyses. The wide consultations allowed for the inclusion of key social enablers regardless of data availability. Better modelling is now expected to predict the impact of scaling up social enabling interventions on HIV services.

CONCLUSIONS/NEXT STEPS: The new framework for social enablers may galvanize advocacy to increase program effectiveness, and improve quantitative statistical or modelling efforts documenting or estimating impact.

OAF0304

MEDICAL MISTRUST, DISCRIMINATION, AND SEXUAL VIOLENCE AMONG A SAMPLE OF WOMEN AT RISK FOR HIV

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BACKGROUND: Women of color are disproportionately affected by HIV, representing the majority of new diagnoses among women. Medical mistrust and discrimination are barriers to accessing HIV prevention methods. These barriers may be further heightened for survivors of sexual violence. We sought to understand medical mistrust and discrimination in the context of sexual violence and HIV risk among racial/ethnic groups in San Diego, California, USA.

METHODS: The THRIVE Study is a case-control study with follow-up, of racially and ethnically diverse girls and women aged 14-45. Eligible participants are consensually sexually active or have experienced recent sexual violence. At study visits, participants complete an interviewer-administered survey with measures on demographics, medical mistrust and suspicion, discrimination, and lack of support subscales, everyday discrimination, and history of sexual violence (ever/never forced/threatened sex). Using baseline data for 48 participants, descriptive statistics examine differences in medical mistrust and experience of discrimination by racial/ethnic group and history of sexual violence.

RESULTS: Women identifying as Black or African American (AA) had higher levels of medical mistrust compared to their non-Black/AA counterparts (34.07+/-9.96 vs. 24.03+/-7.47; p<0.001). Black/AA women also had higher levels of suspicion (12.71+/-2.9 vs. 8.1+/-3.5; p<0.01) and lack of support (9.1+/-2.6 vs. 6.0+/-2.2; p<0.001) compared to non-Black/AA women. Compared to women in all other racial/ethnic groups, non-significantly lower medical mistrust was observed among Hispanic/Latina, Asian, and White women. Survivors of forced or threatened sex had higher medical mistrust than non-survivors (30.9+/-9.9 vs. 24.8+/-8.4; p<0.05), and marginally significantly higher levels of suspicion (11.1+/-4.4 vs. 8.6+/-4.2; p=0.063) and lack of support (7.8+/-3.1 vs. 6.4+/-2.3; p=0.10). Among Black/AA women, survivorship did not significantly impact medical mistrust or sub-scales. Compared to non-survivors, Hispanic/Latina survivors had higher medical mistrust (34.0+/-11.1 vs. 21.9+/-5.2; p<0.01), suspicion (12.2+/-4.7 vs. 7.2+/-2.0; p<0.01), and discrimination (10.0+/-2.7 vs. 6.9+/-2.1; p<0.05) while Asian survivors and White survivors had non-significantly higher medical mistrust.

CONCLUSIONS: Our study findings highlight the need to account for racial/ethnic differences and sexual violence history as relates to medical mistrust and aspects of discrimination. This is imperative in the development of structural interventions for HIV prevention as we address the HIV epidemic in the United States.

OAF0305

UNDETECTABLE = UNTRANSMITTABLE (U=U) TO DRIVE STIGMA REDUCTION AND EPIDEMIC CONTROL IN VIETNAM: A GLOBAL MODEL FOR POLITICAL AND PROGRAM INNOVATION

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BACKGROUND: Effective ART with sustained viral load (VL) suppression provides complete protection against sexual transmission of HIV. In Vietnam, the Ministry of Health (MOH), Vietnam Network of People Living with HIV (PLHIV), and community leaders have rapidly and comprehensively leveraged Undetectable = Untransmittable (U=U), K=K in Vietnamese, as a program catalyst and driver for stigma and discrimination reduction and meeting epidemic control goals. K=K is a versatile concept beyond reducing stigma and drives our Vietnam program priorities for case finding and ART initiation.

DESCRIPTION: Since its 2017 inception, the K=K movement ushered in MOH policies to document VL suppression <200 ml/copies as treatment success and mandate integration of K=K messaging into health practice to support 95-95-95 goals. Following two successful municipal campaigns in Hanoi and Ho Chi Minh City, the current national campaign celebrates K=K as transformative for individuals, couples, and communities – directly confronting established public perceptions around HIV. Grants to community-based organizations ensured widespread dissemination of the K=K message to key population and PLHIV networks, especially young urban men who have sex with men.

LESSONS LEARNED: Coordinated MOH and community commitment is critical to mainstream K=K into HIV program strategy. Despite global endorsements, healthcare providers were reluctant to inform patients of the benefits of K=K. Simple, visually impactful materials clarified K=K messaging, addressing concerns vis-a-vis PMTCT and blood transmission and STI prevention. Initial campaigns were conducted first in cities where success would influence broader commitment and leveraged Vietnam's impressive viral suppression rates. In response to these developments, MOH officially endorsed K=K and issued national implementation guidelines. Community fora confirmed regionally nuanced messaging and preferred platforms for effective dissemination, as well as the national campaign design.

CONCLUSIONS/NEXT STEPS: K=K revolutionized the HIV response in health and community settings. As of September 2019, Vietnam is the first PEPFAR country to disseminate official K=K guidance and to document 95% VL suppression <200 ml/copies among ART patients. In the next phase, Vietnam will unite messages of effective ART for those living with HIV and pre-exposure prophylaxis for those at substantial risk so that the preventive use of ARVs offers a clear path to HIV epidemic control in Vietnam.

OAF0306

CUMULATIVE EFFECT OF FEAR OF STIGMA FROM HEALTH PROFESSIONALS AND FAMILY/NEIGHBORS AND HEALTH CARE AVOIDANCE AMONG PLHIV IN MOROCCO: RESULTS FROM THE STIGMA INDEX SURVEY MOROCCO (2016)

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BACKGROUND: Since 2015, entry into the HIV care cascade in Morocco has been facilitated by community screening and the "test and treat" strategy. However, experience and/or fear of stigma among people living with HIV (PLHIV) can hinder entry into the care system. Through the Stigma Index Morocco survey, we identified factors associated with having avoided health services for fear of stigma.

METHODS: ALCS, Coalition PLUS member, in collaboration with the Ministry of Health, UNAIDS and the Global Fund, conducted the Stigma Index survey in Morocco (March-June 2016) among PLHIV using temporal cluster sampling. The questionnaire addressed several themes, including experiences of stigma and discrimination and health-seeking behavior. Factors associated with avoiding HIV testing and treatment services for fear of stigma were assessed using multinomial logistic regression models. We compared people who did not avoid health services for fear of stigma (reference) to people who avoided health services for fear of stigma from (A) health personnel or family/neighbors and (B) health personnel and family/neighbors (cumulative effect).

RESULTS: Among 583 participants, 280 (48.0%) were women and median age was 36[IQR 29-43]. Half avoided health services for fear of stigma by health personnel and/or family/neighbors: (A) n=228, 39.1% and (B) n=68, 11.7%. After adjustments, having been excluded from social activities ((A) aOR[95% CI]=1.70[1.10; 2.61]; (B) 2.63[1.39; 5.00]), having been discriminated against by PLHIV ((A) 1.87[1.12; 3.13]; (B) 3.35[1.63; 6.88]) and not having had access to antiretroviral treatment ((A) 1.76[1.16; 2.68]; (B) 2.18[1.11; 4.27]) were associated with having avoided health services for fear of stigma by health personnel and/or family/neighbors. Being female (2.85[1.48; 5.47]) and having discussed sexual and reproductive health with a health professional (4.56[2.38; 8.71]) were associated with having avoided health services for fear of the two sources of stigma.

CONCLUSIONS: Results demonstrate a cumulative effect of fear of stigma and discrimination at the community and health service levels among PLHIV in Morocco. PLHIV who have experienced discrimination seek to avoid reproducing the experience at the expense of their health. These findings have informed ongoing implemented actions within the community and the health sector to improve entry and retention in care among PLHIV in Morocco.

OAF04: THE DEFENSE SHALL NOT REST: RIGHTS, RHETORIC AND REALITY

OAF0402

BREAKING DOWN HUMAN-RIGHTS RELATED BARRIERS TO HIV AND TB SERVICES IN 20 COUNTRIES. SOON EVERYWHERE?

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BACKGROUND: The six-year Breaking Down Barriers (BDB) initiative of the Global Fund to Fight AIDS, TB and Malaria seeks to vastly scale up programs to reduce stigma, discrimination, gender inequality and other human rights-related barriers to HIV, TB and malaria services. Many programs to address these barriers have been small-scale and unsustainable. Twenty countries from all Global Fund regions were chosen for intensive BDB support to create the conditions for comprehensive responses to these barriers.

DESCRIPTION: In 2018-19, independent research teams conducted desk reviews followed by in-country rapid assessments of existing human rights-related barriers in the 20 BDB countries and of existing programs aiming to reduce them. Barriers to HIV services were assessed in all countries, those related to TB in 13 countries and to malaria in two countries. These largely qualitative baseline assessments included focus group discussions and in-depth interviews with key populations and their organizations, other NGOs, policy-makers and other stakeholders. Local experts were part of the research teams. The researchers also assessed the cost of existing programs and outlined a costed comprehensive response to the barriers identified. Baseline assessments were used to design country-owned multi-year plans for achieving a comprehensive response, funded in part by catalytic funding from the Global Fund.

LESSONS LEARNED: In all countries these barriers were found to be numerous and severe. Key populations face marginalization by undue criminalization and have inadequate access to justice, the stigma of HIV and TB continues to hamper access to care, and gender inequality remains profound. Many programs to address these barriers were poorly funded, not brought to scale, not strategically coordinated, and generally not understood to be central to successful disease programs. Key population organizations were often found to need technical and management support. But the $78 million in catalytic funding and matched funds from governments represents a quantum jump in support for scaled-up programs to reduce human rights-related barriers.

CONCLUSIONS/NEXT STEPS: For the first time in the history of the HIV epidemic, 20 countries, with support from the Global Fund, are seeking to comprehensively address human rights-related barriers. Discussions are starting on how to break down barriers, everywhere.

OAF0403

UTILIZING INDIVIDUAL LEVEL DATA TO ASSESS THE RELATIONSHIP BETWEEN PREVALENT HIV INFECTION AND PUNITIVE SAME SEX POLICIES AND LEGAL BARRIERS ACROSS 10 COUNTRIES IN SUB-SAHARAN AFRICA

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BACKGROUND: Gay men other men who have sex with men(MSM) have consistently been shown to be disproportionately affected by HIV across epidemic settings in Sub-Saharan Africa. Evidence from systematic reviews suggests the association of legislation and engagement in HIV services, however empiric, individual-level data, to assess this relationship remains limited. In response, the aims of this study are to use individual data from MSM from ten different countries across Sub-Saharan Africa to examine the relationship between HIV and legal environments.

METHODS: Respondent driven sampling was used to recruit 8,113 MSM over the period of 2011-2018 across 10 countries: Burkina Faso, Cameroon, Côte d'Ivoire, Gambia, Guinea-Bissau, Nigeria, Senegal, eSwatini, Rwanda, and Togo. Interviewer-administered socio-behavioral questionnaires and biological testing for HIV were conducted. Same-sex policy categorization was based on ILGA defined legal approach: Not criminalized and not protected; criminalized (< 8 years imprisonment); and severe criminalization (>10 years imprisonment).

Legal barriers to civil-society-organizations(CSO) is defined as legal barriers to the registration or operation of sexual orientation-related CSOs. Individual-level data were pooled across countries and multivariable logistic regression models used to measure the association between legal status and HIV.

RESULTS: HIV prevalence among MSM in contexts without criminalization was 8.4% (567/3170); 19.7% (341/1729) in criminalized settings; and 51.8% (422/815) in severely criminalized setting (Table 1).

	Living with HIV							
Policies and Legal Barriers	n/N	%	OR	P value	95% CI	aOR*	P value	95% CI
Legal status of same sex behaviours								
Not criminalized and no protective laws	567/3170	8.4	Ref	Ref	Ref	Ref	Ref	Ref
Criminalized	341/1729	19.7	2.35	0.023	1.12, 4.92	2.31	0.036	1.06, 5.03
Criminalized Severe	422/815	51.8	10.28	<0.001	6.46, 16.37	8.10	<0.001	5.31, 12.34
Legal Barriers to CSO engagement								
No	608/4899	12.4	Ref	Ref	Ref	Ref	Ref	Ref
Yes	422/815	51.8	6.68	<0.001	3.85, 12.3	5.59	<0.001	3.41, 9.17

[Table 1. Prevalent HIV infection and same sex policies]

Same sex policies was associated with HIV (p-value <0.001). When compared to non-criminalized settings, criminalized (aOR:2.31; 95% CI:1.06, 5.03), and severely criminalized settings (aOR:8.10; 95% CI:5.3112.34) were associated with increased odds of HIV. Legal barriers to CSO engagement was associated with increased odds of HIV (aOR:5.59; 95% CI:3.41, 9.17).

CONCLUSIONS: Consistently, same-sex policies was associated with prevalent individual HIV infection MSM with the magnitude of this relationship the strongest in the most punitive settings. These results provide empiric data of how laws potentiate suboptimal individual HIV outcomes among MSM across Sub-Saharan Africa and the potential for decriminalization to optimize HIV prevention efforts.

OAF0404

EARLY WARNING SIGNS: ASSESSING THE IMPACT OF THE EXPANDED MEXICO CITY POLICY ON COMMUNITIES MOST AFFECTED BY HIV

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BACKGROUND: On 23rd January 2017 President Trump signed an Executive Order to re-instate the Mexico City Policy – or Global Gag Rule (GGR) -- with unprecedented application to all US global health assistance, including PEPFAR funds; an approximately 16-fold expansion on previous iterations of the policy. The HIV community mobilised to express concern for what the expanded Global Gag Rule (GGR) could mean for the health and rights of people most affected by HIV, to ensure that negative impacts of the policy are documented, to support advocacy for its permanent rescindment. Frontline AIDS and Watipa, with support from Sida, conducted a study in Malawi and Cambodia to explore the impact of the GGR on HIV and key population services, and on HIV-SRHR integration.

DESCRIPTION: The study combined desk research, service data analysis and community engagement for qualitative data collection. In Malawi 16 organizations were engaged through 10 one-to-one interviews and one focus group discussion. Quantitative data was analysed from two service sites, provided by organisations that work with sex workers and men who have sex with men. In Cambodia, three focus group discussions took place with a mixed group of health care facility workers and civil society organizations; representatives from civil society organisations only; and, entertainment workers. Eight one-to-one qualitative interviews were also undertaken.

LESSONS LEARNED: Findings from both countries suggest that:

1. The policy has created some disruption to HIV programmes, outreach services, and referrals to safe, tailored, integrated services for marginalised people, including sex workers, transgender people and men who have sex with men.
2. The policy has created an environment of mistrust, confusion, and isolation among civil society actors, and tightened the space for advocacy on comprehensive SRHR.
3. These changes have compromised access to HIV prevention, testing and treatment services for marginalised people.

CONCLUSIONS/NEXT STEPS: While quantifying the effect of the GGR on the HIV response remains challenging, findings from this study by Frontline AIDS and partners is consistent with others' research documenting the impact of the policy on HIV programmes and communities most affected by HIV. These findings contribute to the building of a collective advocacy agenda to mitigate and ultimately permanently rescind the policy

OAF0405

ASSESSING THE STATUS OF DRUG REHABILITATION PRACTICES IN SELECTED DISTRICTS OF NEPAL, FROM A HEALTH AND HUMAN RIGHTS PERSPECTIVE BY MOHA, GON IN PARTNERSHIP WITH YV FDDR AND MAINLINE FOUNDATION

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BACKGROUND: In Nepal, PWUD are often marginalized groups who lack access to rights-based and evidence-based treatment. As a result of stigmatization of health care providers, social exclusion and criminalizing laws, many human rights violations have reported in treatment centers. This is the first study assessing health and rights-based treatment in an unique collaboration with Ministry of Home Affairs, the umbrella organisation for Rehabilitation centres (FDDR), a local organisation Youth Vision and an international NGO (Mainline).

METHODS: 85 Drug treatment and Rehabilitation centers were assessed on 9 areas - Adequate water, Enough Toilets, Living Cleanliness Hygiene; Cafeteria/Kitchen Cleanliness Hygiene; Nutrition and full to eat Meal System; Free and Open space Main Area; Playground/ Physical Fitness Provision; 1 person 1 bed full accommodation and Proper Assembly Hall; through a standardized checklist, based on a likert scale of 1-5 with a score of 1 being 'unacceptable' quality and a score of 5 being an appropriate feature of excellent quality.

85 FGDs, 38 KII, 85 interviews with treatment providers and 8 stakeholder interviews, quality and rights-based treatment services was assessed.

RESULTS: 3.5% had serious water supply problems; 16.5% had inadequate Toilet Facilities Vs. number of clients housed. 21.2% had unacceptable living conditions, residential, living cleanliness and general hygiene; 17.6% had unacceptable kitchen cleanliness and hygiene. 17.6% had poor nutrition and meal systems, 13% were congested and badly laid out for a rehab. 20.0% had no playground or provision for physical exercise. 36.5% did not always provide 1 person-1 bed full accommodation and instead, a roll-out mattress. 25.9% did not have appropriate space to gather as a group with little drug treatment program materials. 44.7% were in bad physical condition, some were make-shift huts with tin walls and roofs, others ad-hoc structures.

CONCLUSIONS: Despite improvements in access to rights-based treatment- there are still human rights violations. Only around 10% of the overall rehabs are actually able to comply with SOP's, guidelines and succeeding amendments. The Government of Nepal is currently interested to review current national guidelines and should be regularly monitored and followed-up with close scrutiny by involved civil society organizations.

OAF0406

ASSESSING A HUMAN RIGHTS-BASED APPROACH TO HIV IN KENYA

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BACKGROUND: Kenya's health authorities expanded HIV testing and notification services through increased capacity and training to reach vulnerable populations that are under-testing and experiencing stigma and/or discrimination: young women, men who have sex with men (MSM), female sex workers (FSW), and persons who inject drugs (PWID). While Kenya promotes a human rights-based approach (HRBA) to HIV services to help build trust and encourage testing, little was known about program, policy, and practice implementation with respect to privacy, confidentiality, and dignity. This exploratory, qualitative study evaluated Kenya's implementation of a HRBA to HIV through assessing perspectives on human rights and health care interactions.

METHODS: This study included 4 focus group discussions and 16 in-depth interviews with individuals from Key and Affected Populations (KAP), and HIV care providers or policy experts (HPs). Data were collected from four sites (Nairobi, Mombasa, Homa Bay, and Kisumu counties) from May to July 2019. We analyzed data using grounded theory, and applied a rights analysis to the data codes and themes to evaluate Kenya's approach in their HRBA.

RESULTS: A majority of 52 total participants identified female (58%); 36% as male, and 6% were not identified by sex. Most participants self-identified as from KAPs: MSM (21%), FSW (20%), young women (21%), and PWID (23%), with 15% being non-KAP HPs. The KAP participants conveyed mixed perspectives about interacting with providers regarding privacy and confidentiality, with mistrust and fears of disrespect being expressed for government-related facilities. Community-based organizations with health services were highly regarded and KAPs acknowledged improvement in some provider interactions. HPs acknowledge their need to better engage with KAPs and undergo improved, consistent training on the HRBA to overcome known trust and confidence barriers.

CONCLUSIONS: Kenya is increasing the rate of HIV testing and notification among KAPs with community partnerships. Challenges remain in building KAP trust and confidence for HPs and the health care system generally. By identifying opportunities for KAPs to collaborate with HPs, expanding community-based organizations' reach, and raising legal literacy to better recognize human rights and effectuate the HRBA to HIV programs, policies, and practices, more KAPs may utilize HIV services and help identify other at-risk individuals.

POSTER DISCUSSION SESSIONS

PDA01 HIV, CO-INFECTION AND CO-MORBIDITIES

PDA0102

PD-1 EXPRESSION IS LINKED TO NK CELL DYSFUNCTION AND ADVANCED LIVER FIBROSIS IN HIV/HCV-COINFECTED INDIVIDUALS

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BACKGROUND: Liver disease is one of the leading causes of morbi-mortality in people living with HIV/HCV. Response to HCV therapy and fibrosis regression after HCV clearance is diminished in cirrhotic patients, together with increased risk of hepatocellular carcinoma. Natural killer cells (NK) are associated with tumoral and viral control, and also amelioration of liver fibrosis; however, frequency and degranulation of NK cells are reduced in cirrhotic HIV/HCV-coinfected individuals. Here, we aim to further study NK cell activation and exhaustion in progressive stages of hepatic fibrosis secondary to HIV/HCV coinfection.

METHODS: Blood samples from ART-treated HCV/HIV-coinfected participants with different liver fibrosis levels (mild: METAVIR F0/F1 n=16; advanced: F4 n=18, assessed by transient elastography) were collected and PBMCs purified. Immunophenotyping (CD25, CD69, NKp46, NKG2D, and PD-1 expression) and degranulation capacity (CD107a assay) of NK cells were studied by flow cytometry. Clinical and experimental data were analyzed using non-parametric statistics.

RESULTS: All participants had undetectable HIV viral load (VL) with a median LT-CD4 count of 646 cells/µl (IQR 394-849). Overall, 47% were female, median age: 49 years (IQR 46.75-53), time of known HIV infection: 20 years (IQR 17.5-23), HCV infection: 14 years (IQR 10.5-20), time on ART: 11.5 years (IQR 7.75-18.35). HCV genotype was predominantly 1a, HCV VL: 6.96 log10 copies (IQR 5.91-16). None of the above parameters differed between groups. Frequency of NK/PD-1+ cells (p=0.006) as well as PD-1 expression per NK cell (p=0.002) were upregulated in F4 participants. In both groups, PD-1 was confined to CD56dim subset (F0/F1: p=0.002; F4: p=0.015) and was associated with higher CD69 and CD25 expression. PD-1 expression on NK cells inversely correlated with NK cell frequency (r=-0.50; p=0.01) and degranulation capacity (r=-0.63; p=0.002). Additionally, PD-1 expression positively correlated with APRI score (r=0.53; p=0.02), liver stiffness (r=0.51; p=0.01), and AST levels (r=0.52; p=0.02), and negatively with albumin (r=-0.6; p=0.01) and prothrombin time (r=-0.57; p=0.01).

CONCLUSIONS: Cirrhosis is associated to NK cell exhaustion in HIV/HCV-coinfected individuals. Potential interventions to improve NK cell function may have relevant implications to boost HCV treatment success in cirrhotic individuals, as well as potential NK cell-based immunotherapies targeted to modulate liver fibrosis or counteract malignant transformation.

PDA0103

THE CARD8 RS2043211 GENETIC VARIANT AND IL-33 PLASMA LEVELS ARE ASSOCIATED WITH TB-HIV/IRIS ONSET IN BRAZILIAN INDIVIDUALS

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BACKGROUND: Inflammasomes are multi-protein complexes of receptors and sensors that mediate innate immune responses and induce inflammation. Tuberculosis (TB) and aids are the leading causes of infectious disease death worldwide in which inflammation plays a major role in disease progression. In some TB-HIV-infected individuals, treated simultaneously for both diseases, a pathological inflammatory reaction, named immune reconstitution inflammatory syndrome (IRIS), may occur. The search of risk factors for IRIS is of relevance for clinical management. We investigated the role of single-base polymorphisms (SNPs) of the NLRP3, CARD8, and IL-1 β inflammasomes genes, as well as the profile of their related proinflammatory cytokines (IL-1β, IL-18, IL-33, and IL-6) in the susceptibility/resistance to TB-HIV coinfection outcomes.

METHODS: Patients were divided into four groups: TB-HIV (n=88; 11 of them with IRIS), HIV (n=20), TB (n=24) and healthy controls (n=24). These patients were followed-up at INI/FIOCRUZ and HGNI, Rio de Janeiro, Brazil, from 2006 to 2016. SNPs genotyping of the cellular inflammasomes were determined by Real-Time PCR, and plasma concentrations of cytokines were measured by ELISA kits. Protection/risk estimations were performed by unconditional logistic regression models.

RESULTS: Significant differences in the plasma cytokine levels and their relationships with the SNPs were observed among the groups. Regarding the TB-HIV individuals, the A/T genotype (P=0.034), allele T (P=0.030) and carrier-T (P=0.030) in the CARD8 rs2043211 polymorphism were associated with non-IRIS, while IL-33 plasma levels tended to be slightly higher among the TB-HIV/IRIS individuals (P=0.055).

CONCLUSIONS: These results provide new insights into the role of innate immunity in the physiopathology of TB-HIV/IRIS, and as of our knowledge, this is the first study demonstrating an association between the CARD8 rs2043211 polymorphism and plasma levels of IL-33 with IRIS in TB-HIV coinfected individuals. The functional role of such molecules in IRIS pathogenesis is still to be demonstrated. These results, associated with previous data of HLA and KIR polymorphisms in this study group, contribute to the discussion of the impact of host genes in TB-HIV individuals and the IRIS outcome.

PDA0104

ASSOCIATION OF AGE AND CERVICAL CANCER SCREENING RESULTS IN 11 URBAN HEALTH CENTERS IN LUSAKA, ZAMBIA

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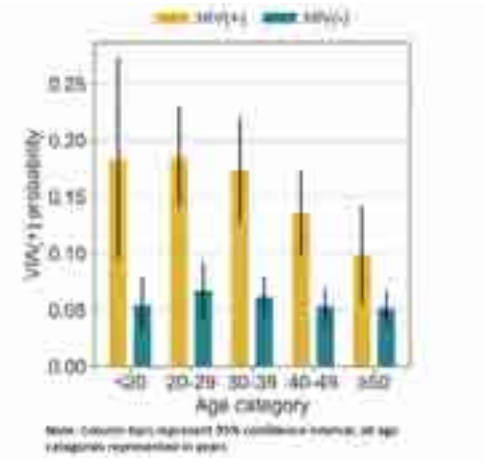
BACKGROUND: Cervical cancer is the leading cancer-related cause of death among women in Zambia and poses an even greater threat to HIV-positive women. The World Health Organization global strategy towards the elimination of cervical cancer requires 70% of women aged 35–45 years to be screened of which 90% should receive treatment by 2030. To identify screening gaps to achieving this goal we evaluated the effect of age on visual inspection with acetic acid (VIA) screening results in Zambia.

METHODS: We abstracted VIA screening data from the Cervical Cancer Prevention Program in Zambia registers (January 1, 2010–June 30, 2019) at 11 clinics in Lusaka Province. We conducted a mixed-effects logistic regression analysis to assess VIA results allowing random effects at the clinic and individual level. Post-estimation modeling was used to calculate adjusted predictive probabilities of VIA-positive results by HIV status and age.

RESULTS: We included 204,225 VIA screening results from 183,194 women. Of 204,225 VIA screenings, 21,326 (10.4%) were positive, and median patient age was 34 years (interquartile range, 28–42 years). The predictive probability of screening positive was highest among HIV-positive patients aged 20–29 years (18.6%; 95% confidence interval [CI]: 14.2%–22.9%) followed by those younger than 20 years (18.4%; 95% CI: 9.6%–27.3%; Figure 1).



[Figure 1: Predictive probability of screening VIA positive by HIV status and age category in Lusaka, Zambia]

CONCLUSIONS: Almost one in five HIV-positive women aged ≤29 years screened VIA positive in Lusaka. To optimize progress toward cervical cancer elimination, in Zambia, a differentiated model that focuses on HIV-positive women, especially younger women (≤29 years), as a high-risk group could be considered.

PDA0105

MODELLING ENDOTHELIAL FUNCTION IN VITRO AND VIA BLOOD SAMPLING TO ASSESS CARDIOVASCULAR RISK IN PEOPLE LIVING WITH HIV

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BACKGROUND: Cardiovascular (CV) disease, which is driven by endothelial and platelet dysfunction, is more prevalent among people living with HIV (PLWH) and has been associated with some antiretroviral (ARV) use. Determining effects of ARVs upon platelet function via blood sampling is commonplace, however examining the impact on endothelial cells, without using invasive sampling methods, is more complex. We therefore evaluated in vitro models of endothelial dysfunction and developed methods to isolate and phenotype endothelial-derived microparticles (EMP) and endothelial 'progenitor' cells (endothelial colony-forming cells, ECFCs), both of which may be isolated from blood and allow for detailed analysis of endothelial function in patients or clinical trial participants.

METHODS: Human coronary artery endothelial cells (HCAECs) were treated with plasma Cmax concentrations of ABC or tenofovir disoproxil fumarate (TDF), stimulated with TNF-alpha to mimic inflammation, and inflammatory and pro-thrombotic properties assessed by flow cytometry. EMP were isolated from cell culture supernatants and plasma from human subjects, and characterised using flow cytometry. ECFCs were isolated in the presence of ARVs using whole blood of healthy subjects taking PrEP in order to establish protocols in a relevant population exposed to daily ARVs. Statistical significance was determined by one-way ANOVA with Tukey's multiple comparison test.

RESULTS: ABC treatment enhanced levels of TNF-alpha-induced inflammatory ICAM-1 and pro-thrombotic TF expression compared to TDF (+1.9- and +1.2-fold, $p<0.05$) in HCAECs. ABC treatment led to greater numbers of ICAM-1+ and TF+ EMP compared to TAF (+2.1- and +3.3-fold, $p<0.05$) in HCAECs and EMP from the blood of human subjects taking ARVs at therapeutic doses were successfully isolated and their inflammatory and thrombotic properties determined. We were able to isolate viable ECFCs from PrEP users in similar numbers to those obtained from ARV-naïve donors in earlier studies.

CONCLUSIONS: ABC enhanced the inflammatory and thrombotic properties of cultured HCAEC suggesting that this model may be used predictively to evaluate the cardiovascular risk profile or ARVs. In the context of clinical studies, EMPs and ECFCs are suggested as useful tools for determining the effects of ARVs and HIV infection per se upon vascular endothelial thrombo-inflammatory properties and therefore cardiovascular health.

PDA0106

INNATE LYMPHOID CELLS ARE REDUCED IN PREGNANT HIV POSITIVE WOMEN AND ARE ASSOCIATED WITH PRETERM BIRTH

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BACKGROUND: Preterm birth is the leading cause of neonatal and child mortality worldwide. Globally, 1.4 million pregnant women are estimated to be living with HIV/AIDS, the majority of whom live in sub-Saharan Africa. Maternal HIV infection and antiretroviral treatment (ART) have been associated with increased rates of preterm birth, but the underlying mechanisms remain unknown. Acute HIV infection is associated with a rapid depletion of all three subsets of innate lymphoid cells (ILCs), ILC1s, ILC2s and ILC3s, which is not reversed by ART. ILCs have been found at the maternal-fetal interface and we therefore investigated the potential association between maternal HIV infection, peripheral ILC frequencies and preterm birth.
METHODS: We conducted flow-cytometric analysis of peripheral blood samples from 46 HIV-positive (HIV+) and 45 HIV-negative (HIV-) pregnant women enrolled in a prospective pregnancy cohort study in Soweto, South Africa. Frequencies of ILC1s, ILC2s and ILC3s were compared between women with and without HIV infection, and between women with and without PTB or spontaneous preterm labour (Sp-PTL).
RESULTS: We show that maternal HIV infection is associated with reduced levels of all three ILC subsets. Preterm birth was also associated with lower levels of all three ILC subsets in early pregnancy. ILC frequencies were lowest in HIV positive women who experienced preterm birth. Moreover, ILC levels were reduced in pregnancies resulting in spontaneous onset of preterm labour and in extreme preterm birth (<28 weeks gestation).
CONCLUSIONS: Our findings suggest that reduced ILC frequencies may be a link between maternal HIV infection and preterm birth. In addition, ILC frequencies in early pregnancy may serve as predictive biomarkers for women who are at risk of delivering preterm.

PDA0107

YOUTH PERINATAL HIV-ASSOCIATED COGNITIVE IMPAIRMENT: ASSOCIATIONS WITH CHILDHOOD TRAUMA

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BACKGROUND: Exposure to childhood trauma is associated with cognitive impairment in non-clinical populations. The association between childhood trauma and cognitive impairment in the context of perinatal HIV-infection has not been published to-date. This study was nested within the Cape Town Adolescent Antiretroviral Cohort (CTAAC) neuro sub-study, a longitudinal cohort of perinatally ARV-treated HIV-infected youth from public healthcare facilities across Cape Town, South Africa. The purpose was to examine the association between childhood trauma and HIV-associated cognitive impairment among perinatally HIV-infected youth.
METHODS: HIV-infected youth and HIV-uninfected controls completed a comprehensive neuropsychological battery and the Childhood Trauma Questionnaire(CTQ). We then assessed associations between cognitive impairment in various domains and CTQ scores by means of a simple bivariate correlation.
RESULTS: Results represent data from 36-month CTAAC follow-ups, which includes 122 HIV-infected and 35 HIV-uninfected controls between 12-15 years old. Independent samples t-test show no statistically significant differences in self-reported childhood trauma between HIV-infected youth and controls (i.e.: both groups showed low – moderate levels of trauma). Within the HIV-infected group CTQ total scores were significantly correlated with impaired working memory (r=.228, p=.023) and processing speed (r=.238, p=.016). The CTQ subscale of emotional abuse was significantly correlated with the domains of attention, working memory and processing speed, yet the CTQ subscale of emotional neglect was only correlated with impaired processing speed (r=.204, p=.041). The CTQ subscales of physical abuse and neglect and sexual abuse were not significantly correlated with any of the cognitive domains. In the control group childhood trauma on the physical neglect subscale correlated with impaired general intellectual function and emotional abuse correlated with impaired motor coordination.
CONCLUSIONS: The majority of HIV-infected youth in South Africa live in very low socioeconomic environments and are exposed to numerous risk factors, the most significant of which is childhood trauma. Given the association between childhood trauma and cognitive impairment, limiting childhood trauma should be a major public health concern. These findings suggest that low – moderate trauma within the HIV-infected group is associated with more cognitive problems compared to controls. This study provides preliminary data to further investigate the relationship between childhood trauma and HIV-associated cognitive impairment.

PDA02: KILL OR BE KILLED: HIV VS HOST IMMUNE RESPONSES

PDA0202

HIGH Y-CHROMOSOME DNA CONCENTRATIONS ARE ASSOCIATED WITH INCREASED CERVICAL CYTOKINE CONCENTRATIONS AND ACTIVATED CERVICAL HIV TARGET CELL FREQUENCIES

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BACKGROUND: Semen is the carrier for spermatozoa and the primary vector for heterosexual transmission of HIV to women during intercourse. Semen induces cytokine production and immune cell recruitment at the female genital tract (FGT) in order to facilitate

conception. Since genital inflammation increases HIV susceptibility in women, semen-induced alterations at the FGT may also have implications for HIV risk. Here we investigated the contribution of semen exposure to biomarkers of inflammation associated with HIV acquisition.

METHODS: Genital specimens were collected every 6 months (average 5±1 visits) from 149 HIV-negative women participating in the CAPRISA 008 tenofovir gel open-label extension trial (n=693 specimens). Y-chromosome DNA (YcDNA) was extracted using a Human Y-chromosome DNA detection kit and quantified using the Quantifiler Trio DNA quantification kit in cervicovaginal lavage (CVL) pellet specimens. In matched CVL supernatant specimens, YcDNA concentrations were compared with concentrations of 48 cytokines and 9 matrix metalloproteinases (MMPs; epithelial barrier function proteins) determined by multiplexed enzyme-linked immunosorbent assay (ELISA), and with the frequencies of cervix-derived NK cells and HIV T cell targets determined by flow cytometry.

RESULTS: A total of 175/233 (75%) genital specimens with detectable YcDNA had a yield sufficient for quantitation. In multivariable linear mixed model analyses, higher YcDNA concentrations were associated with elevated concentrations of growth factors (IL-7, IL-9, PDGF-ββ, VEGF, G-CSF), pro-inflammatory/chemotactic (IL-12p70, IL-6, IP-10), anti-inflammatory (IL-10), and adaptive response cytokines (IFN-γ, IL-13, IL-4). Increased concentrations of MMPs (MMP-1, MMP-2, MMP-3, MMP-7, MMP-10, and MMP-13) involved in the degradation and repair of the extracellular matrix were associated with higher YcDNA concentration. Additionally, higher YcDNA concentrations were also associated with significantly increased frequencies of activated HIV target cells (CD4+CCR5+HLA-DR+) at the FGT.

CONCLUSIONS: Higher YcDNA concentrations were associated with raised levels of cytokines and MMPs, and with greater frequencies of HIV target cells at the female genital mucosa. Considering the association between YcDNA and these established biomarkers of genital inflammation and HIV risk, semen-induced alterations at the FGT may, therefore, have implications for HIV susceptibility in women.

PDA0203

CYTOF ANALYSIS REVEALS THAT HIV-1 UPREGULATES EXPRESSION OF MULTIPLE RNA AND DNA SENSORS IN SUBSETS OF PRIMARY CD4+ T CELLS

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BACKGROUND: While CD4+ T cells are the primary targets of human immunodeficiency virus (HIV), not all are equally susceptible to infection. Cell permissiveness to infection is determined, in part, by innate immune sensing and host restriction of HIV. We set out to determine if cells that fuse to HIV differentially express viral sensors and restriction factors, and whether HIV infection modulates expression of viral sensors and restriction factors in primary CD4+ T cells.

METHODS: We developed and validated a 41-parameter CyTOF panel that includes 23 intracellular viral sensing proteins and restriction factors. Activated human PBMCs from seronegative individuals were exposed to a CCR5-tropic transmitted/founder HIV-1 reporter virus, and then HIV-fused cells, identified using a Blam-vpr-based viral fusion assay, were sorted by flow cytometry and analyzed by CyTOF. Concurrently, cells from the same donor PBMCs were exposed to HIV and productively-infected cells were identified three days later by CyTOF.

RESULTS: Relative to mock-treated CD4+ T cells, HIV-fused CD4+ T cells expressed lower levels of a variety of HIV sensors, including IFI16 and cGAS, as well as restriction factors, including SAMHD1 and IFITM1. Comparison of HIV-fused cells to productively-infected cells revealed that HIV directly upregulated expression of the restriction factors SAMHD1 and IFITM1, the RNA sensors RIGI and TLR7, and the DNA sensors IFI16 and cGAS within infected cells.

CONCLUSIONS: These data suggest that HIV preferentially enters CD4+ T cells expressing low levels of viral sensor and restriction factors, which may facilitate the completion of the viral life cycle. Following entry, HIV upregulates expression levels of many of these factors but this upregulation is insufficient to prevent productive infection. These results suggest that enhancing innate immune recognition of HIV may be necessary to fully restrict replication of the virus.

PDA0205

TILRR MODULATES PRODUCTION OF PROINFLAMMATORY CYTOKINES AND PROMOTE LEUKOCYTES MIGRATION AND MAY BE A NOVEL TARGET TO PREVENT HIV-1 VAGINAL INFECTION

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BACKGROUND: Toll-like Interleukin-1 receptor regulator (TILRR), a splice variant of FREM1, is an IL-1R1 co-receptor and an important modulator of inflammatory responses. Our previous studies showed the minor allele of FREM1 SNP rs1552896 is significantly associated with resistance to HIV-1 infection in the Pumwani sex worker cohort. Women with the minor allele of rs1552896 expressed no or very low TILRR RNA, whereas the major allele of rs1552896 expressed a significant amount of TILRR RNA. Since TILRR modulates many inflammation responsive genes, it could play an important role in modulating immune cell migration in response to infection through its influence on proinflammatory cytokines secretion by epithelial cells. In this study, we investigated the effect of TILRR- overexpressed cervical epithelial cells supernatants on the migration of HIV-1 target cells using two different migration approaches.

METHODS: We conducted the migration experiments using a novel microfluidic real-time migration device and a transwell migration method. THP-1 (monocytes), MOLT-4 (lymphocytes), and primary human T-cells were used as target cells to investigate the effect of TILRR on their migration behavior. Cervico-epithelial cell (HeLa) transfected with either TILRR or vector-only control, and parental cell culture supernatants were used as chemoattractants.

RESULTS: The results showed that TILRR- overexpressed HeLa cell supernatant significantly attracted more monocytes (THP-1) than vector-only control (>20% higher of % relative migration, PRM=59.83±5.00 vs 32.70±4.37, p=0.0021) in transwell assay. Similar to THP-1 cells, significantly higher amount of MOLT-4 (47.72±6.13 vs

14.95±6.68, p=0.0033), and Primary T-cells (72.98±3.08 vs 40.16±2.00, p=0.0001) were also migrated to the TILRR- overexpressed HeLa culture supernatant. Moreover, the microfluidic real-time assay showed that the migration distance of THP-1 and primary T-cells was significantly longer towards TILRR-transfected HeLa culture supernatants than to the vector-only control supernatants.

CONCLUSIONS: Our study, for the first time, demonstrated that TILRR overexpressed cell culture supernatant significantly influences the migration of leukocytes. Thus, TILRR could play an important role in recruiting HIV-1 target cells at mucosal surfaces through its modulation on the production of multiple proinflammatory cytokines that may lead to increased susceptibility to HIV-1 vaginal infection. TILRR may be a novel target to reduce/prevent HIV-1 vaginal infection.

PDA0206

TH17 CELLS ARE EARLY TARGETS OF SIV DURING ACUTE INFECTION IN RHESUS MACAQUE VAGINAL CHALLENGE MODEL

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BACKGROUND: Identification of infected cells immediately after mucosal HIV/SIV transmission is critical to design effective prevention strategies. Previous studies have identified CD4+ T-cells, especially, Th17s, as early targets of HIV/SIV in the female reproductive tract (FRT). Here we used rhesus macaque (RM) vaginal challenge model to identify early targets of infection and to follow the infected cell phenotype changes over time.

METHODS: 12 female RMs were challenged intravaginally with a non-replicative luciferase reporter, LiCH, and SIVmac239 mixture. Animals were sacrificed 48-, 72-, or 96-hours post-challenge. Macroscopic luciferase signal detected by in vivo imaging system (IVIS) allowed us to identify FRT regions likely containing infected cells. IVIS positive and negative tissues were serially cryosectioned for immunofluorescence staining and RNA isolation. Infected cells were phenotyped microscopically to identify Th17s (CD3+CCR6+), other T-cells (CD3+CCR6-), immature dendritic cells (iDCs)(CD3-CCR6+), and other cells (CD3-CCR6-). RNA was extracted from infected and non-infected adjacent tissue sections for RNA-Seq.

RESULTS: Phenotyping of >5,000 SIV-infected cells in FRT of eight RMs sacrificed at 72hr and 96hr post-challenge identified infection throughout FRT in 3/4 and 4/4 of 72hr and 96hr animals, respectively. Comparing the two time points, proportion of infected Th17s remains constant (85 vs 70%), however, we can detect an increase in infection rate of iDCs (from 10 to 30%) and other T-cells (from 1 to 3%) as infection progressed. The use of serial sectioning allowed us to identify spread of infection across multiple cryosections of the same tissue. Also, plotting the coordinates of infected cells from multiple sections allowed us to visualize the infected cells in three-dimensional space and to follow the infected cells dissemination over the time.

CONCLUSIONS: These findings support our previous data demonstrating the entire FRT is susceptible to infection and that Th17s are the predominant early targets. In our future work, we hope to compare the distribution of infected cells together with the transcriptome profiles between infected and non-infected tissues at different time points to help understand dynamics and kinetics of virus distribution and dissemination during acute infection.

PDA0207

INTERFERON-α MODULATES THE HOST GLYCOSYLATION MACHINERY DURING TREATED HIV INFECTION

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BACKGROUND: A comprehensive understanding of host factors modulated by the key antiviral cytokine interferon-α (IFNα) is imperative for harnessing its beneficial effects while avoiding its detrimental side-effects, during chronic diseases such as HIV infection. Cytokines modulate host glycosylation, and the host glycome (circulating glycans and cell-surface glycans) plays a critical role in mediating several cellular processes and immunological functions. However, the impact of IFNα on host glycosylation machinery has never been characterized.

METHODS: We assessed the impact of pegylated IFNα2a therapy on circulating IgG glycomes and isolated CD8+ T and NK cell-surface glycomes of 18 HIV-mono-infected individuals on suppressive antiretroviral therapy, using capillary electrophoresis and lectin microarrays. Plasma levels of sCD14 and sCD163 were measured by ELISA. CD8+ T cell and K562-stimulated NK cell phenotypes were profiled using flow cytometry. Integrated HIV DNA in CD4+ T cells was measured by qPCR. Wilcoxon test and Spearman's correlations were used for statistical analysis. False discovery rates (FDR) were calculated to account for multiple comparisons.

RESULTS: Interactome analysis highlighted significant interactions that support a model in which a) IFNα increases the proportion of pro-inflammatory, bisected GlcNAc glycans (known to enhance FcγR binding) within the IgG glycome (FDR<0.02), which in turn b) increases inflammation (as measured by sCD14 and sCD163; p<0.03), which c) leads to lower levels of CD8+ T cell functionality (perforin, Eomes, and TNFα expression) but higher degranulation (CD107) (p<0.02, Figure). IFNα-mediated induction of bisected GlcNac associated with a poor reduction of HIV integrated DNA (p=0.02, rho=-0.78). Examining cell-surface glycomes, IFNα increases the levels of T antigen (Gal-GalNAc) on CD8+ T cells (FDR=0.01). This induction is associated with lower CD8+ T degranulation (p<0.02, rho<-0.8). Last, IFNα increases the levels of fucose on NK cells (p<0.05). This induction is associated with higher expression of Eomes, T-bet, and IFNγ upon K562 stimulation (p=0.048, rho>0.8).

CONCLUSIONS: IFNα causes host glycomic alterations that are known to mediate inflammatory responses. These alterations are associated with mainly detrimental, but also beneficial, consequences of IFNα on innate and adaptive immune functions. Manipulating glycan-lectin interactions may represent a strategy to enhance the impact of IFNα on immunity while avoiding its detrimental side-effects.

PDB01 ACHIEVING VIROLOGIC SUPPRESSION

PDB0102

TIME TO VIRAL REBOUND AFTER INTERRUPTION OF MODERN ANTIRETROVIRAL THERAPIES

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BACKGROUND: Strategies for ART-free HIV remission require validation through treatment interruption (TI) studies to confirm a delay in HIV rebound, but there is uncertainty whether modern ART regimens may impact this outcome. We compared HIV rebound timing in A5345 to historic TI studies.

METHODS: A5345 is a prospective study enrolling individuals who initiated ART during chronic or early HIV infection, on suppressive ART for ≥2 years with CD4 count ≥500 cells/mm3 and nadir CD4 count ≥200 cells/mm3. Participants on a non-nucleoside reverse transcriptase inhibitor (NNRTI)-based regimen were switched to a protease inhibitor (PI) or integrase strand transfer inhibitor (INSTI)-based regimen before the TI. During TI, viral loads were monitored twice weekly and participants restarted ART upon two successive viral loads ≥1,000 copies/mL. We compared the chronic-treated participants of A5345 with chronic-treated participants on PI regimens from placebo arms of 4 historic ACTG TI studies.

RESULTS: Thirty-three chronic-treated A5345 participants interrupted ART and were compared to 61 participants from historic studies. There were no significant differences between the groups in age (median 46 vs. 43 years), sex (88% vs. 87% male), nadir or baseline CD4 count (median 783 vs. 852 cells/mm3), or pre-ART viral loads (median 4.5 vs. 4.4 log10 copies/mL). All participants of the historic studies were on older PI-based regimens while 94% of A5345 participants were on INSTI-based ART. The median time to viral rebound ≥1,000 copies/mL in A5345 was 22 days. Acute retroviral syndrome was diagnosed in three (9%) participants. There were no differences between A5345 vs. historic studies in the percentage of participants with viral rebound by either TI week 4 (73% vs 79%, P=0.61) or week 8 (97% vs 95%, P=1.0). There was no significant association of ART duration or CD4 count with timing of HIV rebound in A5345; higher pre-ART HIV RNA was associated with shorter time to rebound (Spearman r = -0.37, P=0.09). All participants re-suppressed after ART re-initiation.

CONCLUSIONS: For chronic-treated individuals, virologic suppression by modern ART regimens did not result in a significant delay in the time to HIV rebound after ART interruption. Novel strategies will be needed to achieve ART-free HIV remission.

PDB0103

IS DTG+3TC EFFECTIVE AND SAFE IN CLINICAL PRACTICE? EVIDENCE FROM REAL WORLD DATA

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BACKGROUND: RCT evidence has shown dolutegravir(DTG)+lamivudine(3TC) is an efficacious and durable regimen with a good safety profile in treatment-naïve and treatment-experienced HIV-infected individuals. Several observational studies have concluded that it is effective in clinical practice. The objective of this meta-analysis was to estimate effectiveness and safety of DTG+3TC in treatment-experienced, virologically suppressed people living with HIV (PLHIV) by combining real-world evidence (RWE) from clinical practice.

METHODS: A systematic literature review of PubMed and Embase along with 24 regional and international conferences was conducted between 2013-Dec 2019 to identify non-RCT studies of DTG+3TC in PLHIV. Eligible published articles presenting outcomes of interest were identified and extracted. Identified studies were included if they had acceptable level of publications bias and heterogeneity determined using funnel plots and I^2 statistics, respectively. One-arm meta-analyses using the Dersimonian and Laird method were conducted to estimate effect sizes for viral failure, viral suppression, and discontinuations for DTG+3TC.

RESULTS: A total of 7 DTG+3TC studies (n=1,800 patients) reported data on treatment experienced virologically suppressed PLHIV on outcomes of interest at different timepoints. Results showed that among patients switching to DTG+3TC treatment ≥90% maintained virological suppression (ITT) with ≤1% viral failures.

	DTG+3TC			
	Viral Failure (n=1800)	Virological suppression ITT (n=1800)	Virological suppression PP (n=1552)	Discontinuations (n=1800)
Week 48 (Mean [95% CI])	0.008 [0.004-0.014]	0.906 [0.849-0.951]	0.990 [0.983-0.995]	0.089 [0.048-0.139]

ITT=Intention to treat; PP=Per protocol; CI=Confidence Interval

[Table 1: Proportion of patients with viral failure, virological suppression and discontinuations at week 48.]

	DTG+3TC			
	Viral Failure (n= 904)	Virological suppresion ITT (n=904)	Virological suppresion PP (n=767)	Discontinuations (n=904)
Week 96 (Mean [95% CI])	0.005 [0.001-0.013]	0.930 [0.831-0.990]	0.995 [0.976-1.000]	0.057 [0.004-0.151]

ITT=Intention to treat; PP=Per protocol; CI=Confidence Interval

[Table 2: Proportion of patients with viral failure, virological suppression and discontinuations at week 96.]

CONCLUSIONS: DTG+3TC is an effective and durable antiretroviral regimen with low rates of discontinuation in treatment experienced patients in clinical practice.

PDB0104

COMPARATIVE EFFICACY AND SAFETY OF A COMBINATION THERAPY OF DOLUTEGRAVIR AND LAMIVUDINE VS 3-DRUG ANTIRETROVIRAL REGIMENS IN TREATMENT-NAÏVE HIV-1 INFECTED PATIENTS AT 96 WEEKS: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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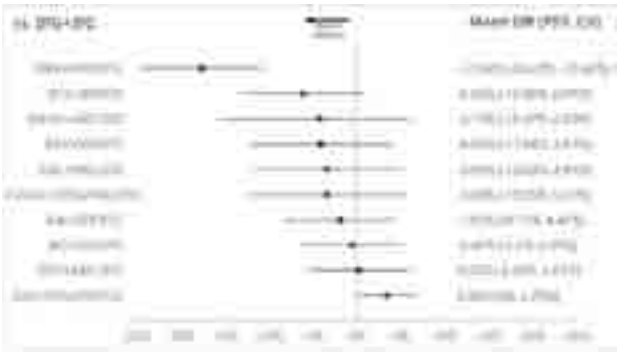
BACKGROUND: Dolutegravir+lamivudine (DTG+3TC) has been shown to be comparable to guideline recommended 3-drug antiretroviral treatments (ARTs) in HIV up to week 48. The objective of this analyses was to compare the efficacy and safety of DTG+3TC to 3-drug ARTs up to 96 weeks (WK96).

METHODS: Randomized controlled trials (RCTs) of treatment-naïve HIV-1 infected patients reporting outcomes at WK96 were identified by systematic review. The proportion of patients achieving virologic suppression (VS) to <50 RNA copies/mL at WK96 for all patients and those with baseline viral load >100,000 RNA copies/mL was compared between DTG+3TC and guideline recommended ARTs using a fixed-effect Bayesian network meta-analysis framework. Other outcomes examined were CD4+ cell count change from baseline, treatment discontinuations and safety (adverse events [AEs], serious AEs [SAEs], and drug-related AEs [DRAEs]).

RESULTS: The network included 11 ARTs from 11 RCTs with 7991 patients. ARTs containing tenofovir disoproxil/emtricitabine (TDF/FTC) and tenofovir alafenamide (TAF)/FTC were combined by their core agent to maintain network connectivity. The treatment difference for viral suppression at WK96 for DTG+3TC compared to the other 10 ARTs ranged from -3% (-7%, 0%) vs DTG+TDF(or)TAF/FTC to 13% (4%, 23%) vs ritonavir-boosted darunavir (DRV/r)+TDF/FTC. On other outcomes DTG+3TC was broadly similar to all 3-drug ARTs with some statistically significant benefits on SAEs and DRAEs.



[Figure 1: Difference in proportions in viral suppression (95% credible intervals) at WK96, 3-drug ARTs versus DTG+3TC.]

CONCLUSIONS: DTG+3TC offers comparable and durable efficacy and safety to guideline recommended 3-drug regimen with reduced exposure to ARTs for naïve patients starting treatment.

PDB0105

SWITCHING TO DOLUTEGRAVIR PLUS LAMIVUDINE (DTG+3TC) IS NON-INFERIOR TO AND AS SAFE AS CONTINUING STANDARD TRIPLE ANTIRETROVIRAL THERAPY (TAR)

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BACKGROUND: It is uncertain whether virally suppressed patients on standard triple ART can be safely switched to DTG+3TC.

METHODS: HIV-1-infected adults with <50 copies/mL for ≥12 months, no viral failure or resistance mutations to study drugs, CD4 nadir >200 cells/mm^3, and HBsAg negative were randomized 1:1 (stratified by baseline third agent) to continue triple antiretroviral therapy (control) or to switch to DTG+3TC. Primary end-point was the proportion of patients with HIV-1 RNA ≥50 copies/mL at week 48 (FDA Snapshot, 8% non-inferiority margin). Blips, adverse effects, weight and body fat (DXA scan), and sleep quality (PSQI) were secondary end-points.

RESULTS: 265 patients randomized (DTG+3TC: 131; control: 134). Baseline: age 46 years; women 14%; CD4 712 cells/mm^3; weight 75 kg; trunk fat 10134 gr; limbs fat 7615 gr; poor sleep quality (defined by PSQI>5) 40%. At week 48, subjects with HIV-1 RNA ≥50 copies mL 2.4% (3/125) DTG+3TC vs. 0.8% (1/126) control [difference 1.6%; 95% CI -2.3 to 6.1] per-protocol, and 2.3% (3/131) DTG+3TC vs. 0.7% (1/134) control [difference 1.5%; 95% CI -2.1 to 5.8] intention-to-treat demonstrating non-inferiority. There were no differences between DTG+3TC vs. control in incidence of blips or number of patients with ≥1 blip, and overall or serious (none drug-related) adverse events. Weight (kg) change (mean, SD) at week 48 was 1.55 (3.98) DTG+3TC vs. 0.08 (3.95) control (P= 0.005) with no differences among strata; there were no differences in regional fat (gr) (mean, SD): trunk, -115 (4413) vs. 499 (2056) (P= 0.68); limbs, 620 (1308) vs. 1166 (4220) (P= 0.98) or PSQI changes over time (P=0.46).

Snapshot outcomes week 48	DTG/3TC (n=131)	Triple ART (n=134)
VL < 50 copies/mL, n (%)	122 (93.1)	125 (93.3)
VL ≥ 50 copies/mL, n (%)	3 (2.3)*	1 (0.7)
No virologic data, n (%)	6 (4.6)	8 (6.0)
Discontinued therapy	3 (2.3)	4 (3.0)
Lost of follow-up	2 (1.5)	2 (1.5)
Patient's decision	1 (0.8)	2 (1.5)

* No resistance mutations detected in all 3 patients. Two maintained DTG+3TC and had HIV-1 RNA <50 copies mL at week 48.

CONCLUSIONS: Switching to DTG+3TC in virologically suppressed patients was non-inferior to and as safe as continuing triple ART at 48 weeks. Although weight increased with DTG+3TC relative to triple ART, regional fat changes did not differ between arms .

PDB0106

OPTIMIZING THE MANAGEMENT OF PATIENTS WITH VIROLOGIC NON-SUPPRESSION

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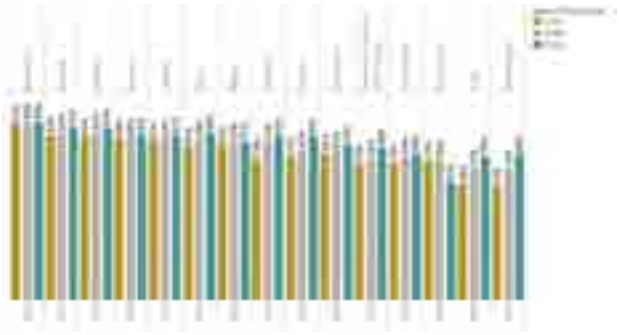
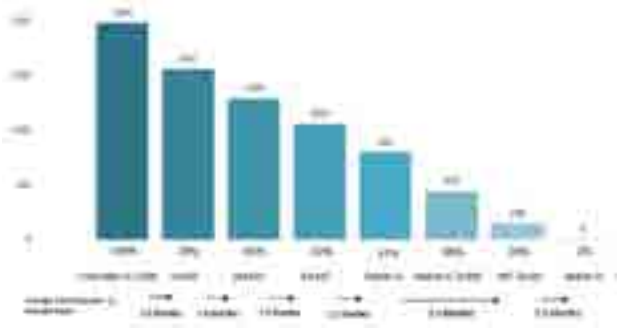
BACKGROUND: Some programs continue to face challenges meeting HIV viral supression targets, with incomplete rates of repeat viral load (VL) testing in patients with virologic non-suppression (PVNS), and persistent VL non-suppresion. Recent data show that interventions such as enhanced adherence counseling (EAC) and the use of Point-of-Care (POC) testing may improve outcomes in PVNS.

METHODS: Significant efforts are underway in PEPFAR-supported countries to improve VL coverage and suppression. Generally, PLHIV on ART for at least 6 months with VL results ≥ 1000 copies/ml receive EAC, with follow-up VL testing. Data from 15 countries were assessed using Wilcoxon-Signed Rank Test for the proportion of individuals with VL suppression over the period 2017-2019, and the average number of PVNS per facility. Site-level high VL cascade were reviewed.

RESULTS:



[Figure 1. Significant improvement in viral suppression rate in PEPFAR 13 supported countries over two year period (FY17-19)]



[Figure 2. High viral load cascade from select sites in South Sudan (2018-2019)]

VL suppression rates improved significantly in 13 of the 15 countries over the three-year period observed (Figure 1, P<0.05). Data from 2, 021 treatment facilities in some selected countries averaged 200 PVNS per facility. Site level high VL cascades highlighted low rates of PVNS EAC receipt, repeat VL testing, and ART switch, with prolonged times between interventions (Figure 2 South Sudan).

CONCLUSIONS: The management of PVNS continues to be a challenge and is critical to achieving epidemic control. There is a continued need for differentiated client-centered models that include interventions for PVNS care, such as the delivery of quality EAC, ART switch, optimized use of both laboratory-based and POC instruments for VL re-testing, and timely results availability and utilization for improved patient and program outcomes.

PDB02 NEUROCOGNITIVE AND MENTAL HEALTH

PDB0202

DARUNAVIR/COBICISTAT/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (D/C/F/TAF) IN TREATMENT-NAÏVE (AMBER) AND VIROLOGICALLY SUPPRESSED (EMERALD) PATIENTS WITH NEUROLOGIC AND/OR PSYCHIATRIC COMORBIDITIES: WEEK 96 SUBGROUP ANALYSIS

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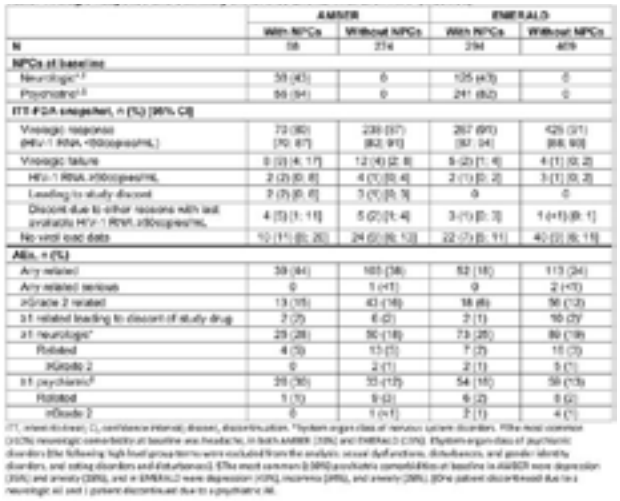
BACKGROUND: Patients with HIV-1 and neurologic and/or psychiatric comorbidities (NPCs) face unique challenges including suboptimal adherence and possible exacerbation of NPCs, requiring individualized treatment approaches for optimal health outcomes.

METHODS: This analysis evaluated 96-week efficacy/safety in patients with versus without NPCs at baseline from two trials: AMBER (ClinicalTrials.gov:NCT02431247; treatment-naïve patients randomized to initiate D/C/F/TAF 800/150/200/10mg or control regimen) and EMERALD (ClinicalTrials.gov:NCT02269917; virologically suppressed patients randomized to switch to D/C/F/TAF or continue their boosted protease inhibitor-based regimen). NPCs were based on verbatim medical history terms, coded and defined as those within the MedDRAv22 system organ class Nervous System Disorders or Psychiatric Disorders. In this analysis, efficacy was assessed by virologic response (HIV-1 RNA <50copies/mL) at Week 96 by intent-to-treat FDA snapshot analysis in patients randomized to receive D/C/F/TAF.

RESULTS: Overall, 88/362 (AMBER) and 294/763 (EMERALD) patients receiving D/C/F/TAF had baseline NPCs, with psychiatric comorbidities more common than neurologic (**Table**). High virologic response rates (80-91%) were observed at Week 96, regardless of NPCs (**Table**). Small response rate differences in AMBER patients with versus without NPCs were driven by discontinuation for reasons other than virologic failure with last HIV-1 RNA ≥50copies/mL; notably, no treatment-emergent resistance was detected among AMBER patients with NPCs. Across both studies, most AEs were grade 1 and discontinuation rates due to D/C/F/TAF-related AEs were low and similar for patients with and without NPCs (**Table**). In both studies, patients with NPCs had higher overall rates of neu-

rologic/psychiatric AEs; however, incidences of D/C/F/TAF-related neurologic or psychiatric AEs were similar regardless of NPCs. There were no neurologic or psychiatric D/C/F/TAF-related serious AEs.



[Table. Virologic response and summary of adverse events with D/C/F/TAF (week 96)]

CONCLUSIONS: Patients with and without NPCs receiving D/C/F/TAF over 96 weeks had high virologic response rates and low D/C/F/TAF-related discontinuation rates. Patients with NPCs tolerated D/C/F/TAF well without additional central nervous system-related burden, indicating that D/C/F/TAF may be a suitable option for these patients.

PDB0203

TASK-SHARED, NURSE-DELIVERED, COGNITIVE BEHAVIORAL THERAPY FOR ADHERENCE AND DEPRESSION (CBT-AD) IN HIV CLINICS IN KAYELITSHA, SOUTH AFRICA: A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Depression is a highly prevalent condition among people living with HIV (PLWH) both globally and in Sub-Saharan Africa (SSA), home to the highest number of PLWH. Depression is a consistent and robust predictor of non-adherence to antiretroviral therapy (ART). Yet, there is a significant mental health treatment gap, with insufficient numbers of mental health providers. Task sharing, originally developed in SSA to expand ART availability, may also be a useful solution to increase access to depression treatment (e.g., by nurses who are more available).
METHODS: Methods: This study is a two-arm randomized controlled trial for virally unsuppressed PLWH and clinical depression (N=161) in primary HIV care clinics in Khayelitsha, South Africa. It is comparing a task-shared cognitive behavioral therapy for adherence and depression (CBT-AD) administered by nurses (supervised by a clinical psychologist) with standard of care (SOC) clinic-based adherence counseling and support. Primary outcomes (baseline to acute post-treatment; 4-months) were the Hamilton Depression Rating Scale (HAMD) administered by a blinded independent evaluator, and weekly adherence via real-time monitoring (Wisepill). For the depression analyses, we used linear mixed models using maximum likelihood for missing data. For weekly adherence, we used a generalized estimating equation model (uses all available data) with robust standard errors, censoring Wisepill non-usage.
RESULTS: Results: CBT-AD showed superiority on both outcomes. While both groups improved in depression, there was a significant interaction such that the CBT-AD condition improved by an estimated 4.88 points (CI: -7.86, -1.87, p=.0016) more than SOC. Wisepill usage was variable (non-usage); however, there was also a significant time by condition interaction (est=1.38, CI: .38, 3.60, p=.000) such that the SOC started off lower than CBT-AD, and had a significant decrease in adherence over this time period (est=1.26, CI: -1.79, -.73, p=.000), and the CBT-AD condition maintained their higher adherence. The uncensored adherence (wisepill) analysis yielded a similar pattern of results.
CONCLUSIONS: Conclusions: Nurse-delivered CBT-AD using a task sharing model was effective in improving depression and ART adherence for virally unsuppressed PLWH. Longer term follow-up, with behavioral and biological outcomes are needed, as are future implementation science trials and analysis of cost-effectiveness, to translate findings into clinical practice.

PDB0204

HIGH BURDEN OF DEPRESSION AMONG CLIENTS INITIATING SAME-DAY ANTIRETROVIRAL THERAPY AT THE ANONYMOUS CLINIC, BANGKOK THAILAND

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BACKGROUND: Depressive disorders are common, but often underdiagnosed among people living with HIV. We implemented a depression-screening tool into our Same-Day antiretroviral therapy (SDART) service at the Thai Red Cross AIDS Research Centre (TRCARC) to determine the prevalence of depression and its association with clients' decision to accept or reject SDART.
METHODS: Clients at the TRCARC underwent processes for eligibility determination for ART initiation per national guidelines on the same day as HIV diagnosis. As part of the ART initiation process the Thai version of the Patient Health Questionnaire (PHQ-9), a depression screening tool, was implemented, which was completed electronically by the client. A score of 0-4 represents no depression, 5-8 mild depression, 9-14 moderate depression, 15-19 moderately severe depression, and ≥20 represents severe depression.
RESULTS: Between June – November 2019, 879 clients were enrolled in the SDART program, 657 (74.7%) were men who have sex with men, 95 (10.8%) cis-gender women, 82 (9.3%) heterosexual men, and 45 (5.1%) transgender women. Median (interquartile range) age was 29 (24-36). A total of 859 (97.7%) accepted SDART. Of 833 clients who completed the Thai PHQ-9, 471 clients (56.5%)

had no depression, 217 (26.1%) had mild depression, 119 (14.3%) had moderate depression, 22 (2.6%) had moderately severe depression and 4 (0.5%) had severe depression. Among clients with scores indicative of moderate, moderately severe or severe depression, only 2 (1.4%) rejected SDART. There was no relationship between the presence of moderate to severe depression and the decision to accept SDART (p=0.688). The most common reasons for rejecting SDART were: 1) difficulty travelling to healthcare units (33.3%), 2) fear of ART side effects (27.3) and 3) had a job which prohibits taking ART at regular times (21.4%).

CONCLUSIONS: Acceptability of SDART was high, and although the severity of depression did not impact this, we found a high burden of depression among our clients, with almost half of all clients having at least mild depression. HIV diagnosis could be utilized as an opportunity for diagnosis of depression, and routine self-screening for depression during ART initiation using the PHQ-9 can be implemented effectively.

PDB0205

LONGITUDINAL STUDY OF NEUROCOGNITIVE DISORDERS AND ASSOCIATED STRUCTURAL BRAIN CHANGES IN ADOLESCENT HIV

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BACKGROUND: Neurocognitive disorders (NCD) despite ART are well known in perinatally-infected HIV+ adolescents (PHIV) but there are few data on longitudinal changes in NCD and brain structure in PHIV over time.

METHODS: Within this sub-study of the Cape Town Adolescent Antiretroviral Cohort, PHIV on ART >6m completed baseline and 3-year follow-up assessments including a comprehensive neurocognitive battery assessing function in 10 domains. We applied the youth HIV-associated NCD diagnostic criteriato classify each as having either a major NCD, a minor NCD, or no impairment. Diffusion tensor imaging and structural brain magnetic resonance imaging was done to determine fractional anisotropy (FA), mean diffusivity (MD), grey and white matter volumes, cortical thickness and cortical surface area. In analysis we examined changes over the 3-year period in NCD and neurostructural measures in PHIV compared to age- and sex-matched HIV- controls.

RESULTS: Overall 122 PHIV ages 9-12 years (mean CD4 cell count 953 cells/μL and 85.3% VL<50 copies/mL) and 37 age-matched HIV-controls completed baseline and 3-year follow-up assessments. 48% PHIV had a NCD at baseline and 60% at follow-up: NCD diagnosis was stable over time in 60 (49%) of participants, 22 (18%) improved NCD status and 40 (33%) deteriorated. At baseline, PHIV with major NCD showed the highest whole brain MD (p=.007); at follow-up whole brain grey (p=.004) and white matter volumes (p=.032) were lowest in PHIV, with whole brain MD remaining highest in PHIV with a major NCD (p=.02). Higher MD is suggestive of inflammation and myelin loss. In addition significant regional brain changes were observed at follow-up compared to baseline in PHIV vs controls. Structural changes over time were observed mainly in cortical surface area of the bilateral orbitofrontal, anterior cingulate, medial orbitofrontal, middle frontal, superior temporal, transverse temporal gyri and insula (all p<.05). White matter microstructural changes over time were observed in the internal capsule, cerebral peduncle and the cingulum (all p<.05).

CONCLUSIONS: NCD and brain structural alterations in PHIV increased over the 3 years of follow-up compared to HIV- controls. Studying the participants who improved vs deteriorated over time may provide insight into future interventions for NCD in PHIV.

PDB0206

ASSESSING NEUROCOGNITIVE FUNCTIONING AMONG ADOLESCENTS AND YOUNG ADULTS WITH PERINATALLY ACQUIRED HIV IN THAILAND: SUPPORT FOR THE NEUROSCREEN APP

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BACKGROUND: Adolescents and young adults (AYA) living with perinatally acquired HIV (PHIV) often perform worse on selective neurocognitive tests compared to their uninfected peers, including tests of working memory, processing speed and executive functioning. Assessing their neurocognition is challenged in low- and middle-income countries (LMICs), such as Thailand, due to resource constraints (e.g., lack of easy-to-use, validated tools). This study examined if a novel, highly automated (e.g., tests automatically timed and scored), brief (25 minutes), easy-to-use by any staff, tablet-based neurocognitive assessment (NeuroScreen) adapted for Thailand could detect test performance differences between AYA with PHIV and uninfected-AYAs.

METHODS: NeuroScreen underwent translation by bilingual (English and Thai) psychologists, and was reviewed by Thai AYA with and without PHIV, and Thai clinical staff. Thai AYA (50 PHIV, 49 uninfected-AYA) recruited from similar communities were administered the Thai-language version of the NeuroScreen app, consisting of 12 tests of processing speed, working memory, executive functioning, learning, delayed recall, and motor speed. Independent samples *T*-tests were computed examining group differences.

RESULTS: Median age was 18 years (IQR 16-20), 60% were female. Groups did not differ by sex or age. Table 1 presents means and standard deviations and *T*-test results for each NeuroScreen test by HIV-status group. AYA with PHIV performed significantly worse on: five tests of processing speed, one of two tests of working memory, and the one test of executive functioning. AYA with PHIV mean performance was lower on all remaining tests, though not statistically significantly different than uninfected-AYAs.

Domain	Test	PHIV		HIV-		*p*
		Mean	SD	Mean	SD	
Processing Speed	Trail Making 1	21.34	7.04	18.75	4.55	0.04
	Trail Making 2	10.34	11.14	8.42	4.09	0.26
	Visual Discrimination 1	17.92	4.35	22.12	4.39	0.00
	Visual Discrimination 2	30.60	5.16	36.86	6.34	0.00
	Number Speed	28.39	5.26	23.89	6.25	0.00
Executive Functioning	Trail Making 2	22.52	5.97	9.84	4.92	0.03
Working Memory	Number Span Forwards	5.43	0.97	5.68	1.41	0.30
	Number Span Backwards	2.99	1.48	3.67	1.29	0.02
Motor Speed	Tapping (dominant hand)	276.32	38.82	284.00	30.70	0.28
	Tapping (nondominant hand)	250.86	46.07	258.67	29.90	0.32
Learning	Verbal Learning Total	9.38	0.73	9.51	0.65	0.35
Delayed Recall	Verbal Delayed Recall	4.42	0.91	4.65	0.72	0.16

[Table 1. NeuroScreen test performance by HIV status]

CONCLUSIONS: Results indicate that the NeuroScreen app detects performance differences in neurocognitive domains known to be vulnerable to PHIV, including processing speed, executive function, and working memory. NeuroScreen demonstrates potential as an assessment tool for Thai AYA with PHIV and LMICs.

PDB03 OPPORTUNISTIC INFECTIONS

PDB0302

INCIDENCE AND RISK FACTORS FOR STIS AMONG MSM ON PREP - A POST-HOC ANALYSIS OF THE ANRS IPERGAY TRIAL

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BACKGROUND: High rates of STIs have been reported among MSM on PrEP. Our objective was to assess, within the setting of the ANRS IPERGAY trial, the incidence of bacterial STIs over time and baseline risk factors associated with STIs.

METHODS: Data from all participants enrolled in the ANRS IPERGAY trial were used. Participants were enrolled in February 2012 and switched to open-label PrEP (with TDF/FTC) in November 2014. Study visits were scheduled every 8 weeks.

Participants were screened for STI (syphilis, chlamydia, and gonorrhea) at baseline and at least every 6 months at the physician's discretion. All bacterial STIs reported in the database were analyzed with their location (pharyngeal, rectal, urine). STIs incidence was calculated yearly. Cox proportional hazards model regression was used to explore associations between participant's characteristics at baseline and first STI occurrence.

RESULTS: Between February 2012 and June 2016, 429 participants were enrolled with a median follow-up of 23 months (range: 0-51). At baseline, median age: 35 years, 99% MSM, 91% white, 72% had post-secondary education, 46% used recreational drug, 27% use GHB, 35% use erectile drugs, 27% had STI, median number of sexual partners in prior two months: 8, and 35% had condomless receptive anal sex at last intercourse. Overall STIs incidence was 74, 33, 13, 32 and 30 per 100 PY for all STIs, rectal STIs, syphilis, gonorrhea and chlamydia, respectively. STI incidence significantly increased from February 2012 (55 per 100 PY) to June 2016 (90 per 100 PY) (p<0.001). One hundred and sixty-seven participants (39%) accounted for 557 (86%) of all STIs reported while 170 participants (40%) did not experience any STI during follow-up.

	Univariate analysis			Multivariate analysis	
	N/Ntot	HRCox[IC]	P Cox	HRCox[IC]	P Cox
STI at baseline	115/429	1.46[1.12;1.9]	0.005	1.45[1.11;1.89]	0.007
Number of Partners >=8	240/429	1.45[1.13;1.87]	0.004	1.39[1.07;1.82]	0.015
Sex Party	181/419	1.42[1.11;1.82]	0.005	1.09[0.83;1.43]	0.529
Use of GHB	117/413	1.76[1.35;2.29]	<0.001	1.53[1.15;2.04]	0.004
Use of erectile drugs	151/420	1.62[1.26;2.07]	<0.001	1.32[1.01;1.74]	0.045

[Table. Baseline risk factors associated with STIs occurrence.]

CONCLUSIONS: STI incidence was high and increased during the IPERGAY trial, but most STIs were concentrated in a high-risk group that should be targeted for future interventions.

PDB0303

PERSISTENTLY HIGH RATES OF SEXUALLY TRANSMITTED INFECTIONS IN THE DISCOVER HIV PREP TRIAL

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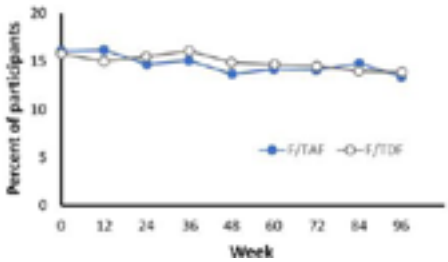
BACKGROUND: In DISCOVER, F/TAF was noninferior to F/TDF for HIV PrEP in MSM and transgender women. Here, we report STI outcomes during the trial through 96 weeks of follow-up.

METHODS: DISCOVER randomized 5387 participants 1:1 to receive blinded daily F/TAF or F/TDF for PrEP. Participation required documented HIV risk, determined by history of rectal STI, syphilis, or sexual behaviors. STI testing (gonorrhea, chlamydia and syphilis) and sexual behavior computer-assisted self-interview (covering the preceding 3 months) occurred at screening and every 12 weeks. Statistical analyses for categorical variables used the CMH test, and comparisons of HIV incidence used a Poisson model.

RESULTS: At baseline, 430 (16.1%) of participants in the F/TAF arm and 421 (15.8%) in the T/TDF arm tested positive for gonorrhea or chlamydia at any anatomic site; 299 (11.3%) and 279 (10.5%) tested positive at the rectum. The proportion of participants positive for gonorrhea and chlamydia by visit is found in the Figure.



[Figure 1. Percent of participants who tested positive for gonorrhea or chlamydia by visit.]

The overall incidence rate of gonorrhea or chlamydia at any anatomic site was 85.7 and 83.1 per 100 person-years (PY) for F/TAF and F/TDF respectively, and for rectal gonorrhea and chlamydia was 47.5 and 46.9 per 100PY. The 96-week prevalence of syphilis was

14.8% and 15.2% in the F/TAF and F/TDF arms, and the incidence rate was 9.9 and 9.3 per 100PY, respectively. The rate of HIV acquisition was higher in participants with a history of rectal gonorrhea, rectal chlamydia or syphilis at screening (0.61 vs 0.12 per 100PY, p<0.001). The mean(SD) number of condomless receptive anal sex partners was 3.6(5.9) vs 3.4(6.2) at screening and 3.8(7.3) vs 3.9(7.8) at week 96 for F/TAF and F/TDF respectively.

CONCLUSIONS: STI acquisition rates, especially rectal gonorrhea and chlamydia, remained stably high through 96 weeks of follow-up. In combination with sexual behavior data, this argues against risk compensation in DISCOVER.

PDB0304

POOLED PHARYNGEAL, RECTAL AND URINE SAMPLES FOR THE POINT-OF-CARE DETECTION OF *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHOEAE* BY LAY-PROVIDERS IN KEY POPULATION-LED HEALTH SERVICES IN THAILAND

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BACKGROUND: In Thailand, *Chlamydia Trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) screening for at-risk populations is not routinely provided. Screening for CT/NG among men who have sex with men (MSM) and transgender women (TGW) must include pharyngeal, rectal and urine samples, leading to high costs (25 dollars per compartment). We integrated Cepheid GeneXpert for CT/NG testing in the Key Population-Led Health Services model. Trained key-population lay-providers performed CT/NG sampling and testing in community-based organizations (CBOs). We present the performance of pooling samples from three compartments for CT/NG detection.

METHODS: Between August-October 2019, 199 MSM or TGW were recruited from 2 CBOs in Bangkok, Thailand. First-catch urine samples were self-collected by participants, KP-lay providers collected pharyngeal and rectal swabs. GeneXpert was used for separate testing of three compartments of 199 participants, and for testing of single participant pooled urine, pharyngeal and rectal samples from a subset of 50 participants. Performance of separate and pooled samples by GeneXpert were compared with the laboratory-based standard of care (SoC – Abbott RealTime).

RESULTS: Compared with SoC, sensitivity and specificity of GeneXpert were 100% and 100% for pharyngeal CT, 100% and 99.4% for rectal CT, 100% and 99% for urethral CT, 93.3% and 98.9% for pharyngeal NG, 100% and 99.5% for rectal NG, and 100% and 100% for urethral NG, respectively. Sensitivity and specificity of pooled samples were 100% and 100% for CT and 88.9% and 100% for NG, respectively, compared with SoC. One pharyngeal NG infection was missed using pooled sampling. Cohen's Kappa agreement for pooled samples was 100% for CT and 98% for NG when compared with SoC.

CONCLUSIONS: Pooled sampling from three compartments among MSM and TGW showed excellent performance for detection of CT. Sensitivity for detection of NG was lower for pooled specimens compared to single-site testing due to a missed infection in the pharynx, where bacterial loads can be lower compared to other compartments. Nonetheless, agreement between pooled sampling, single-site and SoC was good, and pooled sampling significantly reduces costs. Pooled sampling in CBOs by KP-lay providers should be implemented to facilitate access to CT/NG testing services for at-risk populations in Thailand.

PDB0305

CYTOMEGALOVIRUS RETINITIS IN ADVANCED HIV PATIENTS: SCREENING AND CARE IN MOZAMBIQUE

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BACKGROUND: AIDS-related cytomegalovirus retinitis (CMVR) is a late-stage opportunistic infection. In Africa, CMVR burden is largely unknown, due to lack of screening and limited access to treatment. In Maputo, Médecins Sans Frontières with the Ministry of Health supports patients with advanced HIV disease (AHD) at the referral centre of Alto Mae (CRAM) and in Jose Macamo hospital (JM). Here we describe CMVR activities as part of the AHD package of care.

METHODS: CMVR screening was introduced for adult HIV-positive patients with CD4 count <100 cells/µl and patients with visual complaints in February 2019.

Retinal examination is performed by trained non-ophthalmologist physicians on fully dilated pupils using indirect ophthalmoscopy. Patients with active CMVR are treated with oral valganciclovir. We analysed routine data, collected between February and November 2019.

RESULTS: Among eligible patients with CD4<100 cells/µl, 120/160 (75%) were screened in CRAM and 245/721 (34%) in JM.

In CRAM, 8/120 patients were diagnosed with CMVR (6.6%; 6 active and 2 inactive CMVR) and 13/245 in JM (5.3%; 11 active and 2 inactive CMVR), with total CMVR prevalence of 5.7% (21/365). Median age was 40 years (IQR 33-49), 76% were women (n:16). At diagnosis time, median CD4 was 21 cells/µl (IQR: 15-45), with 76% of CMVR patients reporting ART history (n:16).

Mortality was high among hospitalized CMVR patients: 7/13 (54%) patients died prior to treatment initiation, and 2 were lost-to-follow-up. Eight patients with active CMVR were treated with oral valganciclovir. At the end of the follow-up period, 6 patients were alive in care (75%) and 2 (25%) died. Overall, 9 (43%) CMVR patients died, some while being treated for co-existent opportunistic infections.

CONCLUSIONS: This first report of AIDS-related CMV retinitis in Mozambique revealed a 5.7% CMVR prevalence among screened patients with AHD. Mortality among patients with CMVR was high. Although CMVR diagnosis with indirect ophthalmoscopy was feasible, we faced limitations to screen all at risk patients. Also, ophthalmic screening doesn't allow for diagnosis of other CMV end-organ disease or viremia. There is urgent need for early and easy diagnosis of CMV infection, such as detection of CMV viremia, and better access to treatment with valganciclovir.

PDB0306

INCIDENCE OF HCV REINFECTION AMONG HIV-POSITIVE MSM AND ITS ASSOCIATION WITH SEXUAL RISK BEHAVIOR: A LONGITUDINAL ANALYSIS

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BACKGROUND: HIV-positive men who have sex with men (MSM) are at high risk of hepatitis C virus (HCV) reinfection following clearance of HCV. Risk factors for reinfection, which include sexual risk behavior, have yet to be comprehensively assessed.

METHODS: Using data from a prospective observational cohort study among HIV-positive MSM with an acute HCV infection (MOSAIC) in the Netherlands, the incidence of HCV reinfection following spontaneous clearance or successful treatment was assessed. A univariable Bayesian exponential survival model was used to identify risk factors associated with HCV reinfection. Prior distributions of hazards ratios (HR) were based on the anticipated strength of association for a given risk factor and together with the data, were used to estimate the posterior distribution of HR and 95% credible intervals (CrI) for each risk factor with Markov Chain Monte Carlo methods.

RESULTS: Overall, 122 HIV-positive MSM who had a spontaneously cleared or successfully treated HCV infection between 2003 and 2017 were included. During a median follow-up of 1.4 years (interquartile range 0.5-3.8), 34 HCV reinfections were observed in 28 patients. The incidence of HCV reinfection was 11.5/100 person-years and among those with reinfection, median time to reinfection was 1.3 years (interquartile range 0.6-2.7). HCV reinfection was associated with receptive condomless anal intercourse (posterior-HR=4.27, 95% CrI 1.86-9.78), sharing of sex toys (posterior-HR=4.91, 95% CrI 2.27-10.31), group sex (posterior-HR=2.80, 95% CrI 1.33-5.98), anal rinsing before sex (posterior-HR=2.47, 95% CrI 1.14-5.43), ≥10 casual sex partners in the last 6 months (posterior-HR=2.81, 95% CrI 1.26-6.50), nadir CD4 cell count <200 cells/mm3 (posterior-HR=2.22, 95% CrI 1.05-4.81), and recent CD4 cell count <500 cells/mm3 (posterior-HR=3.60, 95% CrI 1.73-7.64).

CONCLUSIONS: Incidence of HCV reinfection was high and strongly associated with sexual risk behavior. These results highlight the need for interventions to reduce risk behavior and prevent HCV reinfections among HIV-positive MSM.

PDB04 RESISTANCE

PDB0402

HIV-1 DNA TESTING IN VIREMIC PATIENTS DEMONSTRATES A GREATER ABILITY TO DETECT DRUG RESISTANCE COMPARED TO PLASMA VIRUS TESTING

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BACKGROUND: Treatment guidelines recommend drug resistance testing on plasma virus to guide the selection of antiretroviral therapy in patients with HIV-1 viremia >500 copies/mL. However, drug resistance mutations (DRMs) in plasma virus represent only the selective pressure imposed by the failing regimen and may miss DRMs reflective of prior regimens. HIV-1 DNA testing derives drug resistance information from whole blood and offers a resistance testing option when plasma virus is undetectable. HIV-1 DNA testing may also have the ability to capture DRMs in actively replicating virus in viremic patients.

METHODS: Resistance test results derived from paired whole blood (DNA) and plasma (RNA) samples obtained from the same patient on the same day were compared for 89 patients with HIV. DRM and antiretroviral susceptibility concordance was assessed between 103 paired tests. All samples had viral loads (VLs) >500 copies/mL and were stratified to assess the impact of viral load on concordance. Resistance to individual antiretroviral drugs and drug classes was also assessed.

RESULTS: The mean patient age was 38; 88% were female, of whom 19% were pregnant. The mean VL was 132,487 copies/mL. HIV-1 DNA testing captured 505/548 (92%) of all mutations reported by plasma virus testing and identified 128 additional DRMs. HIV-1 DNA testing demonstrated an average 94% concordance in 103 paired comparisons with plasma HIV-1 DRMs. HIV-1 DNA testing also captured 210/240 (88%) of the resistance calls reported by plasma virus testing, and identified 80 additional resistance calls. Plasma virus DRMs identified at VLs >10,000 copies/mL were more likely to be detected in the DNA compartment compared with plasma virus DRMs identified at VLs <10,000 copies/mL. Viral load level did not affect the percentage of DRMs on HIV-1 DNA reports derived from previously archived virus. HIV-1 DNA testing identified more resistance than plasma virus testing across all drug classes, including individual mutations such as M184V and K103N.

CONCLUSIONS: These findings demonstrate that HIV-1 DNA testing largely recaptures plasma virus DRMs, and identifies additional mutations in previously archived virus. HIV-1 DNA testing has clinical utility in viremic patients, especially those who have no or limited prior resistance reports.

PDB0403

HIV-INFECTED TREATMENT-EXPERIENCED CHILDREN AND ADOLESCENTS FROM SUB-SAHARAN AFRICA: CLINICAL OUTCOMES ON THIRD-LINE ANTIRETROVIRAL TREATMENT IN THE NEW HORIZONS DRUG DONATION PROGRAM

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BACKGROUND: Viral load (VL) scale-up has highlighted significant rates of treatment failure among HIV-infected children and adolescents on ART in sub-Saharan Africa. The aim of this study was to describe virologic and immunologic characteristics of children and adolescents with treatment failure on second-line antiretroviral treatment (ART) and to describe their clinical outcomes on third-line ART.

METHODS: This is an observational cohort study collecting prospective data from patients aged 0-24 years on third-line ART in Eswatini, Kenya, Uganda, and Zambia. We collected data from clinical record of patients initiated on darunavir (DRV) and/or etravirine (ETR) as part of third-line ART through the New Horizons drug donation program sponsored by Johnson & Johnson. Baseline demographic, clinical and laboratory data (CD4 cell count, HIV RNA VL, genotypic resistance) were collected at the starting point of initiating third-line ART and summarized using descriptive statistics and median (IQR).

RESULTS: From December 2018 to November 2019, 152 participants were enrolled; 57.2% (87/152) were male; median (min-max) age at initiation of third line was 12.8 (1.3 – 21.8) years. Prior second-line ART was PI-based, including lopinavir/ritonavir in 67.1%(n=102) and atazanavir/ritonavir in 17.8% (n=27). The NRTI backbone included lamivudine plus zidovudine in 20.4%, abacavir in 53.3%, or TDF in 23.0%. Most participants with available VL assessment (85.5%; n=130/152) had elevated VL within six months prior to switching: median (min-max) VL was 4.8 log (1.3 – 6.5). Of the 123 patients with baseline resistance results, 89 (68.5%) had thymidine analog mutations (TAMs), 62.9% (n=56/89) TAM1 and 73.0% (n=65/89) TAM2 pathways. PI resistance mutations were observed in 71 (79.8%), with 70.4% (n=50/71) having accumulated >3 PI mutations. At six months on DRV/ETR based third-line ART, of the 58 participants with VL results, 72.4% (n=42/58) had viral suppression. At twelve months on third-line ART, of 36 participants with VL results, 80.6% (n=29/36) had viral suppression.

CONCLUSIONS: Treatment-experienced pediatric and adolescent patients failing a second-line PI-based ART had high level HIV viremia and high levels of NRTI thymidine analog and PI mutations. Among those patients with VL results available at 6 and 12 months on third-line ART containing DRV and/or ETR, the majority achieved virologic suppression.

PDB0404

DEEP SEQUENCING WITH UNIQUE MOLECULAR IDENTIFIERS FOR EVALUATION OF HIV-1 DRUG RESISTANCE IN THE DISCOVER PRE-EXPOSURE PROPHYLAXIS TRIAL

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BACKGROUND: The DISCOVER study is an ongoing randomized, double-blind study of pre-exposure prophylaxis (PrEP) using daily FTC/TAF (F/TAF; Descovy; DVY) or FTC/TDF (F/TDF; Truvada; TVD) in men or transgender women who have sex with men. Of the 5,335 randomized participants evaluated for HIV-1 infection, 24 (0.4%) became infected through a median of 120 Weeks on study. Here we present standard and ultrasensitive resistance testing from the DISCOVER participants who acquired HIV infection.

METHODS: Plasma samples from participants who became HIV-1 infected and had a viral load of > 400 copies/mL were tested with the Monogram GenoSure™ MG assay, using Sanger sequencing to analyze the protease (PR) and reverse transcriptase (RT) genes for any known resistance mutations (at ≥15-20% of the viral population). Identification of minor variants was evaluated using ultrasensitive resistance testing (at ≥1% of the viral population) that employed unique molecular identifiers for amplification of viral variants followed by next generation sequencing (UMI-NGS) to analyze RT codons 63-131 and 152-211 (University of Pittsburgh).

RESULTS: By standard sequencing, 4/20 HIV positive participants tested had M184V, all in the F/TDF group and all with suspected baseline infection; 2 of these 4 also had M184I present. Six participants had additional mutations conferring resistance to non-study drugs including NRTI, NNRTI, and PI, which were presumed to be transmitted.

By UMI-NGS, 23/24 HIV participants with HIV had samples available and 21/23 were successfully analyzed. The four participants with M184V each had M184I also detected; K65R was detected in 1 participant at very low levels. One participant on F/TAF had the M184V mutation present at 2%. Two out of 3 participants with samples that had viral loads < 400 copies/mL were successfully tested and neither had resistance to study drugs.

CONCLUSIONS: Using standard sequencing, M184V was detected in 4 participants, all in the F/TDF arm. Using ultrasensitive UMI-NGS testing, similar results were observed, with the addition of one participant with M184V in the F/TAF arm. Overall, drug resistance in the DISCOVER study was most commonly seen in participants with suspected baseline infections and in only 1 individual who became infected while on study.

PDB0405

PRETREATMENT LOW-FREQUENCY HIV DRUG RESISTANCE MUTATIONS IN ANTIRETROVIRAL NAIVE INDIVIDUALS IN BOTSWANA

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BACKGROUND: The commonly used Sanger population based sequencing (SPBS) assay misses low-frequency HIV drug resistance mutations present at less than 20% of the viral population. Detecting and monitoring low-frequency HIV drug resistance mutations at treatment initiation is important for patient management. In this study, we aimed to determine the baseline prevalence of HIV low-frequency drug resistance mutations among antiretroviral naïve individuals in Botswana.

METHODS: Baseline plasma samples from 93 viremic treatment naïve participants were extracted and Pol gene was amplified. The purified PCR product was used for targeted Next Generation Sequencing (NGS) using illumina MiSeq platform. Raw sequences were analysed using Genome Detective platform and Geneious Software where amino acid frequency cut-offs>1% were selected to report low-level HIV-1 drug resistance mutations. Results of NGS were compared with SPBS data for concordance. Mutations were identified and evaluated according to the Stanford HIV-1 Drug Resistance database.

RESULTS: Next-Generation sequencing identified all 9 drug resistance mutations detected by SPBS. However, NGS detected 39 additional low-frequency HIV drug resistance mutations at <20% of the viral quasispecies. Of the 39, 33 low-frequency HIV drug resistance mutations were detected at a frequency of ≥1%; 4 were detected at a frequency of ≥5%; and 2 were detected at a frequency of ≥10%. Among the low-frequency HIV drug resistance mutations, 4 (10%) were to NNRTIs: 17(44%) to NRTIs and 18(46%) to PR inhibitors. Table 1 shows the distribution of the HIV drug resistance mutations detected in baseline samples.

Mutations detected by NGS						Mutations detected by Sanger
		≥20%	≥10%	≥5%	≥1%	≥20%
NRTI Mutations	D67G	-	-	-	2	1
	F116Y	-	-	-	1	-
	F77L	-	-	-	1	-
	K219R	-	-	-	3	-
	K65R	-	-	-	8	-
	M184I	-	-	-	2	-
	M41L	1	-	-	-	1
Sub-total		1	-	-	17	2
NNRTI Mutations	G190A	1	-	-	-	1
	K103N	3	-	-	-	3
	P225H	-	-	-	1	-
	V106M	-	-	-	1	-
	Y181C	-	-	-	1	-
	Y188H	-	-	-	1	-
Sub-total		4	-	-	4	4
PI Mutations	A71T	2	1	1	-	1
	F53L	-	-	-	1	-
	I50V	-	-	-	2	-
	I84V	-	-	-	2	-
	I85V	-	-	-	2	-
	L10I	2	-	2	-	2
	L10V	2	-	-	-	2
	L90M	1	-	-	-	1
	M46I		1	1	3	-
	M46L	1	-	-	1	1
	N88S	-	-	-	1	-
Sub-total		**8**	**2**	**4**	**12**	**7**

[Table 1. Baseline HIV-1 Drug resistance mutations detected by sanger and NGS from plasma specimens collected from antiretroviral naïve individuals. - means no mutations.]

CONCLUSIONS: This is the fist time in Botswana NGS has been used in a large population to detect HIV pre-treatment low-level drug resistance mutations. Our results revealed the presence of HIV low-frequency drug resistance mutations in baseline samples. The impact of low frequency major DRMs warrants further investigation.

PDB0406

DORAVIRINE RESISTANCE PROFILE IN CLINICAL ISOLATES AND IMPACT OF BASELINE NNRTI RESISTANCE-ASSOCIATED MUTATIONS OBSERVED IN TREATMENT-NAÏVE PARTICIPANTS FROM PHASE 3 CLINICAL TRIALS

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BACKGROUND: Doravirine (DOR), a novel NNRTI with activity against viruses bearing common NNRTI resistance-associated mutations (RAMs), is approved for the treatment of HIV-1 infection. This study evaluated the activity of DOR in a large panel of clinical samples submitted for routine drug resistance testing and retrospectively analyzed the impact of baseline RAMs in treatment-naïve (TN) participants from DOR clinical trials to extend our understanding of its resistance profile.

METHODS: Genotype and phenotype data from 4,070 TN and treatment-experienced samples evaluated for DOR susceptibility between August 2018 and August 2019 at Monogram Biosciences were analyzed. RAM prevalence and susceptibility to all FDA-approved NNRTIs was compared. To evaluate clinical significance, the prevalence of baseline RAMs and the proportion of participants achieving HIV-1 RNA <50 copies/mL at weeks 48 and 96 was retrospectively assessed in participants from the Phase 3 clinical trials, DRIVE-FORWARD and DRIVE-AHEAD.

RESULTS: Using established biological and clinical cut-offs for approved NNRTIs and a DOR biological cut-off of 3-fold, the percentage of samples susceptible to DOR, NVP, EFV, RPV and ETR was 92.5%, 77.5%, 81.5%, 89.5% and 91.5%, respectively. A 5-fold DOR cut-off increased susceptible samples to 94.5%. Individual DOR RAMs ranged from 0.02 to 2.29%. Among 228 samples (5%) resistant to NVP, EFV, RPV and ETR, 28.5% remained susceptible to DOR. The prevalence and DOR median fold-change (FC) in samples bearing common NNRTI RAMs (n >50 isolates) were as follows: K103N (14.3%, 1.25), V106I (5.4%, 1.28), Y181C (5.3%, 2.23), V108I (3.1%, 2.15), K101E (3.0%, 1.46), G190A (2.4%, 1.82), E138K (1.4%, 1.64), K103N/Y181C (1.3%, 3.06).

Common NRTI RAMs increased DOR susceptibility by ~2-fold in the absence of NNRTI RAMs; DOR hyper-susceptibility (FC≤0.4) was often observed.

In DRIVE-FORWARD and DRIVE-AHEAD, the most prevalent NNRTI RAM at baseline was V106I, which was detected in 5 TN participants (0.7%); all 5 achieved HIV-1 RNA <50 copies/mL at weeks 48 and 96. Other RAMs were detected in 1 or 2 participants only.

CONCLUSIONS: Clinical samples with common NNRTI RAMs show high susceptibility to DOR. In phase 3 clinical trials, DOR demonstrated high efficacy in a small group of TN participants with common NNRTI RAMs.

PDB0407

SURVEILLANCE OF TRANSMITTED HIV DRUG RESISTANCE AMONG TREATMENT-NAÏVE CHILDREN UNDER 18 MONTHS IN BRAZIL (2009-2018)

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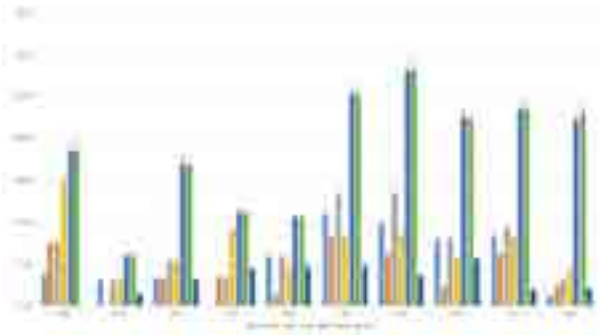
BACKGROUND: Children living with HIV (CLWHIV) are exposed to antiretroviral drugs antepartum, intrapartum or postpartum, which can lead to HIV drug resistance (HIV-DR). Brazilian guidelines recommend the use of genotyping tests for all CLWHIV before ART initiation, which are fully provided by the national public health system, in order to support the choice of the most adequate ART regimen. The aim of this study is to evaluate the prevalence of HIV-DR in CLWHIV treatment-naïve in Brazil.

METHODS: The national genotyping database from the Ministry of Health of Brazil was used for this analysis. HIV pol sequences from treatment-naïve infants under 18 months from 2009 to 2018 were selected. The Stanford HIVdb Program was used to assess the presence of HIV-DR.

RESULTS: In period of analysis, 838 HIV pol sequences were identified (median age: 5months; IQR:3-9months. The HIV-DR prevalence for Nevirapine (NVP): 18.74% (CI95%: 14.27-22.83), Efavirenz (EFZ): 18.74% (CI95%: 14.2-22.68); Lamivudine (3TC): 5.37% (CI95%: 3.15-7.53), Zidovudine(AZT): 6.92% (CI95%: 4.92-8.92), Abacavir (ABC): 7.16% (CI95%: 4.9-9.44), Lopinavir/ritonavir (LPV/r): 3.34% (CI95%: 2.16-4.24). Only three CLWHIV showed resistance to Darunavir/r. The highest prevalence identified were to NVP and EFZ – Non nucleoside reverse transcriptase inhibitors (NNRTI) (FIGURE 1). In addition, 3.7% (n=31) presented HIV-DR to AZT+ABC, 5.4% (n=45) to ABC+3TC, 2.02% (n=17) to 3TC+AZT, 2.02% (n=17) were resistant to all NRTI (AZT, ABV, TDF), 1.79% (n=15) to AZT+3TC+NVP, 3.7% (n=31) to AZT+ABC+NVP and 4.3% (n=36) to 3TC+ABC+NVP.



[Figure. HIV drug resistance in treatment-naive children under 18 months, Brazil (2009-2018)

CONCLUSIONS: The high prevalence of transmitted HIV-DR to NNTRI in CLWHIV is a matter of concern because there is a limited number of treatment options for this population. The incorporation of new drugs, such as integrase inhibitors, as prophylaxis and treatment, is essential to tackle resistance to NNTRI and improve treatment outcomes in this age group.

PDC01 EMERGING SUCCESS STORIES IN PREP IN MSM AND TGW IN ASIA

PDC0102

HIGH PREP ADHERENCE IN MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN COHORT IN MANILA, PHILIPPINES: EVIDENCE OF HIV PROTECTIVE LEVELS FROM TENOFOVIR BLOOD CONCENTRATIONS IN PROJECT PREPPY

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BACKGROUND: Pre-exposure prophylaxis (PrEP) significantly reduces HIV infections. Efforts to increase PrEP access are underway in the Philippines, where an accelerating HIV epidemic disproportionately affects men who have sex with men (MSM) and transgender women (TGW). PrEP's efficacy is contingent on adherence; however, studies on PrEP adherence using objective measures remain limited in the Philippines.

We tested banked human plasma to examine tenofovir concentrations in a cohort of PrEP-using MSM/TGW in Metro Manila, the region with the highest number of new HIV diagnoses in the Philippines.

METHODS: We enrolled 250 participants in a prospective cohort of PrEP-naïve, HIV-uninefected MSM/TGW in "Project PrEPPY." Participants received daily oral PrEP for 12 months. Self-reported PrEP adherence was monitored using daily diaries. Using a computer algorithm, we randomly selected 50 banked plasma samples collected at 6- and 12-month visits for tenofovir concentrations testing using liquid chromatography-electrospray tandem mass spectrometry.

We classified samples as having HIV protective concentrations using previously established cut-offs (tenofovir concentrations>40ng/mL). This cut-off has been estimated to have 88% protective effect against HIV and was demonstrated to be consistent with steady-state daily dosing.

RESULTS: Participants that had their plasma samples randomly selected for testing had similar baseline sociodemographic (age, gender, income, education: p>0.05) characteristics as non-randomly selected participants. The prevalence of HIV protective concentrations from plasma samples was similar (p≥0.99) overtime: 92.9% (95%CI=73.7-98.4%) at 6-month, and 90.9% (95%CI=67.3%-98.0%) at 12-month visits. The proportion of participants who reported taking ≥85% of their PrEP daily doses was 88% during follow-up, whereas 99.6% reported taking 4 pills per week (protective drug-level adherence). There were no HIV seroconversions during the follow-up (187.6 person years).

CONCLUSIONS: This is the first study to demonstrate high prevalence of HIV protective tenofovir blood concentrations levels in a PrEP-using cohort in the Philippines. Data from our objective marker of PrEP adherence demonstrate drug concentrations consistent with high protective effects against HIV during follow-up. Results also corroborate the high levels of self-reported adher-

ence. Taken together, these findings support high acceptability of PrEP among MSM/TGW in Manila and underscore the important role PrEP can play in slowing down the HIV epidemic in the Philippines.

PDC0103

ADHERENCE TO DAILY AND EVENT-DRIVEN PRE-EXPOSURE PROPHYLAXIS AMONG MEN WHO HAVE SEX WITH MEN IN TAIWAN

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BACKGROUND: WHO has recommended both daily and event-driven (ED) pre-exposure prophylaxis (PrEP) to men who have sex with men (MSM). While switching between two dosing regimens has not been uncommon, real-world data reporting PrEP users' adherence and its correctness related to each regimen were limited.

METHODS: A multi-center, prospective cohort study was conducted at hospital-based clinics in three urban cities in Taiwan between 1st January 2018 and 15th December 2019. At each visit, participants reported their choice of PrEP dosing regimen for the past month and the number of pills taken within five days of the last anal intercourse. We defined correct PrEP use as followed: 1) taking two pills on day X (i.e. the day having sex) or the day X-1, and at least one pill on the day X, X+1 and X+2 for ED regimen 2) at least one pill every day for five days for daily regimen. Missed doses with ED regimen were counted as pre-coital and post-coital respectively.

RESULTS: There were 374 MSM participants with a total of 1,054 visits. ED PrEP was reported in nearly half of the visits (48.7%). There were 53 MSM who reported 81 regimen switches: 46 from daily to ED and 35 from ED to daily. Overall, PrEP were taken correctly in 83.5% visits. The proportion of correct PrEP use was higher with daily use than ED use (92.2% vs 74.3%, p<0.001). Among 132 visits reported incorrect ED use, 65.9% missed pre-coital doses, 20.4% missed post-coital doses, and 13.6% missed both pre-coital and post-coital doses.

CONCLUSIONS: Lower adherence was more likely to be observed in ED than daily PrEP use. Missing pills before sex suggests potential difficulty for MSM to predict sexual acts. Given the high acceptability of ED dosing regimen in Taiwan, understanding barriers to PrEP adherence and developing an effective intervention for both ED and daily PrEP users are urgently needed.

PDC0104

PROJECT MY PREP: RESULTS FROM A PREP DEMONSTRATION PROJECT AMONG HIGH RISK MEN WHO HAVE SEX WITH MEN (MSM) IN KUALA LUMPUR, MALAYSIA

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BACKGROUND: In recent years, HIV prevalence among MSM in Kuala Lumpur has been increasing. Additional HIV prevention measures are urgently necessary. The MyPrEP project aims to evaluate feasibility of daily PrEP among MSM in Kuala Lumpur.

METHODS: Prospective participants were recruited through the internet and social media. Men were eligible if ≥18 years old, Malaysian, HIV uninfected (by 4th Gen HIV Ag/Ab combo and POC HIV VL), had normal renal function, and reported a history of high-risk behavior. Men were seen at three different sites around Kuala Lumpur for a duration of 12 months. Daily generic oral TDF/FTC was provided free of charge. Behavioral and adherence data and STI laboratory test results were collected at baseline and every 3 months thereafter.

RESULTS: From March to October 2018, 381 men were screened of whom 186 (49%) did not meet demographic or behavioral criteria. Of the remaining 195 men, 14 (7%) were HIV infected, 8 (2%) had medical pre-conditions, 23 (12%) declined and 150 (77%) were enrolled. Most participants were >25 years (79%), of Chinese ethnicity (57%) and had at least a university degree (90%). One-year retention was 96% (139/150), daily pill adherence (self-reports and pill counts), 88% (7 doses/wk) and protective drug level adherence (≥4 doses/wk), 99%. Multiple (>1) male sexual partners were reported by 71% at baseline and by 85% at 12 months, inconsistent condom-use by 81% and 86%, and "chemsex" by 51% and 44%. The mean number of anal sex partners increased from 2.5 to 3.6 during the same time period. Prevalence of rectal chlamydia declined from 19% at baseline to 10% at 12 months, of rectal gonorrhea from 10% to 9% and of syphilis from 11% to 9%. None of these differences were statistically significant. No new HIV infections were detected during the course of the project.

CONCLUSIONS: The MyPrEP demonstration project showed feasibility of daily PrEP among MSM in Kuala Lumpur. Adherence and retention were high and no new HIV infections occurred during follow-up. No dramatic changes in HIV risk behaviors were reported. The project provided an excellent opportunity to diagnose and treat asymptomatic STI in a high-risk population.

PDC0105

HIGH PERSISTENCE OF DAILY ORAL PREP AMONG 18-26 YEAR OLD THAI MEN WHO SELL SEX: PRELIMINARY RESULTS OF THE COPE4YMSM STUDY

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BACKGROUND: Sustained use of HIV pre-exposure prophylaxis (PrEP) over time (persistence) has been a significant challenge among many populations, including young men who have sex with men (YMSM). PrEP persistence among YMSM who sell sex is unknown.

METHODS: COPE4YMSM, a Thai-US collaborative study, (NIH/NIAID, R01 AI118505) is assessing the effectiveness of an open-label offer of combination HIV prevention with or without daily oral Tenofovir-Emtricitabine (Truvada) for PrEP and mobile phone-based text message adherence support among 18-26 year old MSM who sell or exchange sex. We partner with key population-led service providers, SWING and RSAT, to enable persistence through community mobilization and social media. Participants may choose to take PrEP or not, in combination with regular HIV testing, risk reduction counseling, and condom and lubricant provision. We analyzed PrEP initiation, study retention, and PrEP adherence based on text message self-report of doses of PrEP in the last week. PrEP persistence was defined as self-reported continued use of PrEP 12 months after initiation. A random sample of DBS specimens from those reporting good PrEP adherence in the last 7 days (>4 doses of PrEP in the last week) were analyzed for intracellular tenofovir diphosphate (TFV-DP).

RESULTS: We enrolled 856 HIV-uninfected, at-risk young male sex workers, of whom 590 (68.9%) initiated PrEP within 30 days of enrollment. Among men initiating PrEP at baseline, retention in the study was good, at 75.9% at 12 months. PrEP adherence was also high, with over 98% of participants reporting 4 or more doses of PrEP/week. Self-reported use in the last 7 days had a high positive predictive value relative to intracellular TFV-DP levels; among samples from participants with good self-reported adherence (n = 62), 79.0% had protective levels of TFV-DP in their DBS samples (kappa agreement = 78.3%, chi-square = 79.2, p <0.001).

CONCLUSIONS: Using an open-label combination prevention approach in partnership with key population-led providers can successfully engage and sustain PrEP use among young MSW at risk in Thailand. Over two-thirds of YMSW aged 18-26 years persisted on PrEP at 12 months after initiation, significantly higher than other reports.

PDC0106

YOUTH-FOCUSED STRATEGIES TO PROMOTE ADHERENCE TO PRE-EXPOSURE PROPHYLAXIS AMONG ADOLESCENT MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN AT-RISK FOR HIV IN THAILAND

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BACKGROUND: Strategies are urgently needed to curb the increasing incidence of HIV in young men who have sex with men (YMSM) and transgender women (YTGW) worldwide. We assessed the impact of youth-friendly services and a mobile phone application (app) on adherence to pre-exposure prophylaxis (PrEP) in YMSM and YTGW in Thailand.

METHODS: A randomized control trial was conducted in YMSM and YTGW aged 15-19 years. Participants were provided daily oral TDF/FTC and condoms and randomization to receive either youth-friendly services (standard of care, SOC) or SOC plus a PrEP app (SOC+APP), whose features included self-assessment of HIV acquisition risk activities, point rewards, and reminders for PrEP and clinic appointments. Clinic visits occurred at 0, 1, 3, 6 months and telephone contact at 2, 4, and 5 months. Sexually transmitted infection (STI) screening was performed at baseline and month 6, and HIV testing at all visits. PrEP adherence was evaluated with intracellular tenofovir diphosphate (TFV-DP) concentrations in dried blood spots (DBS) samples at months 3 and 6. The primary endpoint was 'PrEP adherence' defined as a TFV-DP DBS concentrations ≥700fmol/punch [equivalent to ≥ 4 doses of TDF/week at either month 3 and/or 6.

RESULTS: Between March 2018 and June 2019, 489 adolescents were screened, 27 (6%) tested HIV positive and 200 (41%) were enrolled and initiated PrEP. Of these, 147 were YMSM (74%) and 53 YTGW (26%). At baseline, median age was 18 years (IQR 17-19), 84% reported inconsistent condom use in the past month, and prevalence of STIs was 23%. Retention at 6-months was 73%. In the SOC+APP arm, median app time use was 3 months (IQR 1-5). PrEP adherence was 49.1% overall (45.8% in SOC and 52.4% in SOC+APP arm, p value = 0.40). YMSM were 3.6 times (adjusted OR 95% CI 1.41-9.05) more likely to adhere to PrEP than YTGW. No HIV seroconversions occurred during 75 person years of follow-up.

CONCLUSIONS: PrEP implementation in adolescents is feasible through youth friendly services with high retention rates at 6-months. YTGW may require more support for PrEP adherence than YMSM. App use in this trial did not affect PrEP adherence.

PDC0107

ASSESSING THE PERFORMANCE OF INTERNATIONAL PREEXPOSURE PROPHYLAXIS (PREP) ELIGIBILITY GUIDELINES IN A COHORT OF CHINESE MSM, BEIJING, CHINA 2009-2016

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BACKGROUND: Evidence is needed for China to design a PrEP eligibility assessment tool to facilitate the development of national guidelines. We assessed performance of international PrEP eligibility criteria to predict future HIV seroconversion among MSM in Beijing, China.

METHODS: Participants were MSM aged ≥ 18 years who enrolled in a cohort study between July 2009 and March 2016. Participants completed HIV testing, syphilis testing, and a questionnaire on recent sexual health behaviors at each follow-up visit and were followed until HIV seroconversion or dropout. We assessed PrEP eligibility at the most recent follow-up visit prior to the final study visit. Participants were classified as either indicated or not indicated for PrEP based on criteria from each of the following guidelines: European AIDS Clinical Society (EACS), Korean Society for AIDS (KSA), Southern African HIV Clinicians Society (SA), Taiwan Centers for Disease Control, British HIV Association (UK), United States Public Health Service clinical (USPHSC) and risk score (USPHSR), and the World Health Organization (WHO). To compare guideline performance, we calculated sensitivity, specificity, Youden's Index (YI), and Matthew's Correlation Coefficient (MCC). For each guideline, performance measures were compared to random allocation of PrEP by randomly selecting a proportion of participants equal to the proportion indicated.

RESULTS: There were 287 (17.3%) incident HIV seroconversions among 1663 MSM. The number of men indicated for PrEP ranged from 556 (33.4%, USPHSC) to 1569 (94.2%, KSA). Compared to random allocation, sensitivity ranged from slightly worse (-4.7%, USPHSR) to 30.2% better than random (USPHSC). Across all guidelines, specificity was not meaningfully better than random allocation. EACS guidelines had the highest binary classification performance measures (YI=0.129, MCC=0.100).

		Sensitivity		Specificity		Matthew's Correlation Coefficient		Youden's Index	
Guidelines	n	Guidelines (95% CI)	Random (95% BI)	Guidelines (95% CI)	Random (95% BI)	Guidelines	Random (95% BI)	Guidelines	Random (95% BI)
EACS	657	0.502 (0.442, 0.561)	0.394 (0.345, 0.446)	0.627 (0.601, 0.653)	0.605 (0.594, 0.616)	0.100	-0.001 (-0.047, 0.048)	0.129	-0.002 (-0.061, 0.062)
KSA	1569	0.972 (0.946, 0.988)	0.944 (0.920, 0.969)	0.063 (0.050, 0.077)	0.057 (0.052, 0.062)	0.057	0.002 (-0.047, 0.050)	0.035	0.001 (-0.029, 0.030)
SA	1296	0.840 (0.792, 0.880)	0.780 (0.735, 0.822)	0.233 (0.211, 0.257)	0.221 (0.211, 0.230)	0.067	0.001 (-0.049, 0.047)	0.073	0.001 (-0.053, 0.052)
Taiwan	918	0.624 (0.565, 0.680)	0.551 (0.498, 0.603)	0.463 (0.436, 0.490)	0.448 (0.437, 0.459)	0.066	-0.001 (-0.049, 0.047)	0.087	-0.002 (-0.065, 0.061)
UK	849	0.533 (0.474, 0.592)	0.512 (0.456, 0.564)	0.494 (0.467, 0.521)	0.490 (0.478, 0.501)	0.021	0.002 (-0.049, 0.049)	0.027	0.002 (-0.065, 0.065)
USPHSC	556	0.436 (0.377, 0.495)	0.334 (0.286, 0.383)	0.687 (0.662, 0.711)	0.666 (0.656, 0.676)	0.098	0.000 (-0.047, 0.047)	0.122	0.000 (-0.059, 0.059)
USPHSR	1244	0.714 (0.658, 0.766)	0.749 (0.700, 0.794)	0.245 (0.222, 0.269)	0.252 (0.242, 0.262)	-0.036	0.001 (-0.050, 0.049)	-0.041	0.001 (-0.058, 0.056)
WHO	734	0.544 (0.484, 0.602)	0.439 (0.390, 0.495)	0.580 (0.553, 0.606)	0.558 (0.548, 0.570)	0.094	-0.002 (-0.047, 0.049)	0.124	-0.003 (-0.062, 0.065)

CONCLUSIONS: The performance of most international guidelines were slightly better than random PrEP allocation, but none performed well. For settings in which international guidelines perform poorly, alternative indication approaches should be considered.

PDC02 GAPS IN OUR RESPONSE: WHO ARE WE MISSING?

PDC0202

PROGRESS AND CHALLENGES TOWARD REACHING 90-90-90 TARGETS AMONG KEY POPULATIONS IN BOTSWANA

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BACKGROUND: Botswana has made great strides toward the 90-90-90 goals, however achieving these targets for key populations (KPs) remains a challenge. KPs, such as men who have sex with men (MSM) and female sex workers (FSWs), have limited access to HIV prevention, care, and treatment services due to stigma and discrimination. Using data from the first and second Biological and Behavioral Surveillance Surveys (BBSS1, BBSS2), we analyzed progress toward reaching the targets among KPs in Botswana.

METHODS: To examine progress between 2012 (BBSS1) and 2017 (BBSS2), comparisons were made for the three districts represented in both surveys: Gaborone, Francistown, and Chobe. KP members aged 16–64 years responded to a questionnaire and were tested for sexually transmitted infections, including HIV. HIV testing was done with all participants regardless of documented status.

	First 90(%)	Second 90 (%)		Third 90 (%)	
	% PLHIV who know their HIV status	% PLHIV who know their status who are on treatment *	% PLHIV who are on treatment	% PLHIV who know their status, reporting taking treatment daily *	% PLHIV reporting taking treatment daily*
General Population	85	>85	>81	>89 (with VLS)	>73 (VLS)
FSW (2012)	45.1(35.5-55.1)	24.9(13.8-36)	10.6(6.3-17.2))	not asked	not asked
FSW (2017)	68.4(53.4-80.4)	87.8(81.2-92.2)	60.3(49.5-70.1)	99.2(97.7-99.7)	59.5(49.1-69.1)
MSM (2012)	16.9(9.3-28.9)	13(1.8-27.9)	5.1(1.6-14.9)	not asked	not asked
MSM (2017)	41.0(30.6-52.4)	82.1(66.0-91.4)	37.2(27.1-48.5)	97.2(81.3-99.6)	35.9(25.9-47.3)

[Table 1. Progress toward 90-90-90 targets in Botswana]

RESULTS: HIV prevalence among FSWs remained high from 2012 (61.9%) to 2017 (51.5%), with no significant change (p=0.19). Among MSM, HIV prevalence increased significantly from 13.1% to 19.1% (p=0.016). This may be due to the slightly older sample in 2017 compared to 2012 (28 vs. 23 years). Individuals who self-reported as HIV-positive increased for FSW (68.4% vs. 45.1%, p=0.008) and for MSM (41% vs. 16.9%, p=0.016). Additionally, those living with HIV and on

ART significantly increased from 10.6% to 60.3% (p=0.000) for FSW and from 5.1% to 37.2% (p=0.0000) for MSM. Only 59.5% of all FSWs and 35.9% of MSM, living with HIV who know their status reported taking ART daily in 2017.

CONCLUSIONS: Despite the significant improvements between BBSS1 and BBSS2, KPs continues to be highly affected by HIV and are far from reaching the 90-90-90 goals compared to the general population. FSW are at 68-60-60, while MSM are at 41-37-36 towards targets. For countries to achieve epidemic control, ongoing investments in programs tailored to the needs of KPs are needed.

PDC0203

FOOD INSECURITY HIGHLY PREVALENT AND ASSOCIATED WITH EARLY PREP NON-ADHERENCE AMONG TRANS AND NON-BINARY PEOPLE IN THE SAN FRANCISCO BAY AREA: THE STAY STUDY

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BACKGROUND: Few studies have evaluated real-world PrEP delivery in trans and non-binary populations. We describe baseline characteristics and early adherence in participants enrolled in one of the first PrEP demonstration projects for transgender communities – the STAY Study.

METHODS: The STAY Study enrolled HIV-uninfected trans women, trans men, and non-binary individuals across 5 trans-affirmative clinics in the San Francisco Bay Area and offered participants 48 weeks of PrEP, along with peer navigation, bi-directional SMS support, and panel management. Tenofovir-diphosphate (TFV-DP) levels in dried blood spots (DBS) collected at 4 and 12 weeks were analyzed to assess early adherence. Correlates of early adherence (TFV-DP≥700) were evaluated using multivariable logistic regression.

RESULTS: From August 2017-May 2019, 193 individuals were screened and 159 enrolled. Median age was 35 (IQR 27-46); 26% were Latino/a, 25% White, 14% Black, 8% Asian, and 27% multirace/other. Overall, 86% were transwomen or women, 6% were transmen or men, and 8% were non-binary. Half completed high-school; 92% had a primary care provider/health insurance, and 82% were taking gender-affirming hormones. At baseline, 80% reported food insecurity; 8% were homeless, 15% lived in a motel/hotel/boarding house, and 50% rented a house/apartment/room. In the past year, 68% reported condomless anal/vaginal sex and 22% reported an STI. Retention was 87% at week 4 and 83% at week 12. Among 60 participants with DBS testing at week 12, 55% had levels consistent with 4-7 doses/week, 15% 2-3 doses/week, 25% <2 doses/week, and 5% were undetectable. In a multivariable model, food insecurity (AOR 0.26, 95% CI 0.07-0.94) and those who were multiracial/other (AOR 0.11, 95% CI 0.03-0.45) were less likely to have protective levels, while those living in a motel, hotel, or boarding house (compared with those who were homeless/in a shelter) were more likely to have protective levels (AOR 8.47, 1.56-45.85). Use of gender-affirming hormones was not associated with TFV-DP.

CONCLUSIONS: Over half of STAY participants with DBS tested during early follow-up had protective PrEP levels. Food insecurity was highly prevalent and associated with lower PrEP adherence, while relative housing stability was associated with higher protection, highlighting the impact of structural factors on PrEP adherence in this population.

PDC0204

RATES AND TRENDS OF HIV DIAGNOSES AMONG INDIGENOUS PEOPLES IN CANADA, AUSTRALIA, NEW ZEALAND, AND THE UNITED STATES FROM 2009-2017

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BACKGROUND: While Indigenous peoples of the Anglo-settler states of Canada, Australia, the USA, and New Zealand have experienced similar histories of colonization and resistance to the health impacts of ongoing oppression, few cross-national comparisons of HIV diagnoses have been conducted. The objective of this study is to compare rates and trends of HIV diagnoses among Indigenous peoples in Canada (First Nations, Métis, Inuit, and Other Non-Specified), Australia (Torres Strait Islanders and Aboriginal), the USA (American Indian, Alaska Native, Native Hawaiian, and Other Pacific Islanders), and New Zealand (Māori).

METHODS: We employed publicly available surveillance data from 2009-2017 to estimate the rate per 100,000 of HIV diagnoses. Estimated annual percent change (EAPC) in diagnosis rates was calculated using Poisson regression. The four countries have passive population-based HIV surveillance programs. Population estimates from respective census programs were used as rate denominators. Estimated annual HIV diagnosis rate per 100,000 and EAPC were calculated for total Indigenous peoples, women, and men.

RESULTS: As of 2017, rates of HIV were highest in Canada (16.22, 95% CI: 14.30, 18.33) and lowest in New Zealand (1.36, 95% CI: 0.65, 2.50). Australia had a rate of 3.81 (95% CI: 2.59, 5.40) and the USA had a rate of 3.22 (95% CI: 2.85, 3.63). HIV diagnosis rates among the total Indigenous population decreased in Canada (-7.92 EAPC, 95% CI: -9.34, -6.49) and in the USA (-4.25 EAPC, 95% CI: -5.75, -2.73), but increased in Australia (5.10 EAPC, 95% CI: 0.39, 10.08). No significant trends over time were observed in New Zealand (2.23 EAPC, 95% CI: -4.48, 9.47).

CONCLUSIONS: We found elevated but decreasing rates of HIV diagnoses in Canada compared to Australia, the USA, and New Zealand. While there are limitations to conducting cross-national comparisons, there are substantial differences in HIV diagnosis rates in these four countries that may be reflective of divergent country-level policies and systems that affect the health status of Indigenous peoples.

PDC0205

EFFECT OF TARGETED COUNSELING ON RETENTION TO HIV PRE- EXPOSURE PROPHYLAXIS AMONG MEN WHO HAVE SEX WITH MEN WITHIN NAIROBI CITY COUNTY, KENYA

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BACKGROUND: In Sub Saharan African countries, MSMs have 19.3 folds higher odds of being HIV infected compared with the general population. Kenya MSM have a HIV prevalence of 18.2. PrEP protects up to 90% of HIV infection in those who adhere well. However retention of high risk MSM on PrEP in Kenya has proved to be a challenge.

METHODS: Experimental design was used. The two facilities within Nairobi serving Men having sex with Men were purposely selected. Eligible Men who have Sex with Men and had just enrolled into PrEP within one week were selected through simple random sampling and randomized to either arm using computer generated randomization table During the study participants in the intervention arm received targeted counseling as an intervention which included assessment and counseling on depression, PrEP adherence, alcohol consumption and Short message reminder to come to the facility. The control arm followed the government prescription of issuing PrEP in reliance to oral self report on adherence with no other intervention. The two groups were followed for six months; month one after PrEP initiation, month three and month six and retention calculated and compared among the two groups.

RESULTS: 84 study participants were enrolled on each arm. At month one intervention arm had retained 82(97.6%) of its initial study participants compared to 68(81.0%) control group with a significance difference (p <0.001). At month three retention gap widened; intervention arm had retained 77(91.7%) compared to 26(31.0%) control group with a clear significant difference (p < 0.001) At month six the intervention arm retention reduced to 58(69.0%) and the control arm dropped farther to 16(19.0%) with still a significant difference (p<0.001). Each intervention indicator was considered in relation to its effect on MSM retention to PrEP as follows; Depression assessment counseling showed significant association with MSM retention to PrEP at p value of 0.004. Alcohol consumption counseling also showed significant association with PrEP retention (p =0.002), while pill adherence counseling showed a significant association with MSM retention on PrEP (p < 0.001)

CONCLUSIONS: Targeted counseling sessions should be incorporated into ministry of Health PrEP dissemination package among MSM to improve on retention

PDC0206

CLOSING THE HIV IDENTIFICATION GAP FOR MEN: THE IMPACT OF ASSISTED PARTNER NOTIFICATION SERVICES IN A REAL-WORLD SETTING IN KENYA

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BACKGROUND: Globally in 2018, 23.3 million persons living with HIV were receiving antiretroviral treatment. Despite this, progress in identification and linkage of HIV-infected men has lagged behind. We compared the impact of assisted Partner Notification Services (aPNS) in improving identification and linkage of men with undiagnosed HIV infection with facility testing strategies.

METHODS: We conducted a retrospective analysis of routine program data collected from 61 health facilities in Kisumu County, Kenya between October 2018 and September 2019. Records of male clients >15 years of age who received HIV testing services through either aPNS or facility testing approaches, were included in the analysis. We compared the proportions of yield in the aPNS vs facility testing using risk ratios (RR) with confidence intervals (CIs) computed by Traditional (log-transformation) method and linkage to treatment using Chi-square method.

RESULTS: A total of 12,220 men underwent HIV testing through aPNS and 90,127 through facility testing giving HIV-positive yields of 12.3% (n=1503) and 0.6% (n=540), respectively. Most of the HIV-positive males were aged >25 years in both aPNS (92%) and facility testing (77%) groups. The overall HIV positive yield was 20.6-fold (95% CI,18.74-22.73) higher in aPNS compared to facility testing and highest among men aged 20-24 years (Table 1). Similarly, overall linkage to HIV treatment was 84% vs 78%, (p = 0.001) in aPNS compared to facility testing respectively and highest among men aged 20-24 years.

Table 1: Comparison of HIV positive yield and linkage to treatment between aPNS and facility testing among men by age category—Kisumu, Kenya.

Age Categories	HIV testing Modality	Total Tested	Total HIV Positive	% yield (95% CI)	RR (95% CI)	%Linkage to treatment (95%CI)	p-Value
Overall	aPNS	12220	1503	12.30 (11.72-12.89)	20.53 (18.64-22.61)	83.70 (81.77-85.50)	P=0.001
	Facility testing	90127	540	0.60 (0.55-0.65)		77.8 (74.1-81.1)	
15-19 Years	aPNS	594	12	2.02 (1.10-3.41)	20.37 (9.94-41.78)	100.00 (77.91-100.00)	P=0.034
	Facility Testing	19165	19	0.10 (0.06-0.15)		73.68 (50.94-89.66)	
20-24 Years	aPNS	1032	92	8.91 (7.29-10.77)	42.64 (28.92-62.87)	93.48 (86.93-97.31)	P<0.001
	Facility Testing	16261	34	0.21 (0.15-0.29)		5.88 (1.00-18.10)	
25+ Years	aPNS	10594	1399	13.21 (12.57-13.86)	14.83 (13.41-16.41)	82.92 (80.88-84.85)	P=0.492
	Facility Testing	54701	487	0.89 (0.81-0.97)		82.96 (79.32-86.19)	

CONCLUSIONS: Our data suggests that aPNS implemented in a real-world setting identified more HIV-infected men and led to greater linkage to treatment. Thus, scaling up aPNS may be an ac-

ceptable and efficient model to achieve near universal uptake of HIV testing amongst men at high risk of HIV infection and linking them to HIV treatment.

PDC0207

UNEVEN PROGRESS IN EUROPE AND CENTRAL ASIA TOWARDS THE 90-90-90 GOALS

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BACKGROUND: The objective of this study was to assess how countries in Europe and Central Asia (ECA) are progressing toward the UNAIDS 90-90-90 targets by 2020: 90% of all people living with HIV (PLHIV) know their status; 90% of those diagnosed are receiving antiretroviral treatment (ART); 90% of those on ART are virally suppressed.

METHODS: National data for the most recent year available were submitted in 2019 to the European Centre for Disease Prevention and Control by national focal points from 52 countries in ECA. Estimates followed standard definitions on these measures. Longitudinal data for the period 2015-2018 were extracted from UNAIDS Global AIDS Monitoring database.

RESULTS: Eighty percent of PLHIV were diagnosed in the 43 countries reporting data (country range: 46%-98%), totalling 438,000 people living with undiagnosed HIV in ECA. Sixty-five percent of those diagnosed in the region are on ART (country range: 40%-100%), while 86% of those on ART are virally supressed (country range: 42%-99%). In the 36 countries in the region able to report data on all measures, 44% of the estimated PLHIV were virally supressed (country range: 22%-87%), totalling 1.2 million people living with unsuppressed viral load in ECA (Fig 1). From 2015 to 2018, the number of undiagnosed PLHIV in the region declined from 580,000 to 480,000, the number not on treatment declined from 1,230,600 to 1,096,000 and the number not virally supressed declined from 1,387,000 to 1,303,000.

CONCLUSIONS: There is considerable diversity in progress toward reaching the 90-90-90 targets across ECA, with a few countries exceeding the targets while others lag far behind. Overall, one in five PLHIV in the region are unaware of their HIV infection and nearly two in five diagnosed are not on treatment. These individuals are at risk of ill health and passing on the virus. Currently ECA are not on track to reach the 90-90-90 targets. There has been progress on reducing the proportion of undiagnosed in the region, but significant challenges regarding treatment and viral suppression remain.

PDC03 MORTALITY AND TUBERCULOSIS: WHAT ARE WE DOING TO PREVENT THEM?

PDC0302

HIV REMAINS THE LEADING CAUSE OF DEATH AMONG ADULTS IN ZAMBIA

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BACKGROUND: HIV is thought to be a leading cause of death in Zambia despite improved access to treatment and palliative care. Nationally representative data on mortality are not available due to an inadequate vital statistics system. Using population-based mortality data, we describe HIV/AIDS cause-specific mortality.

METHODS: Stratified cluster sampling methodology was used to select 350 rural and urban clusters in Zambia and baseline censuses were implemented in each cluster in 2011 and 2016 to gather information on deaths. VA interviews were conducted at households where deaths occurred during the prior 12 months and where they were identified prospectively for 12 months following the censuses. Probable cause of death was determined by two physicians who independently reviewed each VA questionnaire.

RESULTS: The census covered 136,834 households and identified 193,534 deaths. HIV/AIDS was the leading cause of death among adults; 29,403 (19.7%) of all deaths were due to HIV/AIDS. Nearly 60% of all deaths (17,483, 59.5%) were among men. Deaths due to HIV/AIDS have declined from 20.3% to 15.2% among all ages. Among adults, deaths due to HIV/AIDS have declined from 28.4% in 2011 to 19.7% in 2016. In 2016, there were more deaths due to HIV/AIDS among adult males (17,020, 60.0%) compared to females (11,340, 40.0%).

	Deaths due to HIV				Deaths due to other causes			
	Males		Females		Males		Females	
	n	%	n	%	n	%	n	%
0-4	386	51.3	366	48.7	20,196	55.9	15,959	44.1
5-14	78	26.6	214	73.4	6,866	54.8	5,672	45.2
15+	17,020	60.0	11340	40.0	68,681	59.5	46,757	40.5
Total	17,483	59.5	11920	40.5	95,743	58.3	68,389	41.7

CONCLUSIONS: Despite a decline of deaths due to HIV/AIDS from 28.4% in 2011 to 19.7% in 2016, the leading cause of death among Zambian adults is HIV/AIDS. Adult males appear to be more affected by deaths due to HIV/AIDS compared to their female counterparts (60.0% vs 40.0%). Overall, the decline in deaths due to HIV/AIDS shows that progress has been made. However, there is need to accelerate efforts to improve access to ARVs and to improve retention. Interventions to improve linkage to care for adult males need to continue to receive support.

PDC0303

USE OF VERBAL AUTOPSY TO DETERMINE HIV AND TB CO-MORBIDITY: FINDINGS FROM THE SOUTH AFRICAN NATIONAL CAUSE-OF-DEATH VALIDATION PROJECT

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BACKGROUND: In South Africa, despite death registration of 90%, HIV deaths are under-reported, or misclassified to immediate causes of death such as TB. Vital statistics for 2016 reported that 4.9% of deaths were due to HIV, and 6.7% were due to TB. HIV and TB co-morbidity rates are unknown because reporting is limited to 3-character International Classification of Disease (ICD) codes. We assessed the use of verbal autopsies to more accurately ascertain the proportion of deaths caused by HIV and TB.

METHODS: We analyzed data from the 2017/2018 National Cause-Of-Death validation project. Interviewers conducted verbal autopsies with next-of-kin using 2016 World Health Organization (WHO) standardized instruments. Physicians completed the WHO standard medical certificate of cause of death. These were coded to ICD-10, and the underlying cause of death was selected using Iris automated software.

RESULTS: HIV was the underlying cause of death for 22.7% of deaths and TB for 7.0%. Proportions of HIV deaths were similar for men and women; however, there were more TB deaths among men than women. HIV disease resulting in TB (B20.0) accounted for 49.3% of all HIV-related deaths (604/1224) and 61.5% of all TB-related deaths (604/982; Table 1). Verbal autopsies indicated that of the 1224 HIV deaths, 125 (10.2%) individuals had received antiretroviral therapy but had discontinued treatment at some point.

Sex	All Deaths	Median age, years	HIV UCOD				TB UCOD	
			HIV no TB (B20.1-B24)*		HIV with TB (B20.0)*		(A15-A19, B90)*	
	n (%)		n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Male	2808 (52.1)	51.6	303	10.8 (9.7–12.0)	350	12.5 (11.3–13.7)	247	8.8 (7.8–9.9)
Female	2580 (47.9)	56.4	317	12.3 (11.0–13.6)	254	9.8 (8.7–11.1)	131	5.1 (4.3–6.0)
Total	5388 (100)	53.7	620	11.5 (10.7–12.4)	604	11.2 (10.4–12.1)	378	7.0 (6.3–7.7)

*ICD Code
Abbreviations: CI, confidence interval; UCOD, underlying cause of death; HIV, human immunodeficiency virus; TB, tuberculosis, ICD, International Classification of Disease.

[Table 1. Characteristics of deaths and proportions with HIV and TB as underlying cause, South Africa National Cause-of-Death Validation Project (2017–2018)]

CONCLUSIONS: In South Africa, implementing verbal autopsy may help identify misclassified HIV-related deaths (22.7% vs 4.9%) and HIV and TB co-morbidity deaths that are not otherwise reported in official statistics. If integrated into routine vital registration systems, verbal autopsies have the potential to improve cause-of-death statistics.

PDC0304

THE BURDEN OF ADVANCED HIV DISEASE IN A CONCENTRATED HIV EPIDEMIC: A HISTORICAL ANALYSIS OF THE MEDECINS SANS FRONTIERES HIV COHORT IN MYANMAR

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BACKGROUND: Globally, one-third of those enrolled on HIV treatment, present with advanced HIV disease (AHD). AHD is associated with increased morbidity, mortality, risk of onward transmission and public health costs. Médécins Sans Frontières (MSF) has delivered 15 years of HIV care in Myanmar and has extensive experience in the treatment of AHD patients. We describe burden of AHD in MSF Myanmar cohort and the main risk factors for mortality.

METHODS: We conducted a retrospective cohort analysis, using routinely collected patient-level data. The study population included patients presenting with AHD (CD4 <=200 cells/mL and/or WHO-stage 3/4) in MSF Myanmar cohort from 2003 to 2018). We included antiretroviral treatment (ART)-naïve patients that initiated ART at MSF and patients returning to care after being lost-to-follow-up (LTFU) from MSF HIV cohort. For both groups we compared patients with AHD to those without. We performed mortality and a risk factor analyses using Cox regression.

RESULTS: 34,242 ART naïve patients were enrolled during the study period and 25,435 (74.3%) presented with AHD. In this group 33.9% presented with tuberculosis, 1.6% with cryptococcal menigitis, 1% with ocular cytomegalovirus infection and 0.1 % had penicilliosis at enrolment. ART naïve patients presenting with AHD at enrolment were at 3.4 higher risk of death than ART naïve patients who did not present with AHD at enrolment. The main risk factors for death were documented users of injecting drugs and sex work, while age 40-65 was a protective factor. There were 7811 patients who returned to care after being LTFU; 4707 (60.3%) patients presented with AHD. Those with AHD were at a 2.16 higher risk of death than those without AHD when returning to care. Sex work, male gender and tuberculosis were risk factors for death.

CONCLUSIONS: In Myanmar, there was a high proportion of advanced HIV disease among ART naïve and people returning to care after being LTFU. Patients with AHD had a higher risk of death during treatment and mortality risk factors were associated with vulnerable key populations. Our findings advocate for the introduction of AHD packages of care in models of care designed for concentrated HIV epidemics that target key populations.

PDC0305

IMPACT OF HIV TEST-AND-TREAT POLICY ON THE INCIDENCE OF TB AMONG HIV POPULATIONS IN EAST-CENTRAL UGANDA

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BACKGROUND: Early initiation of antiretroviral therapy (ART) is known to reduce the risk of Tuberculosis by up to 67%. Uganda adopted the test-and -treat policy for HIV in 2016 as a strategy for early ART initiation. However, the impact of this policy on TB incidence in program settings has not been studied in the Ugandan setting. This study aimed to determine the incidence of TB in the test-and-treat era compared to the pre-test-and-treat era.

METHODS: A cross-sectional analysis of retrospective data of adult (>15 years) HIV/AIDS patients receiving ART at a large hospital in East-Central Uganda between 01.01.2005 and 31.12.2018. Data on TB status and the year of starting ART were collected. Patients who had TB before starting ART were excluded. Year of starting ART was categorized into; era1-before 2009 (ART eligibility; CD4 ≤350 cells/μL), era2-2009 to 2015 (ART eligibility; CD4 ≤500 cells/μL) and the test-and-treat era (ART start irrespective of CD4 count). Incident TB was calculated for each of the 3 eras. Odds ratios were determined for association of ART start era and TB incidence.

RESULTS: 3,941 patients were enrolled in this study; 70% were female, the median age was 38 years (IQR 29-46). 648 patients started ART in era1, 2,247 started in era2 while 1,046 started in the test-and-treat era. A total of 383 participants developed TB while receiving ART; 242 (63%) male and 141 (37%) female. Sixteen 16%(104/648) of era1 ART patients developed TB compared to 9.5%(213/2247) in era2 and 6.3% (66/1046) in the test-and-treat era. Chi-square=44, p<0.0001 showing a significant association between TB incidence and era of starting ART. The odds of TB during era1 were 2.5 times those of the test-and-treat era (95% CI; 1.6-3.9), while the odds of TB in era2 were 1.6 times those of the test-and-treat era (95% CI; 1.02-2.24).

CONCLUSIONS: Tuberculosis is still incident in the test-and-treat era for HIV. However, the incidence has decreased with subsequent eras of early ART initiation and was lowest in the era of test-and-treat HIV policy. The test and treat policy has had a positive impact on reducing the incidence of TB among PLHIV in program settings in Uganda.

PDC0306

REDUCING TB/HIV CO-INFECTIONS: TRENDS IN TPT AND HIV TESTING IN PEPFAR-SUPPORTED COUNTRIES IN AFRICA

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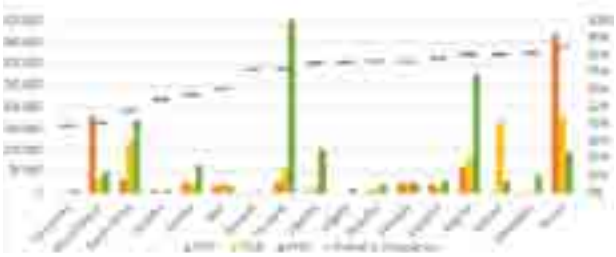
BACKGROUND: Tuberculosis (TB) and HIV co-infection continues to be a major global health concern. TB is the leading cause of death among people living with HIV (PLHIV), while HIV also greatly increases the risk of latent TB advancing to active disease. The President's Emergency Program for AIDS Relief (PEPFAR) is committed to reducing TB/HIV co-infections, setting ambitious targets to treat all PLHIV with TB preventive therapy (TPT) by 2021. In PEPFAR supported countries, HIV testing among presumptive or confirmed TB patients is also critical for HIV case finding and linkage to treatment.

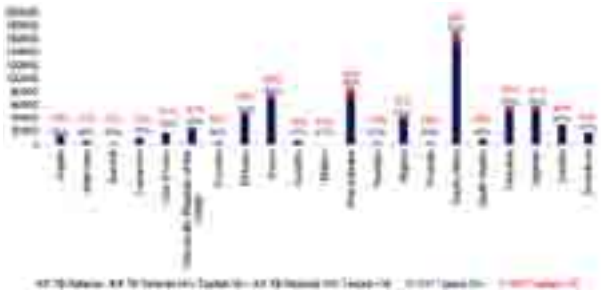
METHODS: We analyzed programmatic data from PEPFAR-supported countries in Africa. We conducted a descriptive analysis of TPT completion data from October 2016 – September 2019 of 18 African countries; one country reported less than 150 completions overall and was excluded from further analysis. To assess HIV testing among confirmed and presumptive TB patients (TB patients), we analyzed data reported from 21 African countries between October 2017– September 2019.

RESULTS: Between fiscal years FY17-FY19, 4,459,397 PLHIV on ART were initiated and 2,947,724 (66%) completed TPT in 17 PEPFAR-supported African countries. TPT completion rates ranged from 0 to 101% (average country completion 50%) in FY17, 14-89% in FY18 (average 62%), and 29-91% in FY19 (average 70%). In FY17, 4/17 countries achieved completion rates of ≥70% while in FY19, 10/17 countries achieved completion rates ≥70%. In Kenya and Tanzania >90% of PLHIV on ART have completed a course of TPT. In FY2019, 93% of TB patients had documented HIV tests across 21 African PEPFAR countries (range: 70-99%). Five of 21 (24%) countries analyzed had HIV testing coverage < 90% in 9/21 (42%) countries. Of those tested, an average 35% of TB patients were HIV-positive across countries (range: 10-81%), with 9% (range: 2.6-18.6%) of those tested newly identified as HIV-positive.

CONCLUSIONS: These results indicate high frequencies of TB/HIV co-infection persist in these countries. While HIV testing among suspected and confirmed TB patients should be routine in PEPFAR countries, there are persistent gaps which need to be addressed, particularly for children <15 years of age. TPT for PLHIV should be scaled up across all PEPFAR-supported countries yet there continues to be significant variation in coverage. Further analyses should be performed to characterize context specific reasons for poor TPT completion and HIV testing among TB patients.



[Figure. Number of TPT Completions Over Time and Overall Percent Completion in African PEPFAR-Supported Countries, FY17-FY2019.]



[Figure. Testing of TB Patients for HIV by Age in African PEPFAR-Supported Countries, FY2019]

PDC04 UNTANGLING THE WEB OF SEXUAL REPRODUCTIVE HEALTH AND SEX DIFFERENCES IN PREVENTION

PDC0402

PREVENTING HIV AND ACHIEVING PREGNANCY AMONG HIV-DISCORDANT COUPLES USING SAFER CONCEPTION STRATEGIES IN ZIMBABWE

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BACKGROUND: Safer conception strategies are needed to minimize HIV transmission risk among HIV-discordant couples desiring pregnancy. Few studies have evaluated the use and effectiveness of safer conception strategies among HIV-discordant couples. We measured the uptake and clinical outcomes of four safer conception strategies among discordant couples in Zimbabwe planning to get pregnant.

METHODS: We enrolled HIV-discordant couples desiring conception into a prospective, non-randomized pilot study. Couples were given a choice of one or more safer conception strategies: antiretroviral therapy with viral load monitoring (ART/VL), oral pre-exposure prophylaxis (PrEP) with tenofovir disoproxil fumarate/emtricitabine, home-based vaginal insemination (VI) for couples with an HIV-positive female, and semen washing (SW) for couples with an HIV-positive male. Couples were taught to identify the fertile period and counselled to always use condoms, except for those using ART/VL or PrEP, who had condomless sex during the fertile period. Participants were followed monthly for up to 12 months of pregnancy attempts, quarterly during pregnancy, and 12 weeks post-delivery. At each visit self-reported data on strategy use, urine for pregnancy testing, and blood for HIV antibody testing, or viral load if HIV-positive were obtained. Newborns from HIV-positive females were tested for HIV using DNA PCR at 6 and 12 weeks.

RESULTS: Twenty-three discordant couples were followed from April 2017-June 2019 with no loss-to-follow-up. Twelve couples had an HIV-positive female partner. Median age was 31 years for females, 34 years for males. At enrolment, all couples chose ART/VL, and all couples chose at least one additional strategy: (PrEP [n=17/23;74%; 8/17 were female]), VI (n=3/12;25%), SW (n=4/11;36%). During follow-up, three couples switched from ART/VL+SW to ART/VL+PrEP, and one from ART/VL+PrEP+VI to ART/VL+PrEP. One female discontinued PrEP due to an adverse reaction. Half (n=12/23;52%) of the couples achieved pregnancy, with 10 pregnancies reaching term. All participants were virally suppressed prior to pregnancy attempts, and two participants (9%) had detectable viral load during follow-up. There were no cases of horizontal or vertical transmission.

CONCLUSIONS: All four safer conception strategies appear safe and effective. When offered a choice, discordant couples desiring pregnancy seek a combination of HIV prevention strategies, with ART/VL plus PrEP being the most frequently selected.

PDC0403

HIV AND SYPHILIS PREVALENCE AND SEXUAL RISK-TAKING BEHAVIOURS AMONG IN- AND OUT-OF-SCHOOL ADOLESCENT GIRLS AND YOUNG WOMEN IN UGANDA: RESULTS FROM A NATIONAL SURVEY

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BACKGROUND: Studies suggest that in-school girls may be at a less risk of HIV infection than their out-of-school counterparts. However, few studies have examined HIV and syphilis prevalence or sexual risk-taking behaviours of in- and out-of-school AGYW as part of the same study. To address this gap, we assessed sexual risk-behaviours and HIV and syphilis prevalence among in- and out-of-school adolescent girls and young women (AGYW) aged 10-24 years to inform the design of age-appropriate HIV prevention interventions.

METHODS: This was a cross-sectional study conducted in 233 villages and 80 schools in 20 districts between July and August 2018. Districts were selected from ten geographically demarcated regions based on background HIV prevalence and presence/absence of HIV interventions. We collected data on socio-demographic, sexual, health and behavioural characteristics and diagnosed HIV and syphilis using rapid diagnostic test kits. Data were entered into EpiData (version 3.1) and analysed using STATA (version 14.1).

RESULTS: Of 8,236 (97.2%) AGYW enrolled into the study, 50.3% (n=4,139) were in-school. In-school AGYW were significantly less likely to have ever had sex (35.2% vs. 73.1%, Risk Ratio [RR]=0.48; 95% Confidence Interval [95%CI]: 0.46, 0.50); or to have initiated sex before age 15 (17.5% vs. 30.3%, RR=0.58; 95%CI: 0.51, 0.65). In-school AGYW were significantly more likely to report that they used a condom or other contraceptive methods to prevent pregnancy at first sex (65.1% vs. 41.1%, RR=1.58; 95%CI: 1.50, 1.68) and to report that they used a condom at last sex (55.3% vs. 20.7%, RR=2.67; 95%CI: 2.46, 2.91) than their out-of-school counterparts. Overall, 1.0% (n=106) had HIV while 1.2% (n=105) had syphilis. HIV and syphilis prevalence increased with age, and were higher among out-of-school than in-school AGYW (HIV prevalence: 1.6% vs. 0.6%; syphilis prevalence: 1.9% vs. 0.6%).

CONCLUSIONS: We found low overall HIV and syphilis prevalence among AGYW. However, both HIV and syphilis prevalence were higher among out-of-school than in-school AGYW, possibly due to the very high-risk behaviours reported by out-of-school AGYW compared to their in-school counterparts. Targeted risk reduction programs including interventions aimed at keeping girls in school may help to tame the HIV tide among AGYW in Uganda.

PDC0404

ARE HIV AND SYPHILIS SYNDEMIC IN PREGNANT WOMEN IN BRAZIL? HOT-SPOT ANALYSIS OF THE TWO EPIDEMICS

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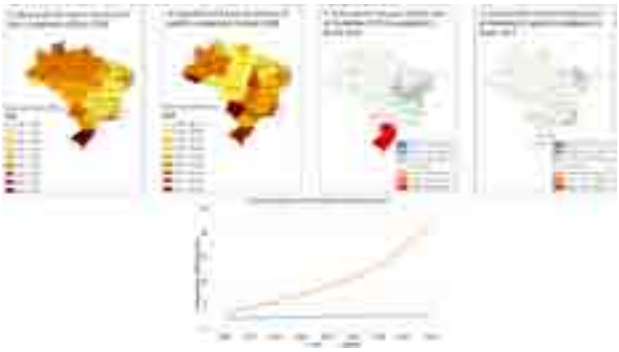
BACKGROUND: Despite enhanced public health efforts to eradicate HIV and syphilis mother-to-child transmission (MTCT), rates of congenital syphilis have quadrupled in Brazil in the past decade. Geographic information system (GIS) and hot-spot analysis, often underutilized research techniques, may provide better understandings of epidemic patterns.

METHODS: Aggregate data provided by the Brazilian Ministry of Health/SINAN for all pregnant women diagnosed with HIV or syphilis between January 1, 2010 to December 31, 2018 was analyzed. ArcGIS software was used to map the annual incidence of HIV and syphilis diagnosed in pregnancy by state. Hot-spot analysis was performed to identify state-specific clusters.

RESULTS: From 2010 to 2018, 66,632 pregnant women were diagnosed with HIV, 271,209 were diagnosed with syphilis, and 150,414 infants were diagnosed with congenital syphilis. While the annual, national incidence of HIV diagnosis in pregnancy remained stable, syphilis incidence increased six-fold, from 3.5 per 1,000 live births in 2010, to 21.4 per 1,000 live births in 2018 (r = 0.97). Rio Grande do Sul had the highest incidence of HIV in 2018 (9.2 per 1,000 live births), and hot-spots of HIV incidence were identified in three Southern states (p <0.01). The incidence of syphilis was significantly higher than HIV, and there was little overlap between HIV and syphilis incidence by state (r = 0.25). While syphilis incidence exceeded 30 per 1,000 live births in 2018 in Acre, Mato Grosso do Sul, Rio de Janeiro, and Espirito Santo, only the last two states in Southeastern Brazil were spatial clusters in hot-spot analysis.



[Figure 1. Spatiotemporal maps and trends of the annual incidence of HIV and syphilis in pregnancy in Brazil]

CONCLUSIONS: HIV and syphilis epidemics in Brazil are not syndemic in pregnant women. There is a spatial cluster of HIV in the South, while syphilis is increasing throughout the country, particularly in the Southeastern coast. Combating HIV hot-spots alone is not sufficient to curtail syphilis MTCT. Monitoring geographic variation allows for improved targeted efforts.

PDC0405

HIV, STIS AND PREGNANCY AMONG WOMEN OF REPRODUCTIVE AGE IN A LAKE VICTORIA FISHING COMMUNITY: A POPULATION-BASED STUDY

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BACKGROUND: Despite sequelae including miscarriage and neonatal death, population-based data on sexually transmitted infections (STI) during pregnancy are limited in sub-Saharan Africa. The prevalence of HIV and four curable STIs (*Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Trichomonas vaginalis* (TV), and *Treponema pallidum* (syphilis)) were measured among women in a Lake Victoria fishing community in southern Uganda.

METHODS: We compared population-level prevalence of NG, CT, TV, and syphilis among pregnant and non-pregnant sexually active women of childbearing age (15-49) who participated in the Rakai Community Cohort Study May-July 2019. CT and NG testing were conducted by nucleic acid amplification testing (Abbott RealTime CT/NG m2000). Point-of-care testing was performed for TV (OSOM Trichomonas) and syphilis (Anti-TP SDBioline syphilis 3.0), with confirmatory rapid plasma reagin (RPR) titers (Cypress Diagnostics). RPR titers ≥1:8 were classified as active syphilis. All participants received treatment when indicated. Associations between STIs, pregnancy, and HIV status were assessed with multivariable modified Poisson regression and reported as age adjusted prevalence risk ratios (adjPRR) with 95% confidence intervals (CI).

RESULTS: 432 women met inclusion criteria, with 11% (n=47) pregnant. Among pregnant women, HIV prevalence was 32% (n=15), NG 13% (n=6), CT 13% (n=6), and TV 26% (n=12). Syphilis reactivity was 17% (n=8), and 6.4% (n=3) had titers indicative of active infection. Prevalence of ≥1 active STI infection (NG, CT, TV, or active syphilis) was 34% (n=16). Among non-pregnant women (n=385), HIV prevalence was 49% (n=189), NG 9.6% (n=37), CT 10% (n=40), and TV 18% (n=68). Syphilis reactivity was 27% (n=108), and 9.6% (n=37) had active infection. The age-adjusted relative risks of active STI in pregnant versus non-pregnant and HIV-positive versus HIV-negative women were 1.31 (95%CI: 0.74-2.12) and 1.64 (95%CI: 1.12-2.40), respectively. Pregnant women with HIV were 62% more likely to have ≥1 STIs compared to pregnant women without HIV (adjPRR=1.62; 95%CI: 1.11-2.39).

CONCLUSIONS: These data highlight the very high burden of STIs among women in Lake Victoria fishing communities, particularly among pregnant women. There is an urgent need for effective integrated STI screening and treatment in antenatal care and HIV treatment programs in this population.

PDC0406

SEXUAL PARTNER TYPES OF ADOLESCENT GIRLS AND YOUNG WOMEN IDENTIFIED FROM LATENT CLASS ANALYSIS (LCA) AND INCIDENT HIV-INFECTION IN RAKAI, UGANDA

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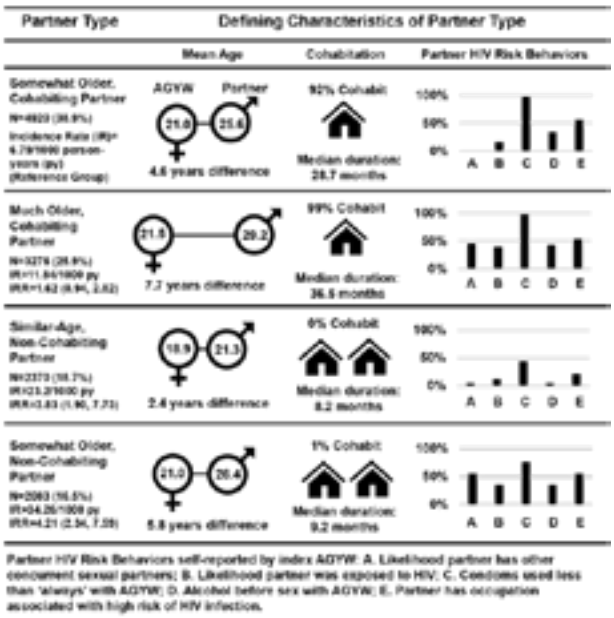
BACKGROUND: Sexual partners play a critical role in HIV acquisition among adolescent girls and young women (AGYW). We identified sexual partner types and associations with incident HIV infection among AGYW ages 15-24 during years 2005-2013 of the Rakai Community Cohort Study.

METHODS: At each survey round, AGYW reported the following partner (age, concurrency, likelihood of HIV-infection, high-risk occupation) and partnership characteristics (cohabitation, condom use, and alcohol before sex with AGYW) and offered HIV testing. Characteristics were used to identify sexual partner types using Latent Class Analysis (LCA). Among HIV-negative AGYW, we estimated incident rate ratios (IRR) and 95% confidence intervals (CI) for each LCA-identified partner type and incident HIV infection using a Poisson GEE model, controlling for other partner types, sexual behavior and demographic risk factors, and repeated observations.

RESULTS: In total 7742 AGYW reported 12,649 sexual partners. Of those AGYW, 2691 were eligible for the HIV-incidence analysis, contributing 7262 total person-years of follow up. Overall, 90 AGYW became newly HIV infected, for an incidence rate of 12.38 per 1000 person-years (95% CI: 6.56, 23.37). We identified four sexual partner types (Figure).



[Figure. Defining characteristics of sexual partner types among adolescent girls and young women in Rakai, Uganda]

Compared to the reference group (AGYW with 'somewhat older cohabiting' partners), AGYW with 'somewhat older non-cohabiting' partners had 4.21 times the rate of HIV infection (95% CI: 2.34, 7.59), while AGYW with 'similar-age non-cohabiting' partners had 3.83 times the rate (95% CI: 1.90, 7.73), and AGYW with 'much older cohabiting' partners had 1.62 times the rate (95% CI: 0.94, 2.82).

CONCLUSIONS: Partner types derived from LCA were strongly associated with incident HIV-infection among AGYW, though some partner types were associated with lower than expected HIV-infection rates given reported risk behaviors, while others were higher. These findings highlight the importance of examining partner characteristics together in the context of sexual partnerships to understand HIV risk in this vulnerable population.

PDC0407

CHARACTERISTICS OF OLDER MALE PARTNERS OF ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) IN FOUR EASTERN AND SOUTHERN AFRICAN COUNTRIES, PHIA 2015-2017

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BACKGROUND: Accumulating evidence indicates that sexual partnerships between older men and adolescent girls and young women (AGYW aged 15-24) contribute to ongoing high HIV incidence among AGYW in Eastern and Southern Africa. However, little is known about characteristics of older men who partner with AGYW.

METHODS: Participants were from Population-based HIV Impact Assessment (PHIA) household surveys in Eswatini, Tanzania, Zambia, Malawi. Past-year sexually active men aged 25-59 with known age of their three most recent female partners were included. HIV status was obtained via rapid test; HIV-1 RNA with real-time PCR. We constructed separate logistic regression models by male partner age-group (25-34 years, 35-44 years, 45-59 years) adjusted by continuous age to compare characteristics of men partnering with AGYW versus those partnering only with same age-group or older women. Analyses were adjusted for survey design; Taylor Series method was used for variance estimation. We tested for interactions by country in a pooled model.

RESULTS: Of 17,110 sexually-active men, 32.3% reported ≥1 past-year AGYW partner: this was highest among men aged 25-34 (58.5%). HIV prevalence was highest in those over age 45 (12.0%). Viral load suppression among those HIV-positive increased with age. Men who were not married/living together, had >1 partner, and bought/sold sex in the past year had higher odds of partnering with an AGYW. HIV-positive men did not have higher odds of partnering with an AGYW (OR=0.81; 95%CI: 0.67-0.99), but among HIV-positive men, virally-unsuppressed men had higher odds of doing so than those virally-suppressed (OR=1.89; 95%CI: 1.42-2.52) (Table 1). Patterns were consistent across age-group, but heterogeneity by country was observed (not shown).

CONCLUSIONS: Older partners may present an HIV-risk to AGYW not only because they have higher HIV prevalence, but also because those who partner with AGYW (versus those who do not) engage in more risk behaviors and are more likely to be virally-unsuppressed.

Characteristic associated with odds of partnering with AGYW	All men aged 25-59 OR (95% CI)		Men aged 25-34 OR (95% CI)		Men aged 35-44 OR (95% CI)		Men aged 45-59 OR (95% CI)	
Marital status (reference = married/living together)								
Never married	**2.15**	**(1.72-2.7)**	**1.67**	**(1.31-2.13)**	**3.49**	**(2.1-5.79)**	0.72	(0.21-2.43)
Widowed	**1.94**	**(1.47-2.57)**	**1.62**	**(1.18-2.21)**	**2.55**	**(1.68-3.88)**	**2.53**	**(1.27-5.05)**
Divorced or separated	**3.41**	**(1.62-7.2)**	2.58	(0.46-14.54)	**2.73**	**(1.03-7.24)**	2.33	(0.7-7.78)
Number of past-year partners (≥ 2 vs. 1)	**4.19**	**(2.19-3.42)**	**2.22**	**(1.62-3.05)**	**4.06**	**(2.91-5.66)**	**3.38**	**(1.78-6.41)**
Bought/sold sex, past 12 months (yes vs. no)	**2.74**	**(2.19-3.42)**	**2.22**	**(1.62-3.05)**	**4.06**	**(2.91-5.66)**	**3.38**	**(1.78-6.41)**
HIV Status (positive vs. negative)	**0.81**	**(0.67-0.99)**	1.01	(0.74-1.37)	0.76	(0.54-1.09)	0.58	(0.32-1.05)
Virally-unsuppressed, among HIV+ (reference = virally-suppressed)	**1.89**	**(1.42-2.52)**	**2.3**	**(1.58-3.35)**	1.31	(0.59-2.93)	1.31	(0.59-2.93)

[Table 1.]

PDC0408

HIGHER COLON TISSUE INFECTIVITY IN HIV SERONEGATIVE CISGENDER WOMEN COMPARED TO CISGENDER MEN ON CANDIDATE ORAL ANTIRETROVIRAL (ARV) PRE-EXPOSURE PROPHYLAXIS (PREP) REGIMENS IN HPTN 069

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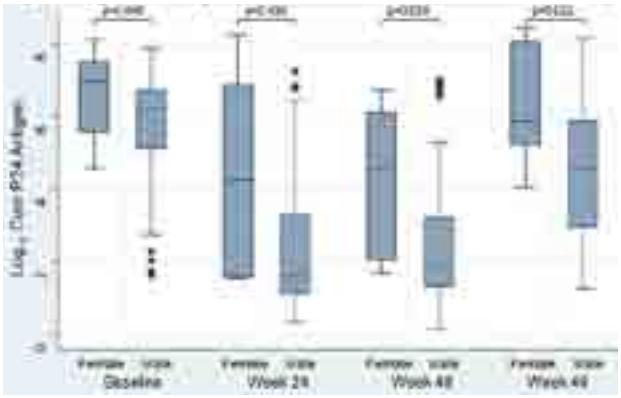
BACKGROUND: HPTN 069 randomized HIV-negative men and women to one of four candidate daily oral PrEP regimens for 48 weeks: tenofovir disoproxil fumarate (TDF) + emtricitabine (FTC), maraviroc (MVC) only, MVC+FTC, and MVC+TDF. In this tissue substudy, we compare susceptibility of colon tissue to HIV infection ex vivo between men and women.

METHODS: Plasma, peripheral blood mononuclear cells (PBMC), and colon tissue were collected for drug concentrations. Colon biopsy "explants" were challenged with HIV ex vivo followed by tissue culture supernatant collection over two weeks for p24 antigen measurement; results were summarized as cumulative biopsy-weight adjusted p24 (Cum p24 pg/mL/mg). Assessments were made at baseline (no drug), week 24 and 48 (on study drugs), and week 49 (one week after the last dose). Comparisons used Wilcoxon with exact significance.

RESULTS: This substudy included 12 women and 59 men. Compared to men, women's median week 24 and 48 colon tissue MVC concentrations were 42% lower (p=0.08) and 57% lower for FTC (p=0.004), but higher for TFV diphosphate (p=0.002). Blood ARV concentrations and recent daily adherence (90% overall based on PBMC drug concentration benchmarks) did not differ by sex. Women had higher explant p24 expression at all visits (Figure) compared to men, which ranged from 2-fold (p=0.046) to 16-fold (p=0.016). Two-fold male-female differences existed before any drugs were taken and were largest (10- to 16-fold) when participants were taking the drug daily (week 24 and 48). The male-female p24 differences were not statistically significant in the MVC only arm (minimal, variable p24 suppression) or the TDF+FTC arm (near maximal p24 suppression).



[Figure. Log_{10} median weight adjusted Cum P24 antigens in MSM and women by visits]

CONCLUSIONS: Colon explants from women have higher HIV replication after ex vivo HIV challenge compared to men - with and without the PrEP study drugs. This is not due to adherence differences. Male-female differences in tissue concentrations may partly provide an explanation

PDD01 FROM WITHIN: EFFECTIVE STRATEGIES FOR COMMUNITY MOBILIZATION AND DEMAND CREATION

PDD0102

SAVINGS AND LOANS GROUPS AS A POTENTIAL COMMUNITY TOOL FOR VIRAL LOAD SUPPRESSION IN RESOURCE-LIMITED SETTINGS: AN INTERVENTION STUDY FROM MOZAMBIQUE

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BACKGROUND: Village savings and loans groups (VSLGs) are a sustainable community-based intervention, comprised of HIV-positive and -negative participants, that improve resilience at the household and community levels. Evidence supports that VSLG members report heightened awareness levels of health problems and healthy behaviors as well as enhanced social cohesion, community support systems, and solidarity. We aimed to assess the impact of VSLG membership on continuous retention to HIV treatment and viral load suppression (VLS) among HIV-positive members over a 12-month period.

METHODS: A randomized, two-arm, unblinded, non-inferiority design with 12-months follow-up (from January to December 2018) of newly enrolled HIV treatment and previously lost to follow up

clients was conducted in Zambézia, Mozambique. The control arm received a standard facility-based package of HIV care while the intervention arm received the same package coupled with VSLG participation. In addition to financial activities, VSLG meetings included facilitated sessions on various health-related topics, including HIV-related stigma and discrimination, social support and solidarity, and HIV treatment retention and VLS. Patient-level assessments of continuous retention over a 12-month period and VLS were performed. Associations between VSLG status and retention and VLS were calculated using logistic regression.

RESULTS: Among 677 patients included in the study, 47% (321) were in the intervention arm, from which 57% were female and 49% were aged 25-34 years. Within the analyzed 12-month period, 93% of VSLG members had not experienced any treatment interruptions as compared to 47% in the control arm. VSLG members were far more likely than the control group to have a documented viral load test (78% vs. 40%) and to experience VLS (94% vs. 55%). Patients in the intervention arm were nearly six times more likely to achieve VLS (aOR= 5.6; 95% CI: 2.6-11.8) when compared to the control arm, adjusting for socio-demographic and clinical factors.

CONCLUSIONS: These results suggest that promoting VSLGs among people living with HIV may be an effective way to reaching HIV epidemic control. Scaling-up VSLGs should be considered not only as a sustainable community tool for economic and social support strengthening, but also as a platform for better communication for improved HIV outcomes and stigma and discrimination reduction.

PDD0103

#MENOFPREP: ENGAGEMENT OF ONLINE COMMUNITY INFLUENCERS AND THE USE OF SEX-POSITIVE MESSAGING IN CREATING AWARENESS OF HIV PRE-EXPOSURE PROPHYLAXIS AMONG MEN WHO HAVE SEX WITH MEN IN THE PHILIPPINES

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BACKGROUND: The WHO recommended the use of antiretroviral pre-exposure prophylaxis (PrEP) in addition to other prevention methods may be an option to halt and reverse this epidemic in the Philippines. However, PrEP awareness is low among Filipino MSMs. The project aims to bring PrEP awareness to MSMs in the Philippines by engaging online community influencers and using sex-positive messaging.

DESCRIPTION: A communications plan was designed to determine the tone and feel of the campaign, together with its accompanying key messages. The messages focused on PrEP information, access, and its impact on the lifestyle of prospective clients. The visual theme and the key messages developed are sex-positive, with a motivational tone of espousing self-empowerment. The developed plan was then cascaded to people who have the following qualifications: a known member of the MSM community and has an established online presence. The following were then shared with the influencer as part of the campaign development: A PrEP 101 briefer, the photoshoot, and an "influencer package" containing FAQs should they receive inquiries regarding PrEP on their personal accounts. After the campaign development, the materials (together with its appropriate captions/key messages) were then posted on LoveYourself's social media channels (Facebook, Twitter, and Instagram), and shared by the influencers. All posts contain the registration link for PrEP access in LoveYourself community centers and its affiliates.

LESSONS LEARNED: A total of 20 MSM community influencers agreed to participate in the campaign, even without monetary compensation. Each post has received unique engagements ranging from 8,000 to 30,000. These numbers are organic, and no advertising/boosting funds were spent. The sign-up link for PrEP registration was accessed 25,000 times. Inquiries regarding PrEP in LoveYourself's social media channels increased by 2000%. The campaign has helped increase the number of PrEP enrollees under LoveYourself's care from 50 to 750 in 4 months.

CONCLUSIONS/NEXT STEPS: It was seen that a sex-positive campaign powered by the community is effective in bringing awareness of PrEP. Population-specific variants of the campaign (#WomenOfPrEP for cisgender and transgender women, for instance) are recommended in order to create PrEP campaigns that are targeted and diverse.

PDD0104

EMPLOYING SYNDEMIC THEORY IN PRE-EXPOSURE PROPHYLAXIS (PREP) ACCESS AMONG TRANSGENDER WOMEN OF COLOR IN SOUTH FLORIDA

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BACKGROUND: Although transgender women of color (TWOC) are disproportionately at high risk of acquiring HIV, they remain underrepresented in HIV screening and engagement in HIV prevention including pre-exposure prophylaxis (PrEP). Syndemics of poverty, substance use, violence and mental health further restrict engagement in HIV prevention. Therefore, the objective of this study was to employ a syndemic theoretical framework to identify barriers and facilitators of PrEP among TWOC in South Florida.

METHODS: In September-January 2020, eight in-depth interviews and two focus groups were conducted among transgender adult women living in Miami-Dade and Broward counties in South Florida. Participants were recruited through convenience sampling, active recruitment, print advertisements and emails to transgender organizations listservs. Content analysis approaches were developed for coding categories and themes. The codes were developed independently using NVivo before comparison, discussion, and differences were reconciled to identify and analyze themes.

RESULTS: The mean age of participants was 42.2 years old; 82.4% were transgender Latinas and 17.6% were African American. Discrimination and stigma by providers and the wider society, and limited economic opportunities were identified as primary barriers to accessing HIV screening and PrEP healthcare services. Lack of employment opportunities, due to prejudice, stigma and discrimination was a recurring theme. As a result, many participants were vulnerable to economic insecurity. The high cost of PrEP medication as well as stigma and discrimination by healthcare

providers limiting engagement in HIV prevention also emerged as a theme. The participants also noted that under-representation of transgender women in clinical trials has led to inadequate data on side effects including dermatological side effects forcing them to discontinue PrEP. Emerging themes also included physical violence, psychological violence and sexual abuse from peers, partners, and systems from early childhood. Effects of violence were compounded by the syndemics of poverty, substance misuse, mental health issues, and engagement in transactional sex work. Consequently, HIV screening and engagement in HIV prevention is often a low health priority among TWOC.

CONCLUSIONS: Economic constraints, stigma, discrimination, and violence are associated with systematic marginalization of TWOC in their local communities, inhibiting HIV screening use of PrEP. The development of tailored interventions should consider these syndemic factors.

PDD0105

COMMUNITY INFLUENCERS ARE KEY TO HIV PREVENTION FOR LATINO HOMELESS POPULATIONS: A STRATEGY FOR GETTING TO ZERO AMONG IMMIGRANTS

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BACKGROUND: In San Francisco, 20% of new HIV diagnoses in 2018 were among people without housing, with the proportion growing in recent years. Nearly a quarter (24%) of HIV cases from 2009 - 2018 were Latinx. To reduce HIV transmission in San Francisco and "Get to Zero", we must invest in developing effective ways to reach these populations, since they may not be aware of or may be distrustful of available services. Instead of relying on individuals to access services, community-based recruitment strategies may successfully bring services to individuals.

DESCRIPTION: In 2018, San Francisco AIDS Foundation's Latino Programs piloted the Todos Somos Familiaproject with the support of a Kaiser Permanente Community Benefit Grant. The project trained 16 formerly and currently homeless Latino immigrants as community HIV influencers, or promotores de salud, to share information about navigating drug use programs and mental health services, overdose prevention, applying for housing, and accessing legal assistance and HIV services. During outreach, influencers also shared HIV prevention information including how to access HIV testing, advantages of routine sexual health screenings, and the benefits of PrEP, PEP, and condoms. Influencers were each paid $494; clients receiving case management were provided $120 for completing 8 contacts with influencers. Over 6 months, 16 influencers made 376 health education contacts with Latino homeless individuals; 175 of those individuals made a second contact with project staff and HIV screening referrals. Of those 175 who made a second contact with SFAF: 25 accessed case management, 19 accessed legal services, 7 entered methamphetamine treatment, 10 entered psychiatric treatment, 2 re-connected with HIV care, 2 clients were diagnosed with cancer and sought treatment, 8 took a PrEP orientation class, and 1 received an overdose reversal.

LESSONS LEARNED: Paying formerly and currently homeless immigrant individuals to reach their communities with health information and services is an effective way to share HIV and health services. Formerly and currently homeless Latino individuals successfully engage with other Latino homeless individuals organically and are social influencers--securing survival for themselves and communicating skills to others.

CONCLUSIONS/NEXT STEPS: SFAF, in collaboration with other Latino organizations, seeks to replicate and expand the project.

PDD0106

THE CEDAR PROJECT: INTERGENERATIONAL CHILD APPREHENSION AND HIV HEALTH AND WELLNESS AMONG YOUNG INDIGENOUS PEOPLE WHO HAVE USED DRUGS IN TWO CANADIAN CITIES - A MIXED METHODS STUDY

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BACKGROUND: Wellbeing is eroded when Indigenous children are forcefully removed from families and communities, as they have been through Canada's residential school and child apprehension systems. Despite prevalence of intergenerational child apprehensions among Indigenous people involved in substance use, there is a paucity of research on child apprehension as a determinant of HIV-related health. We explored how child apprehension experiences shaped HIV health and wellness among young Indigenous people who have used drugs in two Canadian cities.

METHODS: This exploratory sequential mixed-methods study took place within the Cedar Project cohort involving young Indigenous people who have used drugs in British Columbia, Canada. In-depth interviews addressing HIV cascade of care experiences involved 12 participants living with HIV in 2016. Interpretive description identified themes. Based on qualitative findings, longitudinal generalized linear mixed effects models involving 52 participants tested for relationships between intergenerational child apprehension and HIV viral suppression using data collected between 2011-2014.

RESULTS: Child apprehension experiences were a central concern for participants; 78.8% had been apprehended as children and, among parents, 60.5% had experienced their own child(ren) being apprehended. Themes highlighting intersections with HIV included: (1) impact of removal from families on long-term health and wellbeing; (2) re/connecting with family; (3) intersections of substance use, apprehension, and HIV; (4) stress and demands of maintaining/regaining custody; and (5) traditional wellness practices being valued but complicated. Being apprehended (aOR: 0.23; 95%CI: 0.06-0.82) and having a child apprehended (aOR: 0.24; 95%CI: 0.07-0.77) were significantly associated with reduced odds of HIV treatment success (viral suppression).

CONCLUSIONS: Young Indigenous people who have used drugs were over 75% less likely to be virally suppressed if they were apprehended from their parents as children, or their own children had been apprehended. To our knowledge, this is the first study to demonstrate statistical links between intergenerational child apprehensions and negative HIV outcomes among young Indigenous people with HIV. Respecting Indigenous rights to self-determination over child welfare processes is urgent. HIV care for young Indigenous people who have used drugs must acknowledge and

address ongoing impacts of intergenerational child apprehension experiences. Supporting parenting and family connections are essential to culturally-safe, healing-centered HIV care.

PDD0107

PATIENT-CENTERED, PATIENT-PROVIDER ENGAGEMENT AS MEDIATOR OF EFFECTS OF HEALTHCARE DISCRIMINATION, DEPRESSION AND PAIN ON LATER PAIN-RELATED OUTCOMES AND QUALITY-OF-LIFE AMONG AFRICAN AMERICANS WITH HIV WHO USE DRUGS

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BACKGROUND: Chronic pain is a prevalent, under-addressed co-morbidity among people living with HIV (PLHIV) that adversely impacts their quality-of-life (QOL). Because pain may compound discrimination in healthcare and problematic (self-medicating) coping , racial/ethnic minority PLHIV who use drugs experience particular disparities in pain and treatment access. Patient-centered patient-provider engagement (PCE), characterized by provider respect and shared treatment decision making, is associated with patients' improved well-being, and is a metric of healthcare quality. We examined whether PCE mediates the effects of discrimination, depression, and pain on later mental health-related QOL (MHRQOL) and other pain-related outcomes among African American PLHIV who use drugs.
METHODS: 331 PLHIV (95.8% African American, 42.6% female) with current or former drug use recruited from HIV clinics and community venues in Baltimore, Maryland, USA completed 3 semi-annual surveys. In structural equation modeling, PLHIV's 12-month pain-related outcomes (MHRQOL, fear of doctor's disbelief that they are in pain, and substance use for unrelieved pain) were regressed on PCE (a latent mediator assessed at 6-months) and baseline depression, pain intensity and healthcare discrimination experiences. Analysis adjusted for baseline assessment of outcomes and changes in HIV care provider between baseline and 6-month.

*[Figure 1. Structural equation modeling analysis showing standardized path coefficients, adjusting for reported change of HIV care provider between baseline and 6-month (N=331). CFI=1.00, TLI=1.01, RMSEA<.01 (.00, .03), *p<.05, **p<.01, ***p<.001]*

RESULTS: Baseline depression, discrimination, substance use for pain, and fear of doctor's disbelief of their pain were all associated with reduced PCE at 6-months. There were significant indirect paths from baseline discrimination to higher chances of substance use for pain and lower MHRQOL at 12-month, and from baseline depression to lower MHRQOL and higher chances of reporting fear of doctor's disbelief in their pain at 12-month, mediated through reduced PCE.
CONCLUSIONS: Findings highlight the important role of patient-centered engagement in chronic pain management to enhance mental health and quality-of-life for PLHIV. Integrative interventions are needed to address co-occurring pain and behavioral health problems, and to improve quality of patient-clinician relationships.

PDD02 HARNESSING THE POWER OF TECHNOLOGY AND INNOVATIVE METHODOLOGY

PDD0202

ONLINE DATING PATTERNS, SEXUAL BEHAVIORS, AND RELATIONSHIP CHARACTERISTICS AMONG SINGLE YOUNG MEN WHO HAVE SEX WITH MEN: LATENT PROFILE ANALYSIS

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BACKGROUND: Geosocial networking applications (GNA) are a popular way to find dates and hookups among young men who have sex with men (YMSM; ages 18-24). Despite the increased use of GNA and its purported association with HIV risk behaviors in the literature, few studies have examined whether YMSM can be classified into different GNA use patterns. This person-centered approach may unmask heterogeneity of GNA using patterns among YMSM, and examine whether these GNA patterns are differentially associated with HIV risk correlates.
METHODS: 180 YMSM (mean age 21.67) who completed the baseline survey of an online HIV intervention trial delivering dating and partner-seeking behavior contents. Latent Profile Analysis (LPA) was used to identify the number of online dating usage profiles based on the distribution of four variables: frequency of GNA use for dating and hookups, respectively, and perceptions of the usefulness of GNA for dating and hookups. Using LPA, multinomial logistic regression (MLR) was used to assess associations with sexual behaviors and relationship characteristics. Mplus was used for LPA and SAS was used for MLR.
RESULTS: Based on fit indices, a 3-latent-profile solution was selected. Profile1 (Low Utility Users; 50.8%) spent the least amount of time in GNA and did not consider GNA as useful to meeting partners. Profile2 (Hookup Seeker; 11.8%) used GNA almost everyday for hookups and found GNAs useful to meet partners. Profile 3 (Dates; 37.4%) spent more time in GNAs seeking dates over hookups, yet acknowledged that GNA were useful to hookup. In MLR, Hookup Seekers (profile 2) were more likely than Low Utility Users (profile 1) to report higher scores in sexual sensation seeking and lower relationship commitment. They also reported a greater number of recent sexual partners, receptive/insertive anal intercourse, and a greater likelihood of having sex with a partner met online (ps<0.05).
CONCLUSIONS: YMSM reported different GNA use profiles and, in turn, reported differences in HIV risk correlates. Interventions using technology to reduce HIV risk among YMSM who meet part-

ners online may explore tailoring based on GNA profiles and offer risk reduction strategies that align with users' frequency and perceived usefulness of GNA when seeking partners online.

PDD0204

USING MIXED METHODS IN DISCRETE CHOICE EXPERIMENTS TO DETERMINE PATIENTS' PREFERENCES FOR HIV AND TB SERVICES

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BACKGROUND: The discrete choice experiment (DCE) is a quantitative method increasingly used to understand patient preferences in healthcare. Participants make choices in a series of hypothetical scenarios that force trade-offs to reveal how patients prioritize different attributes (e.g. cost, location, clinic hours) and attribute levels (e.g., $1 vs. $3 vs. $5 for cost). Aggregate ranked preferences are useful for formulating patient-centered policies and designing programs that maximize uptake. However, there is limited guidance on developing attributes/levels used in DCE scenarios.
DESCRIPTION: We used qualitative and quantitative methods to refine DCE designs exploring HIV services in Zimbabwe and TB services in Eswatini. For each, we developed an initial list of literature-derived attributes/levels. For the HIV-related DCE, we then conducted eight focus group discussions (FGD) with adults on antiretroviral therapy (ART) to identify key attributes/levels of ART service delivery. Participants also placed stickers on a list alongside attributes they felt most important; attributes with more stickers were selected for inclusion. Choice card content and design were validated in two follow-up FGDs. The TB-related DCE examined preferences for TB preventive treatment in children in Eswatini. The initial list of literature-derived attributes/levels was explored via 80 in-depth interviews with children, caregivers and healthcare providers. Using participatory ranking methods (PRM), we asked participants to select the three most important attributes. Scores were tallied and the highest ranked attributes included in the DCE.
LESSONS LEARNED: Using mixed methods ensured inclusion of the most important context-specific attributes/levels in each DCE. Qualitative data enabled assessment of content validity and validation of DCE results; PRM allowed systematic reduction, refinement and validation of attributes/levels. Qualitative analysis also allowed us to combine some attributes, such as number of pills and pill size in Eswatini. In both DCEs, participant preferences were consistent in qualitative interviews, DCEs and surveys: HIV – provider interactions, individual- versus group-based models, clinic visit cost, visit frequency, and wait time; TB – clinic visit cost, wait time, pill formulation/size, pill taste, dosing frequency, treatment duration and visit frequency, and clinic hours.
CONCLUSIONS/NEXT STEPS: A rigorous mixed-methods process for developing attributes can improve the validity of DCEs, reducing the chances of excluding important variables.

PDD0205

EXPANDING THE USE OF THE ECHO MODEL TO IMPROVE ACCESS TO HIGH-QUALITY CARE AND TREATMENT FOR PEOPLE LIVING WITH HIV IN MALAWI

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BACKGROUND: Despite task-shifting for antiretroviral treatment (ART) initiation and follow-up to improve access to treatment at the primary care level, targeted capacity building activities to optimize clinical management have limited reach in Malawi. We implemented the project 'Extension for Community Healthcare Outcomes' (ECHO) to assess acceptability and improvement in clinical knowledge and capability among providers caring for people living with HIV (PLHIV) in Malawi.
DESCRIPTION: Project ECHO used proven adult learning techniques and interactive video technology connecting ART service providers in five high-volume facilities in Malawi (one 'hub' and four 'spokes'). From November 2018—September 2019, weekly, hour-long sessions covering 25 didactic topics and collaborative case presentations were conducted. The sessions utilized case-based learning and mentorship to increase the expertise of local health-care workers to manage PLHIV. The evaluation consisted of a pre- and post-intervention assessment; 29 clinical providers completed paper questionnaires and surveys before and after the project period, assessing HIV knowledge, perceived behavioral capability, and acceptability of ECHO. Change in knowledge was defined as (post-evaluation/pre-evaluation) knowledge scores * 100 across subject areas.
LESSONS LEARNED: Improvements in overall knowledge were noted, with a mean post-test score of 67% compared to the pre-test score of 59%, though this was not statistically significant. Knowledge gains were highest in the topics 1st and 2nd line ART failure (+41.1%), contraception and family planning (+31.6%) and pulmonary tuberculosis (+31.2%). Negative knowledge efficacy was observed in topics covering HIV and Hepatitis B (-50.1%), HIV and neurology (-19.0%), and HIV and the heart (-16.7%). Topic areas with negative knowledge efficacy had lower participation (attendance rates ≤50%). Participants reported improved perceived behavioral capability in all topics, with an increase in the number considering themselves experts. Most (86%) felt ECHO has improved the quality of care in their clinics. Participants were motivated to use innovative technology to expand communication for health providers.
CONCLUSIONS/NEXT STEPS: Project ECHO proved acceptable and showed overall positive gains in knowledge efficacy and capacity of clinical HIV providers. The model can be adopted nationally to increase real-time, cost-effective, high-quality training in HIV services in Malawi. Strategies to increase attendance are key in implementing successful ECHO.

PDD0206

EMPOWER" A TECHNOLOGY SOLUTION TO SOCIAL PROBLEM: A TOOL IN HANDS OF GRASSROOTS WORKERS TO INCREASE EFFICIENCY

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BACKGROUND: In India, 2.1 million PLHIVs are estimated of which 1.4 million are taking regular treatment from the national ART program. With the support of Global fund, India HIV/AIDS Alliance implements Vihaan Care and Support program since 2018 through 310 care and support centres(CSCs) across India through differentiated care service model. Vihaan programme registered 85% of 1.3 million PLHIV and provide services through 1822 outreach workers and peer counsellors. With the huge clients load (Average ORW client load is 992), outreach workers were facing challenge to identify the needy clients and provide required services using hard copy data sheets. User friendly eMpower application (android based mobile/tablet application) has been developed to resolve this issue.

DESCRIPTION: eMpower tablet based IT application has been designed and provided to 1822 community ORWs/peer counsellors across India with client's prioritisation, GIS, evidence collection, pop-up reminders, in-built validation and offline entry options. Priority clients were allotted to ORWs as per their geographical area coverage through regular synchronisation between tablets and CMIS.ORWs provided needed services to their clients and updated the data in tablet which further synchronises once in fortnight with CMIS. Tablets were managed centrally using MDM(mobile device management) system.

LESSONS LEARNED: eMpower tablet based application, has increased the efficiency of outreach workers in providing need based services and capture quality data in a timely manner as the follow up rate has increased from 42%(n=10,80,031) before tablet implementation to 52%(n=12,29,665) after tablet implementation as per September 2019. There is an evident increase in achievements between December 2017 to September 2019 related to TB screening(13,318/month to 149,035 clients/month), and HIV testing of partner/family members(453/month to 4,311/month) and lost to follow clients brought back to the treatment(10,550/month to 16,779/month).

CONCLUSIONS/NEXT STEPS: eMpower tablet application utilisation provided clear evidence that user friendly technology solution is important to prioritise and provide needful services to the PLHIV community in the high load setting. It increases the efficiency of the work of the field workers in the community. This application can be scaled up in different regions in HIV and associated service provision and data collection.

PDD0207

LEVERAGING LOW-COST MOBILE TECHNOLOGIES TO INCREASE COMMUNITY PARTICIPATION AND SUSTAINABILITY OF THE HIV RESPONSE: THE CASE OF OVC CARE IN EASTERN AND NORTHERN UGANDA

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BACKGROUND: Government spending on the HIV response in Uganda remains below the recommendations of the WHO ($84 USD per capita) and Abuja Declaration (15% of GDP). The bulk of the deficit in healthcare financing is shouldered by donor agencies that emphasize country ownership and sustainable interventions. This paradigm requires innovative approaches to reach priority populations with quality healthcare using fewer resources while inculcating elements of sustainability.

DESCRIPTION: Since 2016, under USAID/Uganda Better Outcomes for Children and Youth in Eastern and Northern Uganda, the Bantwana Initiative of World Education, Inc. has leveraged its commercial partnership with MTN Uganda to create a Closed User Group (CUG), an in-service network connecting health, social welfare, and child protection actors as part of an integrated referral network to ensure rapid response to child protection issues and comprehensive access to core services.

The monthly CUG subscription cost of $1.74 USD per user (paid by the project) allows users to communicate at no cost using voice and text messages within the group. The initiative has been scaled up to 22 districts, connecting more than 3,600 actors.

LESSONS LEARNED: Program evidence suggests that the majority of CUG-registered users were utilising the service to consult on child abuse cases (92%), coordinate critical child protection activities (88%), report child abuse cases (87%), mobilise community actors for case conferences (84%), follow up on reported cases (76%), and refer of cases to tertiary care providers (73%).

A 2019 study indicated that by improving communication and coordination among the multiple actors, the CUG has enabled quick identification of cases of child neglect and HIV-exposed children and youth, mobilisation, and referral to support services like HIV screening, ART referral, and adherence and viral load tracking -- providing evidence that the CUG improves coordination between communities and health service providers.

Referrals for cases of HIV and child abuse and neglect have improved, with a completion rate of 95% across the continuum of response.

CONCLUSIONS/NEXT STEPS: Leveraging low-cost mobile technologies that link multilateral stakeholder efforts in national HIV response mechanisms can be part of a strategic support package to sustain and expand gains towards Uganda's epidemic control and social development goals.

PDD03 SEXUAL CONCURRENCY AND SEXUAL NETWORKS

PDD0302

LEVERAGING SOCIAL NETWORKS AND TECHNOLOGY FOR HIV PREVENTION AND TREATMENT WITH TRANSGENDER WOMEN

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BACKGROUND: Transgender women ("trans women") are disproportionately impacted by HIV; yet there are few interventions tailored to trans women. There has been increasing interest in how social networks may influence health behaviors. This study employed qualitative methods to better understand how trans women's social networks and technology-based networking platforms may be leveraged in developing health promotion strategies for this high-priority population.

METHODS: Five 60-minute, audio-recorded focus groups were conducted with 39 trans women. Participants were eligible if they identified as a trans woman; were assigned male at birth; were at least 18 years of age; and used either alcohol or illicit substance or engaged in condomless anal sex in the past 12 months. Four of the focus groups were comprised of community members and consumers of social services (N=31) and one of the focus groups were comprised of trans women service providers (N=8). . During the focus groups, open-ended questions focused on social network composition and use of technology for socialization, partner seeking, and health information. Audio recordings were transcribed, coded using an iterative, open coding process and analyzed.

RESULTS: Participants were racially and ethnically diverse with majority (74.4%) identifying as Black/African American and Latinx, ranging from ages 20 to 72, with a mean age of 37 (SD=11.90). [CJR1] Most participants were connected to other trans women online where they exchanged health information. Qualitative data supports the crucial role of these social networks for social support and health seeking information. Participants used technology to break isolation and to exchange health-related information and advice. Participants' described their social networks as stratified across class, racial, and generational differences.

CONCLUSIONS: Technology served as a crucial resource for collectively organizing resources and establishing relationships with other trans women. The strength of existing networks supports the development of network-driven HIV prevention intervention strategies for trans women. Policymakers and practitioners should invest in the knowledge and expertise of trans women in using technology to organize health resources in the development of technology-based HIV prevention and care interventions.

PDD0303

LONGITUDINAL ASSOCIATIONS BETWEEN PLACE OF SEX WORK, DEPRESSION AND HIV VULNERABILITIES AMONG SEX WORKERS IN BALTIMORE, MARYLAND: A SOCIAL GEOGRAPHY OF SEX WORK APPROACH TO GUIDE HIV PREVENTION CASCADE OPTIMIZATION

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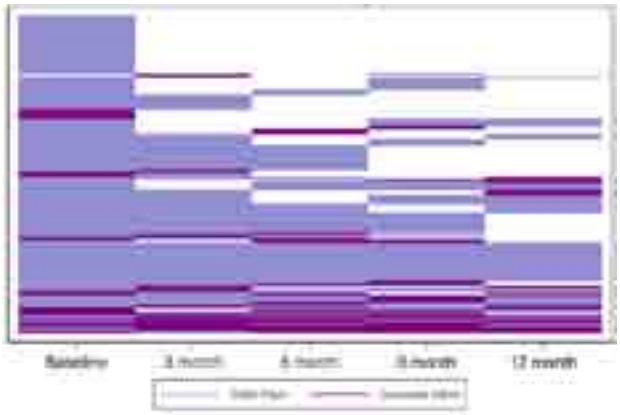
BACKGROUND: Sex workers' work environments influence sex worker-client dynamics and HIV vulnerabilities. Cross-sectional studies have documented violence, HIV risks, and depression associated with sex work in public compared to indoor spaces. In exploring where women reported sex with clients, we examined longitudinal associations between public place of sex work (PPSW) and health outcomes (HIV vulnerabilities, depression) among sex workers.

METHODS: This cohort study involved five data collection points over one year among cisgender women sex workers (N=246) in Baltimore, Maryland. We conducted bivariate analyses to examine associations between currently conducting any sex work in a public place (PPSW, e.g., car, abandoned house, street, park/forest, public bathroom) vs. exclusively indoor sex work (ISW, e.g., house, motel, dance club) with sociodemographic, substance use (e.g., injection drug use [IDU], crack use), past 3-month condom coercion (e.g., client condom refusal/removal), and baseline clinically-significant depression (CES-D-10; cut off of 10). We used logistic regressions with generalized estimating equations and exchangeable correlation structure to examine longitudinal associations between PPSW and subsequent condom coercion or depression adjusting for sociodemographics and substance use.

RESULTS: Among participants (race/ethnicity: White: 67.5%; Black/African American: 22.8%; Latina/other ethnicity: n=9.8%), most reported daily IDU (58.5%), daily crack use (62.2%), and homelessness (62.2%). Over three-quarters (88.6%) reported any PPSW at baseline. PPSW was associated with increased odds of past 3-month condom coercion (AOR: 1.85, 95%CI: 1.16-2.94, p=0.01) and depression (AOR: 1.41, 95%CI: 1.02-1.97, p=0.04) compared to ISW. PPSW was dynamic, reported by n=218 at baseline, 3-month (n=133/155), 6-month (n=103/130), 9-month (n=93/119), 12-month (n=77/99), and was associated with not completing all study visits (see lasagne plot).



[Figure. Public place of sex work vs. exclusively indoor place of sex work]

CONCLUSIONS: Public environments of sex work were associated with sexual (condom coercion) and mental (depression) health disparities. Public sex work confers additional health risks in contexts of illegality. Interventions to optimize HIV prevention cascade engagement can address these social geographies of sex work.

PDD0304

CREATING COMMUNITIES OF EMERGENCY RESPONDERS TO REDUCE VIOLENCE AGAINST SEX WORKERS AND INCREASE ACCESS TO JUSTICE AND HIV SERVICES: LESSONS LEARNED FROM THE HANDS OFF PROGRAMME

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BACKGROUND: Gender-based violence is a key risk factor increasing sex workers' vulnerability to HIV. Violence impedes sex workers' access to services. Despite evidence showing that a reduction of 25% of HIV infections among sex workers may be achieved when violence is reduced, there remains a lack of investment in programmes directly addressing violence as a structural barrier to HIV prevention. Under the Aidsfonds' Hands Off programme (2014-2019) sex worker-led organisations and service providers implemented various strategies to reduce violence against sex workers and increase access to services in Southern Africa.

DESCRIPTION: As a distinctive component of the programme, 65 different community-led crisis response systems were set up, among which drop-in centres and helplines. Trained sex worker paralegals escorted their peers to report cases, and provided court support, information and counselling. Crisis response teams consisting of sex workers, healthcare workers, police and influential community members ensured efficient referral and follow-up to HIV, psychosocial and legal services. Litigation lawyers supported in bringing case before court.

LESSONS LEARNED: An independent evaluation of the programme showed that innovative crisis response systems such as helplines directly operated by police and multidisciplinary local response teams have increased access to services for sex workers. Over 81.000 sex workers have accessed healthcare, psychosocial and legal services. Partners learned that using decentralised systems leads to more effective referrals and follow-up. In places where paralegals were responsible for supporting sex workers, sex workers received rapid assistance far more than they had in the past. Paralegals documented 1.500 cases of violence, contributing to an evidence-informed advocacy strategy for sex workers' rights. Over 235 cases were brought before court, illegal arrests have decreased and perpetrators have faced consequences for violence. However, to significantly reduce individual and structural violence, community-led crisis response needs to be implemented parallel to interventions strengthening a rights-based sex worker movement and supporting police engagement.

CONCLUSIONS/NEXT STEPS: Coupled with movement building and police engagement, community-led response systems are a powerful strategy to reduce sex workers' vulnerability to HIV. Substantially larger investment in programmes that focus on addressing violence as a structural barrier to HIV prevention is needed.

PDD0305

ROLL OUT OF INNOVATIVE "SOCIAL NETWORK MODEL" INTEGRATED WITH INDEX TESTING CONTRIBUTED TO REACHING "HARD-TO-REACH", HIV CASE DETECTION AND LINKAGE TO ART AMONG PWID IN NORTHEAST INDIA

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BACKGROUND: Reaching, testing and treating "hard-to-reach" individuals at risk of HIV infection is vital for achieving UNAIDS' 90-90-90 goals. Northeast India, which has poor roads, uneven topography and inadequate facilities, has a large population of people who inject drugs (PWID), but traditional government-run interventions in this difficult environment have achieved low case finding (0.4%). FHI 360 implemented an innovative "Social Network Model" under the CDC- and PEPFAR-funded Project Sunrise to reach, test and treat hard-to-reach PWID.

DESCRIPTION: The Social Network Model used respondent-driven chain referral to reach, test and treat PWID not already covered by government-supported Targeted Interventions (TI). PWID who self-reported large injecting networks were selected as seeds to recruit clients from their networks and refer them for HIV screening. Seeds, and any subsequently recruited clients, were given four coupons to distribute among injecting partners not covered by TI. For each new client tested, the recruiter received US $1, and clients were compensated for travel to HIV testing. Clients confirmed positive were linked to ART. HIV positive clients were also given index testing coupons to recruit their sexual partners, spouses and children, who were offered motivational counseling and HIV testing.

LESSONS LEARNED: 42 initial seeds from two districts in northeast India generated contact with 1,476 previously unreached PWID, all of whom were tested. 13.8% were confirmed HIV positive, a case-finding rate 35 times higher than under the TI model. 72% positive clients were linked to ART, while 24% positive and negative clients were linked to prevention services including OST. Index testing carried out with all PLHIV contributed to 16.7% positivity. Focusing on the high-risk population led to higher reach, case detection and treatment.

Parameters	Churachandpur	Aizawl	Total
Initial seeds	14	28	42
Recruited and tested for HIV	810	666	1,476
PLHIV newly diagnosed	82 (10.1%)	121 (18.2%)	203 (13.8%)
PLHIV initiated on ART	72 (88%)	74 (61%)	146 (72%)
Contacts of PLHIV tested for HIV	132 (1:1.6)	119 (1:1)	251 (1:1.2)
Contacts of PLHIV diagnosed HIV positive	22 (16.7%)	20 (16.8%)	42 (16.7%)

CONCLUSIONS/NEXT STEPS: SNM integrated with index testing identified HIV-positive PWID at a much higher rates than traditional programs, though challenges remain linking all positive clients to ART. This model has been adopted by National AIDS Control Program and is now being scaled up across India.

PDD0306

PREVALENCE OF DEPRESSION AND KEY ASSOCIATED FACTORS AMONG FEMALE SEX WORKERS LIVING WITH HIV IN DURBAN, SOUTH AFRICA

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BACKGROUND: More than half of all female sex workers (FSW) in South Africa are estimated to be living with HIV, however, emerging data have demonstrated that up to 80% of FSW in KwaZulu Natal also are clinically depressed. The syndemic framing of HIV and depression among FSW has been described, but there are limited data characterizing the upstream structural determinants of depression among FSW who are living with HIV.

METHODS: Non-pregnant, cisgender women (>18 years), enrolled in the Siyaphambili study in Durban, South Africa reporting sex work as their primary source of income and diagnosed with HIV for ≥6 months, were eligible for enrollment. Analyses was guided using an adaptation of stress-diathesis model. Robust Poisson regression models were used to asses univariate associations with depression (PHQ 10). Variables aligned with the conceptual framework and significantly associated with depression in bivariate analyses (p<0.1) were included in the multivariate robust Poisson regression model.

RESULTS: Of the 1,207 FSW enrolled, nearly all were South African, 27% were homeless (n=326) the median age was 31 years [IQR27-37]. A total of 387(32%) participants reported symptoms of depression defined as a PHQ9 score greater than or equal to 10. Age, education, housing, viral suppression, experiences of sexual and physical violence, alcohol use, anticipated and internalized stigmas were associated with depression and included in multivariate analyses. In the multivariate regression, significant increases in the prevalence of depression were observed for participants who were homeless(PR=1.25,95%CI 1.03–1.52), had ever experienced sexual violence(PR=1.54, 95%CI 1.28-1.85) and reported internalized stigma(PR=1.08, 95%CI 1.00–1.16).

CONCLUSIONS: Taken together, these results reinforce the structural foundation of syndemics of HIV and depression among FSW in South Africa and depression with independent predictors including unstable housing, violence, and stigmas. Given the relationship between depression and adherence among PLWH, these results suggest the need to integrate mental health and HIV programs to optimize outcomes for both.

PDD0307

SEEING REGULARS ASSOCIATED WITH LOWER ODDS OF SEXUAL VIOLENCE AND CLIENT CONDOM REFUSAL AMONGST SEX WORKERS IN METRO VANCOUVER, CANADA (2010-2019): IMPLICATIONS FOR HIV PREVENTION AND REMOVAL OF 'END-DEMAND' CRIMINALIZATION

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BACKGROUND: Globally, individuals who purchase sex services (i.e., clients) are commonly misrepresented as violent and exploitative, and are criminalized under 'end-demand' legislation in 50+ countries. While qualitative research has documented heterogeneous relationships between clients and sex workers, there remain significant gaps in quantitative evidence examining the impacts of seeing different types of clients (i.e., regulars vs. one-time) on sex workers' safety and HIV/STI risks.

METHODS: Analyses drew on longitudinal data (2010-2019) from a community-based open cohort of 900+ indoor, street-based, and online sex workers in Vancouver (AESHA; An Evaluation of Sex Workers' Health Access) which has included experiential staff (e.g., interviewers, nurses, coordinators) since the project's inception in 2010. Our objectives were to (1) describe characteristics of women seeing mostly regulars (defined as 75%-100% of clients are repeat clients) in the past 6 months, and (2) identify independent effects of seeing mostly regulars on odds of experiencing sexual violence and client condom refusal over a 9-year period.

RESULTS: Among 942 sex workers, 58.5% (n=551) saw mostly regulars at some point over the 9-year study. HIV prevalence was 14.1% at baseline. Women who reported inconsistent condom use for vaginal/anal sex with clients had lower odds of seeing mostly regulars (OR 0.80, 95%CI 0.67-0.96). In multivariable analysis, recent and longterm immigrants and those in in-call venues (e.g., massage parlours) had lower odds of seeing regulars, while those soliciting independently and working in informal indoor settings (i.e., apartments) had higher odds of seeing regulars. In separate multivariable confounder models, seeing mostly regulars was independently associated with reduced odds of experiencing sexual violence (AOR 0.71, 95%CI 0.52-0.97) and client condom refusal (AOR 0.73, 95%CI 0.60-0.88), after adjusting for key confounders.

CONCLUSIONS: Our results disrupt common stereotypes of clients as inherently violent or 'risky' and suggest that within criminalized environments, sex workers may see mostly regulars as a strategy for enhancing safety and reducing HIV risk. Full decriminalization of sex work, including removal of 'end-demand' client criminalization, is needed to enable sex workers to choose clients and organize their work according to their needs, towards HIV prevention and the full achievement of sex workers' labour and human rights.

PDD04 STILL A LONG WAY TO GO: HIV CARE FOR MOTHERS AND CHILDREN

PDD0402

BUILDING RESILIENCE FOR CHILDREN AFFECTED BY PARENTAL HIV IN CHINA: EFFICACY OF THE MULTI-LEVEL CHILDCARE INTERVENTION AT 18-, 24-, 30-, AND 36-MONTHS

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BACKGROUND: Global literature indicates that children affected by parental HIV are at risk for a range of negative developmental outcomes, including psychosocial, behavioral, educational, and health-related challenges. Yet despite these hardships, many youth with parents who are living with HIV or who have died from AIDS-related causes go on to experience positive later life outcomes. Building on four decades of theory and empirical research on resilience, the Child-Caregiver-Advocacy Resilience (ChildCARE) was developed to enhance the resilience of children affected by HIV in rural central China. Notably, the ChildCARE intervention provides psychosocial intervention at three levels, including the child-level (i.e., peer-group sessions), caregiver-level (i.e., positive parenting training, caregiver support), and community-level (i.e., local advocacy, stigma reduction efforts).

METHODS: Efficacy of the ChildCARE intervention was evaluated through a four-arm cluster-based randomized controlled trial in Henan, China. In total, 790 child and caregiver dyads were assigned to one of four intervention conditions: control, child-only intervention, child+caregiver intervention, and child+caregiver+community intervention. The current study utilized difference score modeling to compare resilience-related outcomes between children assigned to the control condition and those who received the full intervention package (i.e., child+caregiver+community intervention). Specifically, we evaluated whether children who received the multi-level intervention displayed increases in psychosocial wellbeing and resilience-related outcomes at 18-, 24-, 30-, and 36-months.

RESULTS: Children assigned to the intervention group displayed higher resilience and enhanced psychosocial functioning when compared to children assigned to the control group at multiple time points after the ChildCARE intervention concluded. Notably, change scores from baseline to the final study assessment point (i.e., 36-months) indicated that youth assigned to the child+caregiver+community intervention displayed increased resilience (p=0.010), higher levels of post-traumatic growth (p=0.033), and better emotional regulation skills (p=0.049) than those in the control group. Positive trends were noted for other constructs, including self-esteem and use of positive coping skills.

CONCLUSIONS: There is increasing support for psychosocial HIV interventions that target not only vulnerable individuals, but also their social support systems and broader community networks. Current findings provide support for the efficacy of one such intervention--ChildCARE--in enhancing the resilience of children made vulnerable by parental HIV in China.

PDD0403

THE NATIONAL PREVALENCE OF VIRAL LOAD SUPPRESSION AND ASSOCIATED FACTORS AMONG CHILDREN RECEIVING ART IN MALAWI

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BACKGROUND: Impressive gains have been made in expanding access to antiretroviral therapy (ART) in Malawi. However, challenges remain in viral load suppression (VLS) among children. We assessed national VLS among HIV-positive children aged <18 years on ART for at least 6 months.

METHODS: Between June 2018 and January 2019, we conducted a cross-sectional survey that employed a two-stage, cluster-sampling design where 36 study health facilities providing ART were selected nationally using probability proportion to size. Blood samples were collected through heel or finger prick or venipuncture for viral load (VL) analysis at the National Reference Laboratory on the Abbott m2000 platform. VL>1000 copies/ml was considered high VL. Demographic data were abstracted from routine facility-based medical records. Counts and proportions were used for the descriptive analysis while bivariate analysis was conducted using the Chi square test.

RESULTS: Of 806 children with VL results, (median age 10 years, interquartile range 7-13), 516 (64%) had suppressed VL. The majority (73%) of children with high VL were aged between 6-14 years old, with the age group of 10-14 years contributing 60% of high VL cases. Similar to children with suppressed VL, the majority (70%) of children with high VL had been on ART >=3 years. Of the children with high VL, 94% were on non-nucleoside reverse transcriptase inhibitor (NNRTI)-based regimens (98% nevirapine, 2% efavirenz as a tail), while 80% were on zidovudine (AZT) as nucleoside reverse transcriptase inhibitor (NRTI) backbone. The majority of children with no ART exposure for prevention of mother-to-child transmission (PMTCT) (66%) had high VL compared to those with PMTCT exposure (52%; p= 0.03). A higher proportion of children on abacavir (ABC)-based regimens were virally suppressed compared to children on any other NRTI-based regimen (53% vs. 30%, respectively; p=0.02). The proportions of children on NNRTI and protease inhibitor (PI)-based regimens with suppressed VL were 37% and 38%, respectively.

CONCLUSIONS: VLS among children was suboptimal. The study showed no difference in suppression rates between children on NNRTI- and PI-based regimens, while a higher proportion of children on ABC-based regimens were virally suppressed compared to children on any other NRTI-based regimens.

PDD0404

PATHWAYS TO HIV DISCLOSURE AND OPTIMAL PMTCT OUTCOMES AMONG PREGNANT AND POSTPARTUM WOMEN LIVING WITH HIV IN THE DEMOCRATIC REPUBLIC OF CONGO

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BACKGROUND: Disclosure of HIV status in the context of PMTCT may increase social support and adherence to ART and thus, contribute to improved outcomes for women living with HIV (WLWH) and their infants. We examined factors associated with and the pathways mediating HIV disclosure among pregnant and postpartum WLWH receiving routine PMTCT care.

METHODS: We performed a cross-sectional analysis, utilizing baseline data from a cluster-randomized trial to evaluate the effect of continuous quality interventions on long-term ART outcomes among pregnant and postpartum WLWH. We enrolled all pregnant and postpartum (≤1-year post-delivery) WLWH receiving ART in the 3 clinics with the highest caseload within each of the 35 provincial health zones in Kinshasa, from November 2016 to July 2019. For our outcome, we derived 3 binary indicators of HIV status disclosure to (i) anyone, (ii) a sexual partner, and (iii) family or friends that are important sources of social support. We performed logistic regression to estimate the association of disclosure of HIV status with demographic and clinical characteristics, using a general estimating equation to account for clustering at the health facility and health zone level.

RESULTS: Of the 2775 WLWH enrolled, 2754 who provided information on HIV disclosure were retained in the analysis. Participants' ages range from <=24 (16%), 25-34 (53%) and >35 (31%). The majority were married (69%), had secondary education (87%), no income (90%) and multiparous (95%). About 58% were diagnosed with HIV prior to the most recent pregnancy and 55% initiated ART >=12 months. About one-third (35%) experienced intimate partner violence (IPV). HIV status disclosure ranges from 52% to anyone, 34% to a sexual partner and 35% to family/friend. Factors associated with disclosure included older age, marriage, multiparity, tertiary education, >= 13 months on ART and history of IPV. Participants who exhibited symptoms of depression were less likely to disclose to anyone (OR: 0.98; 95%CI: 0.97, 0.99) or sexual partner (OR:0.98, 95%CI: 0.96, 1.00).

CONCLUSIONS: Pregnant and postpartum WLWH face difficult decisions regarding disclosure of HIV status. Depression and IPV complicate the disclosure processes, but the pathways through which these limit optimal PMTCT outcomes are less understood and warrants further investigation.

PDD0405

CAREGIVER CHARACTERISTICS AND PREDICTORS OF VIRAL SUPPRESSION AMONG CHILDREN LIVING WITH HIV ON ART IN KENYA

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BACKGROUND: Caregivers play a vital role in ensuring antiretroviral therapy (ART) adherence, retention in care, and viral suppression among children living with HIV (CLHIV). Caregiver characteristics may strongly predict viral suppression among CLHIV.

METHODS: We analyzed pre-enrollment data for caregivers and children (<15 years old) enrolled from March to December 2019 in an on-going randomized controlled trial, Opt4Kids, which assesses the impact of point-of-care viral load (VL) testing on VL suppression among CLHIV on ART and conducted in five facilities located in Kisumu County, Kenya. Clinical and sociodemographic characteristics were obtained through self-report, standardized questionnaires, and clinical records.

We used multivariable logistic regression models adjusting for various characteristics to assess associations between caregiver characteristics and the children's viral suppression (defined as VL <1000copies/ml).

RESULTS: Overall, 704 children were enrolled with a median age of children of 9 years (interquartile range [IQR] 6-11) and caregivers of 36 years (IQR 31-43). A majority of caregivers (69%) had attained at least primary education. The biological mother was the most common primary caregiver (68%) while 23% had someone other than their biological parent as their caregiver. A total of 568 caregivers (81%) were living with HIV and among these, 45% reported being virologically suppressed. Most children (78%) were virologically suppressed. Children with virologically suppressed caregivers were more likely to achieve viral suppression than children who had caregivers without viral suppression (adjusted odds ratio [AOR] = 7.53, 95% confidence interval [CI] 1.32-43.03, $p<0.017$). Compared to children who had their biological mother as the primary caregiver, children with other caregivers were less likely to achieve viral suppression (AOR=0.26, 95% CI 0.08-0.82, $p=0.016$).

CONCLUSIONS: Our results indicate viral suppression of caregivers living with HIV and type of caregiver are associated with viral suppression in CLHIV. Targeted support of specific groups of caregivers may help improve viral suppression in CLHIV.

PDD0406

UNDERSTANDING EMOTIONAL DISTRESS AMONG PERINATALLY ACQUIRED HIV INFECTED ADOLESCENTS IN PUNE, INDIA: EXAMINING MEDIATING AND MODERATING EFFECTS

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BACKGROUND: Development of emotional distress (ED) among adolescents living with HIV (ALHIV) affects their adherence behavior, social and psychological functioning. Data on stressors among

ALHIV demonstrates the gap pertaining to the predictors of ED experienced by 'adolescents living with perinatal HIV (ALPH)' in the socio-cultural milieu of India. This study aimed to examine the underlying mechanisms leading towards ED among Indian ALPH through mediation and moderation analysis.

METHODS: This mixed-method study was conducted (2014-17) to explore the psycho-social issues and predictors of ED among Indian ALPH. Forty-three qualitative interviews with ALPH, parents/guardians and health care providers were followed by a cross-sectional survey among 100 ALPH (10-19 years). Distress sub-scale of Weinberger's Adjustment Inventory was used to measure ED. Qualitative data were analyzed using grounded theory in QSR NUD*IST Version 6.0 and survey data in SPSS 25.0. Mediation and moderation models were tested using Hayes PROCESS macros v3.0. The study was approved by the institutional ethics committee.

RESULTS: Strong parental control, compulsive asexuality, internalized stigma by ALPH, and anger on parents were the major themes emerged from qualitative component. These themes led to survey tool constructs viz., HIV awareness, parental control (PC), hypervigilance, adolescent-parent relationship (APR), adolescent-parent communication (APC), body image and perceived negatively different from peers (PNDP). ED was found to be high among ALPH and significantly associated with PNDP (B=3.91; 95% CI: 0.43-7.40; p=0.03), anger (B=0.22; 95% CI: 0.04-0.41; p=0.02), body image (B=0.37; 95% CI: 0.06-0.68; p=0.02), and hypervigilance (B=0.57; 95% CI: 0.17-0.96; p=0.006). Anger was partially mediating the pathway between PNDP and ED while body image and hypervigilance had moderating effects on the relationship between PNDP and ED. The findings emphasize the need for mental health interventions for Indian ALPH.

CONCLUSIONS: The study provides empirical evidence that negative self-perception, anger, body image issues and hypervigilance by primary caregivers are the predictors of ED among ALPH. It is critical to intervene early before an ALPH develops ED. Focused counseling on body image issues and self-perception is critical for living a 'normal' life by ALPH. Primary caregivers need to build skills to draw a line between protection and over protection.

PDD0407

INDIVIDUAL AND FACILITY-LEVEL FACTORS ASSOCIATED WITH INTERRUPTION IN HIV CARE AND TREATMENT AMONG PREGNANT AND POSTPARTUM WOMEN IN THE KABEHO STUDY IN KIGALI, RWANDA

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BACKGROUND: Pregnancy and postpartum are challenging periods where interruptions in HIV care and treatment (starting, stopping, and returning to care over time) are common. The absence of ART is strongly associated with high viral load and vertical transmission. Understanding determinants for interruptions in care could inform interventions aimed at continuous retention to prevent negative health outcomes related to high viral load.

METHODS: The Kigali Antiretroviral and Breastfeeding Assessment for the Elimination of HIV (Kabeho) study was an observational, prospective cohort of 608 HIV-positive women enrolled in their third trimester of pregnancy or within two weeks post-delivery between April 2013 and May 2014. Multivariate logistic models adjusted for clustering by facility were used to examine the odds of an interruption (one or more missed visits followed by returning to care). Models included the following individual characteristics ascertained from interviews at enrollment: age, marital status, travel time to facility, education, CD4 results, disclosure of HIV status to partner, and household size. Facility characteristics captured during site assessments such as frequency and types of services offered were also included.

RESULTS: Women who attended facilities that offered select services had much lower odds of having an interruption as compared to women who attended facilities that did not offer those services (Table 1). None of the individual characteristics examined were associated with interruptions.

Facility level characteristics [individual characteristics not shown]	OR (95% CI)
ANC, PMTCT, and ART services offered all 5 days per week	0.54 (0.32, 0.92)
Services not offered all 5 days	Reference
Retention support (telephone reminders, transportation reimbursement/support, or defaulter tracing system)	0.30 (0.12, 0.76)
No retention support	Reference
Peer counseling	0.31 (0.23, 0.42)
No peer counseling	Reference
Infant feeding counseling	0.20 (0.15, 0.26)
No infant feeding counseling	Reference

[Table 1. Adjusted odds ratios and 95% confidence intervals from logistic models examining individual and facility-level characteristics among women enrolled in the Kabeho Study; Kigali, Rwanda; 2015-2017.]

CONCLUSIONS: Our study suggests that health facilities may be more effective targets for interventions to improve retention than individuals. The lack of services offered was strongly associated with interruptions. Studies aimed at assessing health care utilization and motivation may be an effective means to identify the services that most encourage continuous engagement of pregnant and postpartum women to reduce the likelihood of vertical transmission.

PDD05: THE BIG CS: CIRCUMCISION, CONDOMS AND CONTRACEPTION

PDD0502

IMPROVING POST-OPERATIVE FOLLOW-UP OF VOLUNTARY MEDICAL MALE CIRCUMCISION CLIENTS USING A TOLL-FREE LINE: LESSONS FROM RWENZORI REGION-UGANDA

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BACKGROUND: Voluntary Medical Male Circumcision (VMMC) is one of the effective biomedical HIV prevention interventions implemented in Uganda. Mobile outreaches have been used to increase uptake of VMMC. However, there are challenges managing post-operative complications for clients circumcised during the outreaches since the VMMC teams are mobile, and client's homes may be far from health facilities which may lead to inadequate post-operative follow-up and management of the adverse events. Baylor-Uganda implemented a VMMC call center to aid in post-operative follow-up and link clients to care in rwenzori Region. We describe the implementation and impact of the toll-free on follow-up of client's post-operation from July 2018 to June 2019.

DESCRIPTION: A VMMC toll-free line was set-up in July 2018, marketing of the line was done through radio talk shows, posters and engraved wristbands given to males after circumcision. The line is manned by a trained doctor, communication experts and counsel, who on receiving a call, give advice and depending on the query, link the client to the responsible follow-up officer in specific VMMC camps. The project provided a standby vehicle to pick clients who required urgent medical attention then a follow-up call is made 24-hours after the initial call to monitor progress. Data from calls was recorded, descriptive statistics generated and shared monthly. We used proportions to analyse adverse events reported by the callers.

LESSONS LEARNED: Between July 2018 to June 2019, we received 2001 VMMC calls, 87% of the callers were males and the median age 16years (IQR:12,22). Of the 2001, 1181(59%) were given advise online especially on wound care and did not need linking to a VMMC officer while 820(41%) had adverse events and were linked. Of the clients linked, 96% successfully received care within 24 hours.
Mild adverse events (AEs) reported were pain(10%) and swelling of the penis (15%) whereas moderate AEs included; wound disruption (40%),Abscess formation (11%),wound infection (10%),inability to urinate (9%), excessive bleeding (3%) and sexual dysfunction(2%).

CONCLUSIONS/NEXT STEPS: The toll-free line service is effective in follow-up of VMMC clients post-operation. Other VMMC partners and the Ministry of Health should consider adopting this approach nationally.

PDD0503

INCREASED YIELD IN VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) USING HIV TESTING SERVICE SCREENING TOOL IN ZAMBIA

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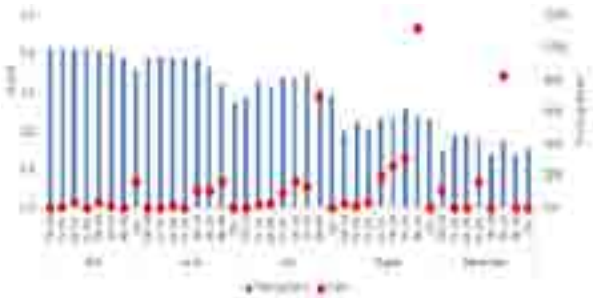
BACKGROUND: VMMC prevalence in Zambia is 21% and HIV prevalence among males is 9.3%. The VMMC package includes HIV Testing Services (HTS) and has been touted as a unique opportunity to reach men thus contributing towards the UNAIDS 95-95-95 target. Universal testing for VMMC clients remains the gold standard, yield among VMMC clients is consistently low, suggesting opportunities for better targeting and resource optimization. Ministry of Health developed an HIV risk screening tool to identify and test clients most at risk. The screening tools has been primarily used in other HTS service points but newly introduced in VMMC.

DESCRIPTION: Since April 2015, Jhpiego implemented a 5-year PEPFAR/CDC funded project that aims to increase VMMC coverage to 80%. The national HTS screening tool was rolled out in 58 VMMC facilities in 5 provinces in May 2019. Facility staff were trained before implementation. We assessed changes in HIV testing rates and yield among VMMC clients during 5 months of implementation (May – September 2019).

LESSONS LEARNED:



[Table. HIV testing rate and yield in VMMC in Zambia (May to Sep, 2019)]

Testing rate declined and yield increased; a 64% reduction in testing rates (100% to 36%) in the 10-14 age-group and minimal increase in yield (0.2%), the 40-49 age-group equally recorded a 60% drop in testing with more increase in yield (2.3%). The yield improvements are prominent in age-groups older than 15-29, suggesting the tool helps target HTS for higher risk men, and decreases testing rates for men less likely to be HIV-positive. These low yield rates below 3% are the highest recorded in the last 2 years.

CONCLUSIONS/NEXT STEPS: The tool has resulted in reduced testing and increased yield among VMMC clients, it appears to be an effective approach for targeting HTS to the highest risk clients, particularly older age groups. The use of the tool should be expanded and monitored closely to ensure we are not turning away high risk clients.

PDD0504

BEHAVIOR DESIGN METHODOLOGY FOR UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION AMONG FISHERFOLKS IN THE LAKE ZONE OF TANZANIA

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BACKGROUND: Voluntary medical male circumcision (VMMC) is highly effective and among PEPFAR's highest HIV prevention priorities. HIV prevalence among fisherfolks in Tanzania's Lake Zone Region is estimated at 14%, three times higher than national HIV prevalence; 26% - 54% of adult men from the general population in the Lake Zone Regions are uncircumcised. VMMC outreach approaches that have succeeded among the general population have not been as effective among fisherfolks in Lake Victoria islands; thus, nonconventional multidisciplinary solutions are needed to reach this segment of the population. Behavioral design (BD) leverages insights from social psychology, economics, and neuroscience to understand individuals' decisions and actions. IntraHealth International, in collaboration with ideas42, used BD to create tools to increase VMMC uptake among fisherfolks.

DESCRIPTION: BD occurred in four-phases: problem definition, diagnosis, design, and testing. We generated over 100 hypotheses about behavioral drivers of VMMC uptake, which were investigated through interviews with providers, clients, and community members. Confirmed common behavioral drivers included:

- Time inconsistent preferences: immediate costs of VMMC related to lost wages and wait times outweigh longer-term benefits.
- Zero risk bias: men's motivation to avoid any risk of jeopardizing sexual performance, even if they perceive that risk to be remote.
- Descriptive social norms: men perceive circumcision to be uncommon among peers and conform to this norm.
- Availability heuristic: vivid stories of fears or complications related to VMMC come easily to mind, leading men to overestimate risks.

We designed protypes (job aids) for community health workers to support them in addressing these and other behavioral drivers through outreach and sensitization activities.

LESSONS LEARNED: BD can be employed to address cognitive biases and other behavioral tendencies contributing to low uptake of VMMC among priority populations. Solutions can reframe choices to allay fears about sexual performance, provide identity cues that show accessing VMMC as consistent with strength and masculinity, reduce immediate costs, and connect VMMC to salient, immediate benefits.

CONCLUSIONS/NEXT STEPS: Implementers and researchers must understand the context of service provision and learn directly from priority populations what drives their behavior so that behaviorally informed interventions can be harnessed to achieve HIV prevention goals.

PDD0505

CONDOM USE AMONG MEN WHO HAVE SEX WITH MEN WITHIN METRO MANILA, PHILIPPINES: ASSOCIATIONS WITH ATTITUDE TOWARDS ITS USE AND SEXUAL HEALTH OUTCOMES

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BACKGROUND: The purpose of this study was to determine and explain the level of condom use among men who have sex with men (MSM) within Metro Manila. It also intended to determine the associations between the level of attitude on condoms towards their level of condom use and the association of the direction of condom use attitude, level of sexual health knowledge, level of condom access and the associations of their level of condom use and sexual health outcomes.

METHODS: The research used a quantitative methodological approach utilizing an online self-administered survey questionnaire as a data collection tool using non-probability sampling of 415 MSM. The data gathered was analyzed using descriptive statistics to find means scores, frequencies and percentages. Meanwhile, a non parametric inferential statistics were used to test the association of variables.

RESULTS: Findings revealed that men who have sex with men have a high level of knowledge, high level of condom access, high level of condom use and good level of sexual health outcomes but with a negative attitude towards condom use. However, only one fourth of the respondents have knowledge on the new concept of undetectable equals unstransmittable, where in a person living with HIV who have undetectable viral load by taking antiretroviral drugs cannot transmit HIV sexually. Findings also revealed that sexual health knowledge and condom access have significant but negative association with condom use attitude while no significant association was found between the level of condom use attitude and condom use implying that attitudes has nothing to do with MSM's condom use practices. However, a significant positive correlation was found between condom use and the level of sexual health outcomes.

CONCLUSIONS: Despite the high level of knowledge, condom access, condom use, and sexual health outcomes among men who have sex with men within Metro Manila, their condom use attitudes were negative and the researcher recommends further investigation to gather insights on the factors affecting their negative attitudes toward condom use. Furthermore, continuation and scaling up of condom distribution programs are recommended while behavioural change communication strategies should focus on changing the negative attitudes of MSM on condom use.

PDD0506

END-USER RESEARCH FOR THE DEVELOPMENT OF AN IMPLANT TO PREVENT UNINTENDED PREGNANCY AND HIV PREVENTION: QUALITATIVE INSIGHTS FROM SOUTH AFRICA AND ZIMBABWE

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BACKGROUND: The SCHIELD (Subcutaneous Contraceptive and HIV Implant Engineered for Long-Acting Delivery) program aims to develop a Multipurpose Prevention Technology (MPT) implant for HIV and pregnancy prevention. An assessment was undertaken to provide rapid implant attribute and acceptability feedback to the product development team from potential end-users.

METHODS: Twelve Focus Group Discussions (FGDs) were conducted with women aged 18-34 in Soshanguve, South Africa and Harare, Zimbabwe along with quantitative demographic and preference data collection with each participant. FGDs were stratified by contraceptive implant experience as well as parity and transactional sex. Frequencies were run on quantitative data and debriefing reports of FGDs were analyzed to summarize emerging themes.

RESULTS: 110 women (median age 24) were enrolled, and they overwhelmingly supported the idea of an MPT implant. Preferred duration varied by participant type and country. Women who engaged in transactional sex in Soshanguve and parous women at both sites favored a longer lasting implant (3 years), whereas women who engaged in transactional sex in Harare and nulliparous women generally preferred shorter durations (≤2 years). Participants had mixed reactions to possible menstrual changes related to use of a hormonal contraceptive, citing impact on daily activities and economic considerations (e.g. ability to engage in transactional sex, cost of menstrual products). These were considered possible barriers to future uptake and persistence with an MPT implant. Participants anticipated situations where their desire to conceive could rapidly change, necessitating a quickly reversible contraceptive component, whereas the need for quick reversibility for the HIV prevention indication was not anticipated. This drove preference – especially in Harare – for separate rods for each indication, with easy removability of the contraceptive portion while the HIV prevention portion could be left in place (preference for separate rods: Harare=70%, Soshanguve=48%).

CONCLUSIONS: An MPT implant system for prevention of HIV and unintended pregnancy was highly desirable to potential end-users, and optimal duration may vary by personal and country context. Furthermore, product developers should consider the importance of return to fertility and tolerance for menstrual changes in early stages of product development when it is more feasible to modify attributes of an MPT product containing a hormonal contraceptive.

PDD0507

A CALL TO IMPROVE UNDERSTANDING OF UNDETECTABLE EQUALS UNTRANSMISSIBLE (U=U) SLOGAN IN BRAZIL

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BACKGROUND: The correct understanding of U=U (undetectable equals untransmissible) is key in the fight against the HIV epidemic as it empowers people living with HIV, improving adherence and decreasing self-stigma. We assessed the correct understanding of U=U in Brazil in 2019 by population groups.

METHODS: Adult (age ≥18y) Brazilian residents were recruited to complete a web-based survey through advertisements on a geosocial network dating app (Grindr), Facebook and WhatsApp Groups during October/2019. Participants were grouped as: people living with HIV (PLWH), HIV-negative/unknown gay or bisexual cisgender men (GBM) and other populations (POP). Understanding of U=U was accessed with the question: "With regards to HIV-infected individuals transmitting HIV through sexual contact, how accurate do you believe the slogan U=U (undetectable equals untransmissible) is?" Responses were dichotomized into "correct" (completely correct) and "incorrect" (partially correct, partially incorrect, completely incorrect and I don't know what undetectable means). Logistic regression models were used to assess the factors associated with the correct understanding of U=U by group.

RESULTS: A total of 2311 individuals accessed the questionnaire, 234(10%) did not meet inclusion criteria and 1690(73%) completed the survey. Of these, 347(20%) were PLWH, 785(46%) GBM and 558(33%) POP. More PLWH had a correct understanding of U=U (79%, 274/347), compared to 44%(347/785) GBM and 17%(96/558) POP (Chi-square test p-value <0.01). Among PLWH and GBM, black race and lower income were associated with decreased odds of correct understanding, respectively (Table).

		PLWH aOR (95%CI)	GBM aOR (95%CI)	POP aOR (95%CI)
Gender/ Orientation	Category A (Ref: Category B)[1]	0.74 (0.36-1.49)	**2.16 (1.48-3.18)**	**3.12 (1.18-8.02)**
Age	≤ 35 years (Ref: >35 years)	**2.64 (1.40-5.20)**	**2.00 (1.45-3.18)**	1.15 (0.68-1.92)
Race	Black (Ref. Other[2])	**0.34 (0.16-0.71)**	1.22 (0.76-1.94)	0.79 (0.32-1.74)
Family Income	Middle/High (Ref. Low[3])	1.59 (0.85-2.99)	**1.55 (1.09-2.22)**	0.77 (0.45-1.35)
Schooling	≤ Secondary school (Ref. > Secondary school)	0.94 (0.50-1.78)	0.96 (0.66-1.38)	1.06 (0.62-1.78)
Living in Capital Cities	Yes (Ref. No)	1.35 (0.72-2.49)	**1.44 (1.02-2.04)**	1.26 (0.77-2.11)
Steady Partner	Yes (Ref. No)	**2.58 (1.39-5.01)**	1.11 (0.80-1.56)	1.38 (0.84-2.32)
Ever testing HIV	Yes (Ref. No)	NA	**1.54 (1.00-2.40)**	**2.26 (1.28-4.20)**

[1] For PLWH, Category A= GBM and Category B= other; For GBM, Category A= Gay and Category B= Bisexual; For POP, Category A= Transgender/Non-Binary and Category B= Cisgender;
[2] Other = White, Asian, Native or Pardo (Mixed-black); [3] Low income is equivalent to R$1996.00 or USD468.00 per month; NA: not applicable

[Table]

CONCLUSIONS: There was significant difference in U=U knowledge across population groups, with average and very poor understanding among GBM and the general population, respec-

tively. Correct understanding of the slogan needs to be promoted in more vulnerable populations such as PLWH of black race and GBM of lower income, and more broadly among older individuals and the general population, in an effort to decrease stigma against PLWH.

PDE01 COMMUNITIES AT THE FOREFRONT: INTEGRATING COMMUNITIES IN HIV PROGRAMMING

PDE0102

CAPACITY BUILDING FOR COMMUNITY HEALTH WORKERS IN VIETNAM: RESULTS OF AN INTERVENTION TRIAL

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BACKGROUND: Community health workers (CHW) can play an essential role in addressing the needs of people living with HIV (PLH) and people with substance use disorders (PSUD); this is particularly critical in low- and middle-income countries. Coordination and networking among CHW and with providers of other service agencies need to be strengthened so that that CHW can be equipped with relevant knowledge and supported from their professional peers. In this study, we report preliminary outcomes of a capacity-building intervention targeting CHW in Vietnam. The aim was to enhance their networking and collaboration to support HIV and addiction treatment initiation, retention, and adherence.

METHODS: From 2017 to 2019, we conducted a cluster randomized controlled trial in four provinces of Vietnam. Intervention CHW participated in the intervention program for integrated service delivery, including two in-person group sessions followed by online group communications to network and support each other. All the CHW participants completed assessments with an audio computer-assisted self-interview method. The outcome measures include two multi-item scales. Interaction with providers in other service sectors was measured by an eight-item scale developed for this study. Confidence in HIV/drug-related service provision was measured by CHW ratings in confidence in providing services to PLH and PSUD in several service areas. Mixed-effects regressions models were performed to evaluate intervention outcomes based on the data collected at baseline, 3-, 6-, 9-, and 12-month follow-up.

RESULTS: We observed no significant differences in baseline CHW demographic characteristics, work background, and training between the intervention and control conditions. Intervention CHW showed greater improvement in interaction with providers in other service sectors (P=0.004) and confidence in HIV and drug-related service provision (P=0.025) than control CHW at the 6-month follow-up. The intervention effects on both outcome measures remained at the end of the study (12-month, P-values < .05).

CONCLUSIONS: Our study indicated that the intervention focusing on capacity building and networking has the potential to improve cross-agency communication and collaboration among CHW. With the support of a professional network, CHW will be more equipped to provide HIV and drug-related services in community settings.

PDE0103

A COMMUNITY-BASED EXPERIENCE OF A VIRAL LOAD (VL) SAMPLE COLLECTION CAMPAIGN TO ENHANCE DOLUTEGRAVIR (DTG) CONTAINING ANTIRETROVIRAL THERAPY (ART) REGIMEN SWITCH AMONG FEMALE SEX WORKERS (FSWS) IN MALAWI

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BACKGROUND: The MSF FSWs Project provides HIV TB and sexual and reproductive health (SRH) services for Malawian FSWs through a community-based peer-led model. National VL monitoring policy is VL testing for all those on ART at 6 months and yearly. VL coverage among FSWs in the MSF cohort was 45% prior to the campaign. The additional importance of VL in ensuring correct switch at the time of DTG rollout adds urgency to improve VL coverage. We conducted a campaign to reach enrolled FSWs eligible for VL based on peer-led community outreach in Dedza, Mwamza and Zalewa Districts. This descriptive data analysis presents the outcome of the intervention.

DESCRIPTION: From Aug. to Nov. 2019, FSWs eligible for VL sample collection in the 3 districts were mobilized by peers to have dried blood spot (DBS) VL tests according to Malawian guidelines. Tracing was achieved using micro-planning tools and an eligible list was extracted from program database. Data was collected on paper register, encoded into an excel sheet and an analysis was performed using STATA 13.

LESSONS LEARNED: 252 DBS samples were collected during the campaign, reaching 71% of the 355 eligible FSW. . Among those reached, 39% had never previously had a VL and 80% were VL suppressed (<1000 copies/mL). VL suppression rate on DBS was 45,6% (21/46), 86% (123/143) and 83,5% (56/63) in Zalewa, Mwanza, and Dedza. Of 252 FSWs reached by the campaign 220 (87%) returned for results and DTG-based regimen switch, increasing the speed of DTG switch among FSWs.

CONCLUSIONS/NEXT STEPS: A campaign led through peer based community mobilization is an effective method to rapidly increase coverage of VL testing among FSWs on ART in Malawi, increasing VL coverage from 44,7% to 64,4% among FSWs enrolled in the MSF cohort in the 3 sites. All reached during the campaign received a VL. The observed percentage of VL suppression (80%) indicates remaining gaps in achieving the 90-90-90 target for FSWs. While Malawi protocol at the time of the campaign pragmatically recognized that DTG switch should not be delayed by awaiting VL results, our approach demonstrates that VL guided switch can be rapidly achieved in this population.

PDE0104

POSITIVE EFFECTS OF INTENSIFIED PREVENTIVE CALLS/HOME VISITS ON EARLY RETENTION AMONG ADULTS NEWLY INITIATED ON ANTIRETROVIRAL THERAPY IN ZAMBÉZIA PROVINCE, MOZAMBIQUE

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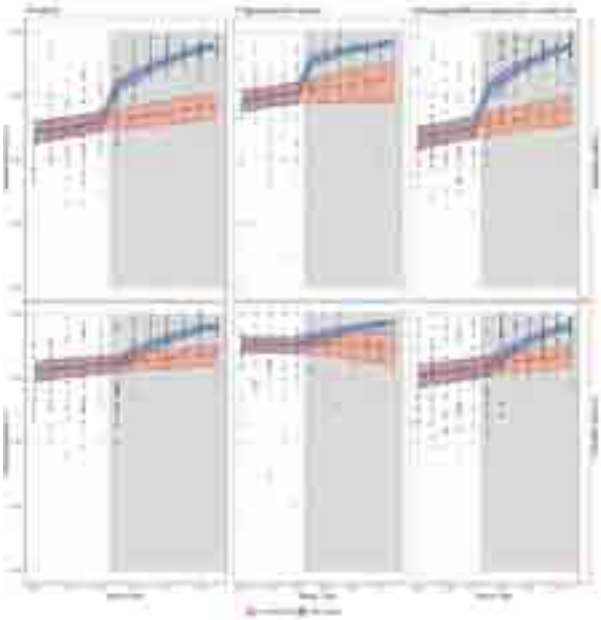
BACKGROUND: In Mozambique, early retention rates among antiretroviral therapy (ART)-treated adults remained low in 2018, ranging from 65% to 69% at one and three months, respectively. To bolster rates, patients newly initiated on ART received services in the first three months including phone calls and/or monthly supportive home visits performed (for non-pregnant/lactating adults) by Counselors and Peer Educators, and (for pregnant/lactating women [PLW]) by Mentor Mothers. In February 2019, activities were intensified in 20 health facilities in Zambézia Province, focusing on technical support to counselors and volunteers, data triangulation and weekly process measures monitoring. The effect on early retention was evaluated.

METHODS: Routinely collected aggregated program data extracted from electronic patient database of HIV-positive adults initiating ART between September 2018-August 2019 were evaluated. Retention was defined as returning for ≥1 ART pick-up within 33 days (1-m retention) and 61-120 days (3-m retention) post-initiation. Trend analysis was done using generalized linear mixed effects models to account for site-level clustering, adjusting for covariates (urban/rural, patient volume, district).

RESULTS: Analysis included 19,750 patients. Overall, one- and three-month retention rates increased with the intervention from 61% to 93%, and 76% to 91%, respectively (Figure 1).



[Figure 1. Fitted model of effect of the intervention on one-month and three-month retention (September 2018 - August 2019)]

In observation period, odds of being retained at one-month increased by 1.92 (95%CI: 1.67-2.20) and we predicted a continuous retention rate increase of 1.23 (95%CI: 1.18-1.29) post-observation period. The change was less substantial (OR 1.01, 95%CI: 0.87-1.16) for 3-m retention, but the increased rate was still significantly higher (OR 1.25, 95%CI: 1.19-1.31).

CONCLUSIONS: Improved psychosocial support implementation appeared to have a significant effect on early retention. Counselors and volunteers ensured procedural fidelity through clear identification of roles/responsibilities and creating a feedback loop regarding performance. High quality community support should start as early as possible to prevent lost to follow-up in this critical post-ART initiation window.

PDE0105

COMMUNITY-BASED ANTIRETROVIRAL THERAPY DELIVERY ASSOCIATED WITH VIRAL SUPPRESSION AND RETENTION IN CARE IN SOUTH AFRICA

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BACKGROUND: We assessed South Africa's differentiated community-based antiretroviral therapy (ART) delivery program (CCMDD) for people living with HIV (PLHIV) for participation rates and to determine the association between CCMDD enrollment and HIV care outcomes.

METHODS: The STREAM trial enrolled PLHIV in Durban who were clinically stable on ART for six months and randomized participants to receive either point-of-care viral load (VL) testing (Xpert® HIV-1 VL, Cepheid) and task-shifting to an enrolled nurse or standard laboratory VL testing. Six months after STREAM enrollment, non-pregnant participants with two consecutive undetectable (<40 copies/mL) VLs were eligible for referral into the CCMDD program. At 12 months after STREAM enrollment, participants were reassessed for eligibility. We used Poisson models with robust standard errors to evaluate the association between CCMDD enrollment and viral suppression (<200 copies/mL) and/or retention in care.

RESULTS:

HIV Care Outcomes	Not enrolled in CCMDD [a] N=264 (68%)	Enrolled in CCMDD [a] N=126 (32%)	RR (95% CI)	p-value	aRR [b] (95% CI)	p-value
HIV viral load <200 copies/mL and retained in care at the clinic	204 (77.3)	119 (94.4)	1.22 (1.13-1.32)	<0.001	1.19 (1.09-1.29)	<0.001
HIV viral load <200 copies/mL	218 (82.6)	126 (100.0)	1.21 (1.15-1.28)	<0.001	1.20 (1.12-1.29)	<0.001
Retained in care at the clinic	226 (85.6)	119 (94.4)	1.10 (1.03-1.18)	0.003	1.08 (1.01-1.16)	0.017
a. Enrollment into CCMDD is defined as first enrollment prior to the study exit visit. b. Adjusted for study randomization arm, continuous age, and gender						

[Table. Centralized Chronic Medication Dispensing and Distribution (CCMDD) Programme enrollment and HIV care outcomes at study exit in the STREAM Study, n=390]

Among 390 participants, 176 (45%) were eligible, 168 (43%) were referred, and 144 (37%) enrolled into CCMDD. Participants obtained their ART within the expected window at 93% (265/286) of scheduled CCMDD visits. Reasons ART was not obtained included missed appointments (9/21, 43%) and ART package not being available at the pick-up point (6/21, 29%). Of 135 participants reassessed for CCMDD consideration six months after initial eligibility, 14 (10%) became CCMDD-ineligible due to pregnancy (n=5), detectable viral loads (n=3), and declined re-referral (n=6). After adjusting for study randomization arm, age, and gender, CCMDD enrollment prior to study exit was significantly associated with viral suppression (<200 copies/mL) and retention in care at the clinic (RR=1.19 p<0.001), viral suppression alone (RR=1.20 p<0.001) and retention in care alone (RR=1.08 p=0.017).

CONCLUSIONS: Among clinically stable participants, those enrolled in the CCMDD program had higher rates of viral suppression and retention in care, indicating that the community-based ART delivery model did not negatively impact HIV care outcomes. The CCMDD program should be promoted for clinically-stable PLHIV in South Africa.

PDE0106

HIGH SATISFACTION WITH KEY POPULATION-LED XPRESS SERVICE DELIVERY FOR FOLLOW-UP OF PRE-EXPOSURE PROPHYLAXIS CLIENTS IN COMMUNITY BASED ORGANIZATIONS IN THAILAND

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BACKGROUND: Thailand has achieved significant scale-up of HIV pre-exposure prophylaxis (PrEP) under a community-based service delivery model with lay providers; however, PrEP retention has been suboptimal. Xpress service flow was implemented to reduce the one-hour wait time for PrEP follow-up visits and potentially improve service retention. Here we report clients' experiences with Xpress services.

METHODS: Xpress service flow was designed by staff of community based organizations (CBOs) working across 6 Thai provinces, and was launched at 6 CBOs in June 2019. Eligibility assessment was performed by counselors, and clients were considered eligible if they had good adherence, no acute HIV symptom and willing to use Xpress service. If eligible, clients skipped post-test counseling during that visit, and received their HIV test result through a channel of their choosing (LINE, SMS, or email), resulting in an average visit duration of 30 minutes. A satisfaction survey using a 5-point Likert scale was conducted among clients using the Xpress service on the day of service utilization.

RESULTS: Between August–December 2019, 898 clients came for PrEP follow-up, all were eligible and used the Xpress service, of whom 341 completed the satisfaction survey. A majority indicated to be satisfied or very satisfied with service accessibility (98.5%), duration (95.9%), and convenience (97.7%). Nearly all clients agreed or strongly agreed that enough attention was paid to them during Xpress services (98.2%), that Xpress services fit their lifestyle better than regular services (98.8%), that they preferred Xpress over regular services (97.1%), and that receiving test results through LINE/SMS/email is private and safe enough (94.4%). Of the 898 clients who used the Xpress flow, one seroconverted. This client was immediately contacted by CBO staff and linked to treatment within one day.

CONCLUSIONS: The Xpress option to optimize the flow and duration of services for PrEP follow-up clients results in very high client satisfaction and should be offered as a service option for eligible clients, and longitudinal clinical outcomes like retention in care and adherence should be assessed in the future to inform service optimization. The Xpress option should also be expanded to other services to improve service utilization.

PDE02 DIFFERENT METHODS, BETTER RESULTS: DIFFERENTIATED SERVICE DELIVERY IN HIV TESTING AND PREVENTION

PDE0202

VARIATIONS IN COMMUNITY-BASED HIV TESTING OUTCOMES BY TESTING APPROACH: AN UPDATED SYSTEMATIC REVIEW OF THE EVIDENCE FOR COMMUNITY-BASED HIV TESTING

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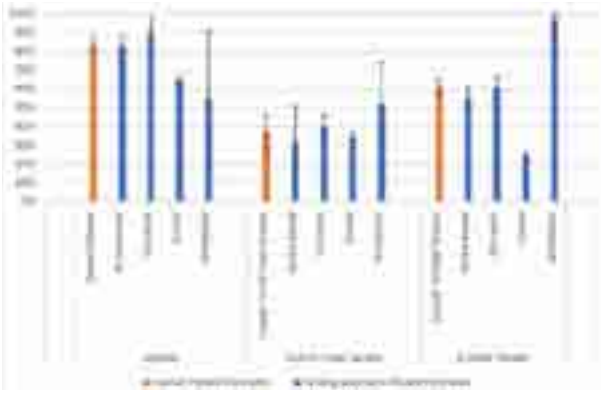
BACKGROUND: Approximately 8.1 million people with HIV (21%) are undiagnosed. Efforts to scale-up HIV testing among those unreached, using efficient and effective approaches, is essential for achieving the 95-95-95 global targets. WHO recommended community-based HIV testing services (CB-HTS) in 2013 and, in 2015, recommended lay provider testing to further support implementation. Here we examine differentiated CB-HTS to guide future implementation.

METHODS: We conducted a global systematic review following PRISMA, searching 8 electronic databases, for studies on CB-HTS published/presented between January 2015 and July 2018. This analysis presents studies reporting on CB-HTS outcomes among the general population. We calculated pooled proportions using random effects models.

RESULTS: 228/13,218 unique studies were included in this review. HIV testing uptake across CB-HTS approaches was 83% (95% CI:78-87%). Over a third were first time testers (37%;CI:28-46%) and over half were male (61%;CI:57-65%). Pooled HIV positivity was 6% (CI:5-7%) and over three-quarters of those diagnosed HIV+ were new diagnoses (78%;CI:67-87%).

Results varied by CB-HTS approach (Figure 1) Compared with home-based testing, outreach had greater uptake (O:90%,CI:77-98% vs H:83%,CI:77-88%), reached more first time (O:40%,CI:34-46% vs H:32%,CI:16-51%) and male testers (O:61%,CI:55-66% vs H:55%,CI:49-61%), and resulted in a greater percentage of new HIV+ diagnoses (O:77%,CI:38-100% vs H:71%,CI:58-83%).

Site-specific approaches varied greatly. School-based testing found lower uptake (65%,CI:63-67%) and reach among first-time (34%,CI:32-37%) and male testers (24%,CI:22-26%). Pooled HIV positivity was also low (0%,CI:0-1%). Workplace models demonstrated similarly low uptake (55%,CI:6-91%), but reached high proportions of men (97%,CI:84-100%) and first-time testers (52%,CI:30-74%). Pooled positivity was 7% (CI:4-11%) and 94%(CI:63-100%) of HIV+ diagnoses were new.



[Figure 1. Update, first time and male testing by CB-HTS approach]

CONCLUSIONS: CB-HTS remains an effective way to reach first-time testers and men, and to identify new HIV infections. There is considerable variability by testing approach. Programmes must consider their context and select a strategic mix of CB-HTS approaches to reach those in need of HIV testing, prevention and treatment services.

PDE0203

AN INNOVATIVE "1+1" HIV SELF-SERVICE TESTING IN COOPERATION WITH COMMUNITY-BASED ORGANIZATIONS OR VOLUNTARY TESTING AND COUNSELLING SITES IN FIVE PROVINCES, CHINA

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BACKGROUND: In order to meet the needs of both fast and accurate testing results in the anonymous state, as well as professional medical service, we developed the "1+1" HIV self-service testing (including finger-prick rapid testing and dried blood spot self-collection testing), and evaluated its acceptability and feasibility in five Province, China.

METHODS: From March to December 2019, in cooperation with local community based organization or voluntary testing and counselling sites, 9868 "1+1" HIV self-service testing packages were distributed to the participants for free . When got the package, according to the instructions, participants performed finger-prick rapid testing, collected their dried blood spot (DBS) in private, completed the questionnaire and mailed the specimen and questionnaire back to the designated laboratory. The DBS specimens were tested with HIV-1 antibody ELISA and the results were uploaded to the web-based platform within five working days.

RESULTS: A total of 4196 (42.5%) urine specimens and questionnaires were mailed back. Of these 4196 participants, 2016 had performed finger-prick rapid testing and the positive rate was 8.4% (169/2016). 416 out of 4196 (9.9%) dried blood spot specimens were determined HIV-1 antibody positive. CDC staff reached 401 of 416 (96.4%) HIV-1 antibody-positive participants, and provided a western blot diagnostic assay kit to test their venous blood specimens. Among them, 100% reported being confirmed HIV antibody positive. 352 out of 401 (87.8%) participants were confirmed as newly diagnosed. 93.3% (388/416) HIV-1 antibody-positive participants and 63.2% (2390/3780) HIV-1 antibody negative participants searched for their test results by logging onto the website with the unique identification code.

CONCLUSIONS: This study showed that "1+1" HIV self-service testing was an efficient approach supplemental to the existing HIV testing and counseling system through eliminating the key barriers of conventional PITC and VCT testing, could help medical professionals to establish a linkage with individuals with high-risk sexual behavior, effectively identify undiagnosed HIV infection, and timely refer and confirm those who screened HIV-positive in private.

PDE0204

COMBINING ENHANCED PEER OUTREACH APPROACH WITH INDEX TESTING: A BETTER STRATEGY FOR REACHING KEY POPULATIONS AT HIGH RISK IN HIV CONCENTRATED SETTINGS IN INDIA

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BACKGROUND: The USAID/PEPFAR funded LINKAGES project led by FHI 360 and implemented in six high- burden districts for HIV in India, explored combining the enhanced peer outreach approach (EPOA) among hidden networks of men who have sex with men (MSM) with index testing to reach spouses and stable sexual partners and achieve India's 90-90-90 goals. HIV prevalence among MSM is reported as 2.69%.

DESCRIPTION: EPOA adapts respondent driven sampling to reach networks of key populations (KPs) beyond the catchment geographies of the National HIV Control Program, while index testing expands HIV testing from HIV diagnosed KP members to undiagnosed high-risk individuals particularly spouses and stable sexual partners. Stakeholders were consulted on locally appropriate and community- friendly strategies for peer- based outreach, HIV screening, accompanied referral for confirmatory testing, and antiretroviral therapy (ART) initiation. HIV testing was performed through community-based approaches either at drop-in centers or community events. Confirmatory tests were conducted at the government testing centers. The WHO Partner Notification Framework was adapted for index testing. A differential package of services for MSM based on risk was developed. Risk assessment targeting high risk MSM and the documentation system were strengthened. Onsite mentorship and supportive supervision were provided.

LESSONS LEARNED: During 2018-2019, 12,896 new MSM clients were reached through EPOA, with a case detection rate of 6.09% (n=786). From the index MSM clients found HIV positive, 334 spouses were notified and tested for HIV with a case detection rate of

51.79% (n= 173). In addition, 1,229 regular partners were notified and tested with a case detection rate of 17.49% (n= 215). ART was initiated among 148 spouses (85.54%) and 190 regular partners (88.37%).
CONCLUSIONS/NEXT STEPS: Results show that combining the hidden peer led network testing approach with index testing enhances the coverage of high risk KP members and improves HIV case detection. The blended approach extends into high risk individuals, specifically spouses and stable sexual partners of MSM, who are otherwise beyond the reach of the National HIV Program, contributing toward the 90-90-90 goals. Adapting locally appropriate and community centric outreach, disclosure and partner notification for HIV concentrated settings are pre-requisites for such combination approaches.

PDE0205

REACHING THE 'FIRST' 95 - UPTAKE AND YIELD OF COMMUNITYBBASED HIV TESTING SERVICE MODALITIES IN SOUTH AFRICA

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BACKGROUND: Despite high HIV burden in South Africa, testing coverage remains low. Community-based HIV testing services play improves diagnosis and linkage to HIV care for marginalized gaps. The Accelerated-Targeted Community-based HIV Testing Services (ATC-HTS) project, funded by USAID, aimed to increase case-finding of HIV positive individuals to link and retain them in care and treatment. The project focused on priority populations and undiagnosed HIV-positive individuals in targeted communities in Mpumalanga and Free State provinces, Africa.
DESCRIPTION: To achieve high testing coverage, mobile, home-based and index testing modalities were implemented. The results compared HTS uptake and yield according to the modalities implemented. Using routine HTS data, from October 2017 – September 2018, the impact of the different modalities in identifying undiagnosed HIV infections. Index testing targets sexual partners and biological children (off-shoots) of positive index clients identified through TIER.Net registers, mobile testing and home-based testing through door-to-door campaigns.
LESSONS LEARNED: Approximately 100,000 people were tested: 56,026 - home-based HTS (56.1%), 35,692 -mobile (35.7%) and 8,328 - index (8.2%) testing. Home-based testing modality achieved higher uptake, compared to the other two modalities of testing: a higher proportion of <18 were tested through home-based than index testing (91% vs. 9%) and a higher proportion of adult men than index-testing (88% vs. 12%).
Of 8,328 index off-shoots tested for HIV, 1,630 (20%) tested positive while 1,533 tested positive through home-based modality and 1,376 through mobile testing. In comparison, Index testing was the most efficient for case identification with 20% positivity rate, compared to 2% for both mobile and home-based testing.
Of the 4,539 HIV-positive individuals, 92% of clients tested positive through community-based testing and were linked to care, confirmed through TIER.Net.
CONCLUSIONS/NEXT STEPS: Index testing is the most efficient modality for identifying HIV positive individuals. It allows testing for sex partners and biological children of index clients resulting in increased yield. This model reached PLHIV who would not ordinarily access HTS through conventional health facility HTS modalities.

PDE0206

HIV SERVICES CLOSER TO THE COMMUNITIES: COMMUNITY-LEVEL INTERVENTIONS TO OPTIMIZE HIV CASE FINDINGS AND TREATMENT INITIATION IN NEPAL

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BACKGROUND: In 2018, 20% of the estimated total number of people living with HIV (PLHIV) in Nepal did not know their status, and 30 percent who knew their status were not enrolled in antiretroviral therapy (ART). We describe the efforts of community lay providers for HIV screening through test-for-triage and peer navigators facilitating ART initiation to increase case finding and treatment in the USAID/PEPFAR-funded LINKAGES Nepal Project.
METHODS: Based on LINKAGES Nepal program data for HIV prevention, care, support, and treatment in 17 high-burden districts, we calculated the case finding through test-for-triage by mobilizing community lay providers (including key populations), and the use of HIV-positive peer navigators to facilitate treatment (October 2018–September 2019). Peer navigators accompanied those identified as positive for ART initiation including adherence support. Test-for-triage is a process where the lay-providers do HIV screening in the community as a part of a cost-effective and targeted approach. Test-for-triage were used for differentiated outreach and index testing. Index testing was offered to trace sexual, injecting partners and risk network referrals, and U=U messages were communicated to discordant couples.
RESULTS: Compared with no test-for-triage approach in FY18, case finding increased from two cases to 549 cases in FY19; also in FY19, case finding through index testing using test-for-triage increased to 18% compared to those from static clinics (2.7%), where beneficiaries need to find time to come for testing. Compared to no peer navigation support in FY18, ART initiation increased by 14% point in FY19 (75% to 89%). This demonstrates human-centered approach for HIV epidemic control where rather than beneficiaries going to services, services go to the beneficiaries.
CONCLUSIONS: Mobilization of community lay providers and peer navigators helps risk groups to know of their HIV status rather than visiting the clinic and helps to initiate ART. Their role is crucial to fill the gap in Nepal's HIV cascade.

PDE03 FROM FAITH TO MTV: EXPANDING THE REACH OF HIV SERVICES

PDE0302

FAITH-ENGAGED COMMUNITY POSTS ASSOCIATED WITH OVER 1200% INCREASE IN NEW HIV CASE ASCERTAINMENT, WITH HIGH LINKAGE AND RETENTION, ZAMBIA

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BACKGROUND: Recent data indicate that gaps in HIV testing uptake and antiretroviral therapy (ART) coverage in Lusaka, particularly for men and children, are related to their being less likely to access health facilities, preferring to receive HIV services from trusted individuals. Catholic Relief Services and Circle of Hope (an Assembly of God affiliate) addressed this by engaging and deploying local faith leaders to de-centralized community posts (CPs). We considered whether this model was associated with increases in case-finding, linkage, and retention, particularly for men and children.

DESCRIPTION: Each of 21 CPs was located in a high-activity setting with minimal branding and served by a multi-disciplinary team of community health workers and a clinician. CRS and COH collaborated in a program to increase case-finding, linkage, and retention. The intervention leveraged trusted relationships of faith leaders to identify individuals at higher risk for HIV infection.

LESSONS LEARNED: During the 19 months following introduction of CPs (March 2018–September 2019), as compared to the 17 months before, the median number of new HIV cases identified per month increased 1087% overall (from 46 to 500), 1494% in men (from 16 to 239), and substantively in children (from 0 to 10). During the program period, testing yield for men was 27.0% and for children, 5.5%. Of the 11,457 clients identified as new HIV cases at CPs, >96% were linked and >92% were retained on ART as of September 2019.

Key program components include:

- Hiring – harnessed social infrastructure, with >90% of staff serving as trusted faith leaders in local congregations;
- Senior Management support - through daily meetings and WhatsApp
- Celebration – quarterly events distribute non-monetary awards
- Leveraging faith leaders' close relationships with those at risk in the community (such as those with marital/partner conflict, familial illness, bereavement, or attendance at healing services)
- Shared core values – training with continuous reinforcement - 'RECIPE' – Responsibility, Empathy, Compassion, Integrity, Passion, Ethics

CONCLUSIONS/NEXT STEPS: We report that implementation of this faith-engaged CP model can result in substantial improvements in case-finding, linkage, and retention. Expanding this model to other contexts may help advance epidemic control in Zambia and beyond.

PDE0303

PILOT EVIDENCE-BASED INTERVENTIONS TO REDUCE METHAMPHETAMINE USE IN VIETNAM: PROMISING OUTCOMES AND LESSONS LEARNED

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BACKGROUND: Methamphetamine has gradually replaced opioids to be the first drug of abuse in Asia-Pacific. Methamphetamine use is associated with HIV risk behaviors and lower uptake of methadone maintenance treatment. Little evidence exists to guide the effective implementation of evidence-based interventions (EBIs) to reduce methamphetamine use in resource-poor settings like Vietnam.

DESCRIPTION: Between 2018 and 2019, VHATTC at Hanoi Medical University has piloted four combinations of EBIs on methadone patients and people who use drugs (PWUD) not in treatment. The project aims to assess the feasibility of interventions and preliminary treatment outcomes. These EBIs included motivational interviewing, contingency management, Matrix group therapy, SMS messaging and on-site psychiatric treatment. Participants with methamphetamine-positive urinalysis and/or at moderate/high risk with methamphetamine were recruited into intervention programs that lasted between 8 and 16 weeks. Participants were tested for methamphetamine twice every week throughout the interventions.

LESSONS LEARNED: The retention rate of 288 patients receiving interventions remained at 90% in all EBIs combinations, except for MSM who used methamphetamine. The reduction of both methamphetamine and heroin use across EBIs combinations was consistent. Among high-risk methadone patients (n=56), methamphetamine use reduced from 39.3% to 6%, opioid use from 28.6% to 4% after 16 weeks. Among PWUD not in treatment, methamphetamine use reduced from 49.2% to 31% after 8 weeks. Among HIV-positive methadone patients (n=51), methamphetamine use reduced from 54.9% to 12.5% and viral load decreased after 12 weeks. In all combinations, participants' mental health improved after interventions. Findings indicate that EBIs implementation is feasible in Vietnam. Methadone providers were able to adopt intervention techniques with online and on-site assistance. When confidentiality was ensured, all patients agreed to be tested for methamphetamine. SMS messaging might work to sustain participants' achievements in resource-poor settings. Moderate-risk users responded better to all EBIs combinations.

CONCLUSIONS/NEXT STEPS: EBIs have been proved to be effective in Vietnam. We will assist Vietnam's Ministry of Health to develop implementation guidelines for methamphetamine interventions in methadone clinics. Strategies to retain MSM who use methamphetamine in care and other EBIs like family interventions among adolescents using drugs need to be piloted.

PDE0304

VIOLENCE, CONFIDENTIALITY BREACHES, AND HARD TO REACH CLINICS IMPEDE ADOLESCENT TREATMENT ADHERENCE

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BACKGROUND: We urgently need effective strategies to increase treatment adherence amongst Africa's adolescents living with HIV, but lack evidence of social, structural and clinical factors impacting adherence.

METHODS: A prospective 3-year study of n=1,060 adolescents living with HIV (55% female, mean age 13.6) in one health district of South Africa's Eastern Cape. We traced all adolescents ever initiated on treatment (90% uptake) in all 73 government health facilities, with standardised questionnaires and clinical records. Study retention was 94% (18 months) and 91% (36 months), with 3% mortality. Ethical approvals were received from University of Cape Town, University of Oxford, Provincial government. Analyses used logistic random-effects and fixed-effects models (estimating semi-elasticities) to investigate predictors of adherence.

Outcome: past-week self-reported ART adherence. Potential predictors included: Healthcare: medication stockouts, confidentiality of records, travel time to clinic and clinic waiting time; Structural family factors: orphanhood, changes of primary caregiver, household size and (non)biological relationship to primary caregiver; and Family care factors: physical or emotional violence victimisation, domestic violence, good caregiver supervision and caregiver-adolescent communication. Controls were: age, study round, gender, urban/rural, (in)formal home, poverty, vertical/horizontal infection and recent ART initiation.

RESULTS: Adherence was associated with undetectable viral load (baseline OR 1.45, 95% CI 1.02;2.07; 18-month OR 1.47, CI 1.03;2.11). Rates of consistent adherence from baseline were 45% at 18-month and 37% at 36-month follow-up. Three factors independently predicted changes in individual's adherence from baseline to 18-month follow-up ($p<0.05$): emotional or physical violence (OR 0.46, CI 0.33;0.65), travel time to clinic >1 hour (OR 0.50, CI 0.29;0.86), and perceived non-confidentiality of clinical information (OR 0.64; CI 0.46;0.88). Average probability of adherence was reduced by becoming exposed to violence (by 27%), >1hour travel to clinic (24%), and non-confidentiality (15%).

CONCLUSIONS: Findings highlight three modifiable areas for intervention. Violence victimisation had the greatest impact, suggesting urgent need for effective violence prevention caregiving programmes. ART distribution through adherence clubs or closer to home may be valuable. Modifying patient flow and mentoring health workers may improve confidentiality. Adolescents need access, trust and care to survive, and their voices will need to inform most relevant solutions.

PDE0305

IMPLEMENTATION OF THE "FIRST FRIENDLY PRACTICE FOR TRANS-FEMALE PEOPLE" AT ARZOBISPO LOAYZA NATIONAL HOSPITAL. A PUBLIC-PRIVATE PARTNERSHIP, LIMA, PERU 2019

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BACKGROUND: Trans-gender population is considered at high risk for HIV infection due to multiple factors.

AHF Peru works with trans-female population since 2013, and since 2017, has implemented a "friendly" external consultant for Trans-female patients at Arzobispo Loayza National Hospital (HNAL), with a high impact in the attention of the HIV Trans-Female population.

METHODS: A cross-sectional, retrospective and descriptive study, evaluates the impact of this intervention in the quality of the attention of the Trans female population in Peru.

The work was executed through II phases of implementation:

Phase I: Approach of the female trans population to the friendly service considering a trans female hostess , support with diagnosis and timely linkage to HIV positive through a trans linker, provision of hormones, ensuring a comprehensive health system to 100%.

In this first phase, we targeted 100 transgender people.

Phase II: The trans-female population of Phase I, replicated the intervention and expanded the population by adding the approach to the system, HNAL assumed 100% of the cost of the hormonal treatment.

RESULTS: Before the start of this project, only 06 Trans female person were attended in the HNAL in the period of one year.

Since the start of the implementation of consultant, there was an increase of around 3000% (182) in the number of patients. 87 (48%) were detected as reactive to HIV.

After 10 months of starting care at the "First Friendly Practice for Trans-Female People", the MoH made the purchase and delivery of hormones to the HNAL. Currently, the hormone treatment is guaranteed for free for all female transwomen.

CONCLUSIONS: Adapting the offer of a differentiated and friendly practice for the trans-female population, identifying their needs and values their health priorities, generates confidence and approach of female Trans population to the health system.

PDE0306

'MTV SHUGA': CAN MASS MEDIA COMMUNICATION HIV PREVENTION AND SEXUAL HEALTH IN ADOLESCENT GIRLS AND YOUNG WOMEN IN RURAL SOUTH AFRICA?

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BACKGROUND: Adolescent girls and young women (AGYW) in South Africa are at high risk of HIV and early pregnancy. MTV-Shuga, a mass-media edu-drama, improved some sexual health outcomes in a randomised trial amongst young people in Nigeria. We used a national free-to-air TV screening of MTV-Shuga (the "Down South" series), concurrent with the roll-out of a large scale-up of combination HIV prevention for AGYW ("DREAMS"), to test the hypothesis that mass-media edu-drama can improve the sexual health of AGYW in a rural and resource-constrained area of KwaZulu-Natal was evaluated.

METHODS: We followed a representative population-based prospective cohort of females aged 13-23 (between May 2017 and September 2019). We measured the relationship between exposure to MTV-Shuga (i.e. reported seeing ≥1 of 24 episodes; able to recall any storyline) and incident HSV-2; incident pregnancy; condom use at last sex; uptake of HIV-testing and contraception; and awareness of HIV Pre-Exposure Prophylaxis (PrEP).

RESULTS: Of 2184 (85.5%) eligible participants that were surveyed at baseline, 2016 (92.3%) had at least one follow-up visit. MTV-Shuga exposure at baseline was low - 308 (14.1%) reported seeing ≥1 episode and 121 (5.5%) recalled any storyline. Teenage pregnancy and incident HSV-2 were high: 9.1 (95%CI: 9.2-11.4) and 15.3 (95%CI: 13.5-17.3) per 100 person-years respectively. MTV-Shuga exposed AGYW were from wealthier households, urban areas, and more likely to have been received DREAMS interventions (all p<0.001). After adjusting for these confounders, watching MTV-Shuga was associated with significantly greater awareness of PrEP (aOR=2.06, 95%CI: 1.57-2.70), contraception uptake (aOR=2.08, 95%CI: 1.45-2.98), consistent condom use (aOR=1.84, 95%CI: 1.24-2.93), and lower probability of early pregnancy (aOR=0.49, 0.26-0.81). Watching MTV-Shuga was not associated with HIV testing (aOR=1.02,95%CI: 0.77-1.21) or acquiring HSV-2 (aOR=1.01, 95%CI: 0.68-1.51).

CONCLUSIONS: In a setting where AGYW remain at high risk for STI, HIV and early pregnancy, the minority who watched the MTV-Shuga edu-drama had better HIV prevention and sexual health outcomes. Further work is needed to explore the pathways through which MTV-Shuga synergises with social norms and interventions on the ground to improve demand and uptake of HIV prevention and sexual health technologies.

PDE0307

A QUALITY IMPROVEMENT COLLABORATIVE (QIC) FOR HIV-POSITIVE ADOLESCENTS TO IMPROVE IMMEDIATE ART INITIATION AT 25 HEALTH FACILITIES (HF) IN LUSAKA, ZAMBIA

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BACKGROUND: HIV testing and rapid antiretroviral therapy (ART) initiation are life-saving interventions for adolescents living with HIV (ALWH). In Zambia, the time between HIV diagnosis and ART for ALWH often exceeds the national standard of two weeks, despite rollout of national guidelines, training, and adequate ART supply.

METHODS: In collaboration with the Zambian MOH, HRSA and CDC Zambia, ICAP at Columbia University designed and implemented a QIC to increase the proportion of ALWH (age 10-19) starting ART within two weeks of diagnosis at 25 HF in Lusaka between August 2018 - July 2019. Key indicators were collected at baseline and throughout QIC implementation, which included training on QI methods for 107 HF staff and leaders, monthly QI coaching visits, and quarterly workshops. Each HF QI team identified contextually appropriate interventions; used QI methods and tools to conduct rapid tests of change; and analyzed progress using run charts. QI teams presented their performance and shared best practices at joint quarterly learning sessions.

RESULTS: During the 12-month implementation period, QI teams tested interventions focused on: health worker training, data quality, patient education, workflow processes and community engagement. 205,232 adolescents were tested for HIV during this time: 3,355 (2%) were positive. ART initiation within 2 weeks of diagnosis improved from a median of 24% at baseline to a median of 95% during the final six months of the QIC. Same-day ART initiation improved from a median of 27% at baseline to a median of 94% during the final six months of the QIC.

CONCLUSIONS: The QIC approach improved immediate ART initiation for ALWH by helping QI teams generate local innovations to identify and link ALWH to ART. In addition to building QI capacity

and improving targeted outcomes, the QIC resulted in a "change package" of successful initiatives that will be disseminated within Zambia.

PDE04 HOW DATA IS LEADING INNOVATION: EVIDENCE INFORMED PROGRAMMES

PDE0402

IMPROVING ACCESS TO QUALITY HIV SERVICES IN 11 WEST AFRICAN COUNTRIES: IMPACT OF A REGIONAL COMMUNITY TREATMENT OBSERVATORY

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BACKGROUND: In West and Central Africa, 64% of people living with HIV (PLHIV) are aware of their status, 51% are accessing antiretroviral therapy (ART), and 39% are virally suppressed. Progress is stymied by low demand for services, frequent stock-outs, weak health systems and poor quality of care. In 2017, the International Treatment Preparedness Coalition (ITPC) established a Regional Community Treatment Observatory in West Africa to increase accountability for the 90-90-90 targets.

METHODS: ITPC trained and supported national networks of PLHIV to collect and analyze facility-level HIV treatment data from 125 health centers in 11 West African countries. From January 2018-June 2019, the treatment observatory completed 1781 monthly monitoring reports, 1501 interviews and 143 focus group discussions. Feedback was provided to patients, health center staff and government decision-makers through real-time alerts, quarterly reports, and multi-stakeholder dialogues.

RESULTS: At the monitored health centers, the frequency of ART stock-outs decreased from 23.6% (95% CI 19.9-27.2) in the first six-month period, to 16.4% (95% CI 13.6-19.3) in the second, to 15.2% (95% CI 12.3-18.1) in the third. In one country, the average duration of stock-outs fell from 52.9 days (95% CI 33.4-86.3), to 32.9 days (95% CI 24.1-41.8), to 22.5 days (95% CI 9.4-35.6). The number of viral load tests performed more than doubled, from 16,532 in the first period, to 31,472 in the second, to 33,376 in the third. The rate of viral suppression increased dramatically, from 48.3%, to 67.9%, to 77.4%, respectively. In the third period, 30% of viral load results were returned within two weeks, up from 26% in the first period and 27% in the second. While quality of care steadily improved – from 3.8 (out of 5), to 4.0, to 4.2 – young women were twice as likely as the general population to say that unfriendly health workers were a barrier to services.

CONCLUSIONS: When communities of PLHIV are activated to monitor HIV services, access and quality improves. The treatment observatory changed the way that networks of PLHIV were perceived, creating a culture of collective problem-solving among patients, healthcare workers and policy-makers. The approach should be expanded to achieve global targets.

PDE0403

IMPLEMENTING A "LOW DOSE HIGH FREQUENCY" CAPACITY BUILDING APPROACH FOR HIV SERVICE DELIVERY IN UGANDA'S MILITARY HEALTH FACILITIES

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BACKGROUND: Evolving evidence indicates that Continuous capacity building (CB) is critical for improving health workers' knowledge and is used to inform HIV care guidelines. The lack of standard appropriately tailored CB content and delivery mechanisms contributes to non-adherence to evidence-based practices with less than optimal HIV care service delivery. The Low Dose High Frequency (LDHF) CB approach has been shown to be comparatively effective and impactful. We describe the URC-Department of Defense HIV/AIDS Prevention Program LDHF approach and its effect on HIV services within the Uganda military health services.

DESCRIPTION: We implemented a LDHF approach that entailed; initial startup training of health workers followed by bi-monthly on-site mentorship, coaching and feedback session at 28 military health facilities over a 6 months period. Using mixed methods, we assessed health workers' response to the approach and adherence to HIV guidelines. Data was abstracted from 541 client records with 12 health workers interviewed.

LESSONS LEARNED: Overall, health workers were positive to the LDHF approach which resulted into improvement in quality of care. Prescriptions for recommended first line ART regimen improved from 82% to 95%; timely due viral load test ordering increased from 45% to 80%; timely initiation of adherence counseling for non- suppressed clients increased from 32% to 55%; and appropriate switching of patients on failing regimes improved from 23% to 51%. Key barriers to adherence to guidelines raised by the health workers were; burdensome reporting requirements, work overload, complex guidelines, lack of capacity in pediatric guidelines, inability to timely follow up of some patients and frequent changes in existing guidelines.

CONCLUSIONS/NEXT STEPS: The LDHF CB model was acceptable to health workers and results in adherence to HIV guidelines. However, comprehensive adherence to the guidelines requires addressing other health system and patient-related factors that cannot be resolved by the LDHF approach alone.

PDE0404

ARE ART PATIENTS WHO MISS APPOINTMENTS REALLY LOST? DETERMINING TRUE PATIENT OUTCOMES THROUGH TRACING IN 7 REGIONS OF NAMIBIA

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BACKGROUND: Namibia's standard of care for antiretroviral therapy (ART) includes phone and physical tracing of treatment defaulters. Development Aid from People to People Namibia (DAPP) is a community-based PEPFAR implementing partner providing sup-

port to the Ministry of Health and Social Services with community tracing. DAPP obtains from public health facilities a list of patients who missed their appointments from seven days to a month. Tracing is conducted telephonically and physically. Transfers are verified with the health facilities.

METHODS: Program data were analyzed for DAPP from seven high burden regions for the period of October 2018-September 2019. Key analytic outcomes were traced and untraced; with traced further classified into alive, died, and unable to locate; and with those alive classified into confirmed missing, confirmed active, silent transfer, facility transfer out, and unable to locate; and with those confirmed missing further classified into re-engaged and confirmed active, promised to return to care, and refused.

RESULTS: Results: The graph below shows tracing outcomes.

CONCLUSIONS: Most patients thought to be missing appointments were still active in care in the same ART clinic or at another ART clinic. Of those patients truly missing, most were able to be re-engaged into care through tracing. This model of tracing is being scaled throughout all ART clinics in Namibia.

PDE0405

INTEGRATION OF KEY POPULATION CLASSIFICATION INTO NATIONAL ROUTINE HIV TESTING SERVICES IN MOZAMBIQUE, 2019

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BACKGROUND: Though over one-quarter of new HIV infections are among key populations (KP), there is a dearth of national-level cascade program data for KP in higher prevalence countries. Expansion of HIV Testing Services (HTS) in Mozambique with provision of KP-specific care has created an opportunity to collect timely national program data on KP, specifically female sex workers (FSW), men who have sex with men (MSM), people who inject drugs (PWID), and prisoners. This information can provide essential, timely information for optimal resource allocation, programmatic decisions, and contribute to the body of knowledge on KP in the region.

DESCRIPTION: In March 2019, the Ministry of Health updated HTS data tools to enable collection of key population status and test result data at all public HTS facilities in Mozambique (n = 1,634). HTS providers were trained using a KP package that included sensitization materials and a risk behavior classification algorithm to identify and record KP status on HTS paper-based forms, which are aggregated at the clinic level and digitized into a national database.

LESSONS LEARNED: We analyzed HTS routine program data from April to December 2019. Of 2,709,331 persons receiving HIV counseling and testing during this time, 37,223 (1.4%) were identified as KP; 503 (0.02%) were PWID and 6,022 (0.22%) were prisoners. Among females tested, 26,471 (1.8%) were FSW. Among males tested, 4,227 (0.4%) were MSM. The proportion testing positive was highest among PWID (18%) and lowest among prisoners (11%). Among MSM, 15% were positive compared to 6% of males not classified as MSM. Among FSW, 13% tested positive for HIV compared to 6% among non-FSW classified women.

CONCLUSIONS/NEXT STEPS: Mozambique is among the first high HIV prevalence countries to collect national program data on KP status at all public HTS sites. Data confirms feasibility of capturing KP status country-wide. The granular level and timely information on KP at facility, district and national level can complement other surveillance data such as KP size estimations and behavioral surveillance surveys to better assess the roll of KP in national and sub-national HIV epidemics, and helps with planning and allocating prevention and treatment resources appropriately.

PDE0406

MODELING DIFFERENTIATED HIV SERVICES FOR TRANSGENDER PEOPLE: EXPERIENCES FROM MAHARASHTRA, INDIA

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BACKGROUND: In India, HIV services for key populations are delivered through targeted interventions (TIs) implemented by non-governmental organizations and funded by the National AIDS Control Organization (NACO). To maximize impact, optimized service delivery approaches are needed to meet the differentiated preferences of key population members with elevated risks.

METHODS: In collaboration with Maharashtra/Mumbai AIDS Control Societies and NACO, we developed and validated a model to prioritize service delivery for transgender people under the PEPFAR/USAID-supported and FHI 360-led LINKAGES project. We analyzed routinely collected program data from two transgender TIs in Maharashtra, covering demographics, risk behavior, vulnerabilities, and biological outcomes from April 2016–March 2018. Individuals' behavioral data prior to HIV testing were linked to their test results, generating 3,938 data points. We used penalized regular logistic regression analyses to estimate the odds ratio, 95% confidence intervals of HIV positivity, and prospective explanatory variables; the best model was used for dominance analyses to estimate the weights. The final model was applied prospectively in two transgender TIs to study their efficiency in segmenting transgender people for differentiated prevention services.

RESULTS: In the data set for generating the model, the HIV positivity proportion was 0.94%. The factors associated with HIV positivity were being transgender for less than three years (p<0.001) and ever having missed a condom in the last 10 sex acts (p=0.01), which were assigned the highest weights. We used an optimal

cutoff for identifying high-priority and moderate-priority groups; the sensitivity for HIV positivity was 83.8%, and negative predictive value was 99.8%. At this cutoff, the proportion of HIV positivity in the high-priority group was significantly higher compared with the moderate group (p=0.007). Among the 1,785 transgender people prospectively categorized into priority groups, 1,276 (71.5%) were considered high priority. All 27 HIV cases were from the high-priority group (p<0.001).

CONCLUSIONS: The model demonstrated effective, precise categorization of transgender people at increased HIV risk, supporting the need for differentiated efforts for priority subgroups. Based on this successful experience, a national-level model has been developed as part of NACO's revised/revamped TI strategies.

PDE0407

A NATIONAL ELECTRONIC SYSTEM TO SUPPORT ANTIRETROVIRAL (ART) INITIATION OF PEOPLE LIVING WITH HIV IN BRAZIL AT SITE LEVEL

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BACKGROUND: After national implementation of Test and Start strategy, Brazilian Ministry of Health (MOH) developed an electronic system to support immediate ART initiation of people living with HIV (PLHIV) in Brazil linked to care at site level. The Clinical Monitoring System of People Living with HIV (SIMC) was launched in 2013 and was made available countrywide.

DESCRIPTION: HIV services of the national health system are granted access electronically through SIMC to on-line lists of HIV-positive individuals older than 12 y.o with at least one VL exam who have not started ART. Lists are automatically generated on a monthly basis by the MOH, with the linkage of the national ART with the laboratory VL database. Lists of patients are specific for each HIV service, so that health care workers have access to information of their own patients only. The situation of each patient in the list is analyzed by HIV services and outreach activities are conducted so that patients have their treatment started. The use of SIMC counts entirely with the existing structure of the National Health System and does not require additional funds. By December 2019, 2,948 health workers from 1,692 health services had access to the system.

LESSONS LEARNED: From December 2013 to December 2019, SIMC identified 209,746 PLHIV who had not started ART: 82,3% (172,526) were analyzed - 73,5% (154,215) started treatment over the period, 2,8% (5,949) were dead, 0,4% (743) were transferred, 2,9% (6,065) were not located, 0,6% (1,274) refusal treatment, 1,2% (2,488) were duplicates and 0,9% (1,792) others. 17,7% (37,220) haven't yet been analyzed. In the same period, time from linkage to care and ART initiation in Brazil decreased from 182 to 33 days.

CONCLUSIONS/NEXT STEPS: SIMC has proven to be useful to support ART initiation at site level and stands as an important national strategy to improve access to care and treatment services and reduce time from diagnosis to ART initiation. Moving forward, in 2020 MOH will include in SIMC individuals below 12 y.o and link other national surveillance systems, in order to include all PLWHIV who were tested positive for HIV but did not have a VL exam.

PDE05 MONEY DOESN'T GROW ON TREES: AFFORDABILITY AND COST-EFFECTIVENESS IN THE HIV RESPONSE

PDE0502

COST-BASED ESTIMATED PRICES FOR KEY HIV, HCV, AND MDR-TB MEDICINES

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BACKGROUND: Prices for treatments for HIV and coinfections vary substantially between countries, with high prices limiting treatment access in many settings. Scaling up of generic HIV manufacture has enabled massive expansion of global treatment programs. The cost of active pharmaceutical ingredient (API) is a significant determinant of the cost of production. The aim of this analysis was to estimate cost-based prices that could be achieved with robust generic competition for WHO-recommended treatments for key HIV, hepatitis C virus (HCV), and multidrug-resistant tuberculosis (MDR-TB) medicines, and to compare them with current prices.

METHODS: Active pharmaceutical ingredient (API) price and volume data were collected from an online database (Panjiva) of export data from India. Cost-of-production was then calculated using an established algorithm, accounting for API costs, excipients (API x 2 x $2.63), formulation ($0.01/pill), tax obligations on profit assuming manufacture in India (27%), and a 10% profit margin. List prices for key HIV, TB, and HCV drugs were extracted from national drug price databases in 7 countries for comparison.

RESULTS: Table 1 shows current prices of antiretrovirals for HIV (per year), direct-acting antivirals for HCV (per 12 week course), and solid oral formulations for tuberculosis (per month). API costs/kg were $1500 for dolutegravir (DTG), $5000 for tenofovir alafenamide (TAF), $150 for tenofovir disoproxil fumarate (TDF), $900 for darunavir (DRV), $700 for sofosbuvir (SOF), $600 for daclatasvir (DCV), $6000 for velpatasvir (VEL), $250 for moxifloxacin (MFX), and $100 for linezolid (LZD). There was inadequate data to determine glecaprevir+pibrentasvir (G+P) API prices.

	Estimated cost-based price	Argentina	Brazil	India	Russian Federation	Thailand	Ukraine	USA (Veterans Affairs)
DTG	$35	$7,408	$3,687	$574	$1,672	$3,695	$4,467	$12,520
TAF	$25	$3,717	-	$252	-	-	-	$9,026
TDF	$23	$2,807	$1,913	$174	$40	$131	$1,832	$264
DRV	$455	$6,162	$1,955	$841	-	$1,410	-	$6,441
SOF+VEL	$85	$37,499	$13,632	-	-	-	-	$17,965
SOF+DCV	$31	$30,012	$25,732	$41	$8,976	$7,021	$78	$111,659
G+P	-	$24,085	$12,724	-	-	-	-	$19,014
MFX	$4	$93	$62	$6	$43	$91	$33	$70
LZD	$5	$9	$45	$2	$3	$11	$12	$5,260

[HIV (yearly), HCV (per course), TB (monthly). USD.]

CONCLUSIONS: Current prices for medicines are up to 1000 times more than cost-based estimated generic prices. Originator prices are often incongruous with country income level, with implications for access and scale-up of treatment programs.

PDE0503

HEALTHCARE RESOURCE USE AND RELATED COST OF NON-HIV COMORBIDITIES MANAGEMENT IN PEOPLE LIVING WITH HIV IN A SPANISH COHORT FROM 2007 TO 2017

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BACKGROUND: Few studies have assessed the economic impact of non-HIV comorbidities in people living with HIV (PLHIV) during a long follow-up period. Our objective was to estimate the cost and healthcare resources use associated to the prevalence of comorbidities in PLHIV in a Spanish cohort along 11 years.
METHODS: From 2007 to 2017, patients with at least one follow-up visit were included. PLHIV were categorized into 2 groups according to time of diagnosis: before 2007 (Pre_2007 group) and after 2007 (Post_2007). The cost categories evaluated were Hospitalizations, Ambulatory costs, Emergency visits, Laboratory testing, HIV Antiretroviral therapy (ART), and Other Non-HIV tests. Generalized linear models and cross-validation were used to evaluate predictors of total care cost for overall population and by stratified groups
RESULTS: The study included 2.803 PLHIV (21.385 p-y), 82.9% were men, median age at entry was 39 years (Interquartile Range (IQR): 32-44). 1.660 (59.2%) were included in Pre_2007 Group and 1.143 in Post_2007, 8.9 ± 3.40 and 5.8 ± 2.8 years of follow-up, respectively (p-value < 0.001). Overall, 1.623 (57.9%) presented at least one non-HIV comorbidity, 826 (29.3%) had 3 or more comorbidities during follow-up. The most prevalent non-HIV comorbidities were hypertension (28.5%), Diabetes (13.7%), Bacterial infections (13.4%), and Cardiovascular diseases (12.8%). The presence of comorbidities increases total healthcare cost by 47%. The highest cost increase of 65% was observed in PLHIV with 3 or more comorbidities compared to PLHIV with no comorbidities (over the 11-year period, 115.435 ± 57.870€ vs. 69.795 ± 47.931€, p-value <0.001). The mean annual cost per patient was higher in Pre_2007 group with comorbidities compared to the Post_2007 cohort (14.218 ± 11.117€ vs.12.159 ± 8.207€, p-value < 0.001 for interaction); due to a higher mean age and longer follow-up. Patterns are similar if ART costs are excluded. There was a positive correlation between the presence of comorbidities and healthcare costs in PLHIV, both for the overall population and for stratified groups for adjusted models.
CONCLUSIONS: The presence of comorbidities increases the total healthcare cost of PLHIV, being more relevant in older patients. Both clinical and economic decision-makers should consider and evaluate cost of comorbidities when evaluating HIV treatment guidelines or recommendations

PDE0504

THE CLINICAL AND ECONOMIC IMPACT OF GENOTYPIC RESISTANCE TESTING AFTER VIROLOGIC FAILURE ON FIRST-LINE TENOFOVIR-LAMIVUDINE-DOLUTEGRAVIR IN SOUTH AFRICA

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BACKGROUND: Treatment-emergent resistance is rare when tenofovir-lamivudine-dolutegravir (TLD) is used as first-line ART. We examined the clinical and economic impact of genotypic resistance testing (GRT) for adults in South Africa with virologic failure (VF) on first-line TLD despite 3m of enhanced adherence counseling (EAC).
METHODS: We used the CEPAC-International model to compare four strategies among adults with VF on TLD after EAC: 1) "*GRT*" to distinguish people with susceptible virus (VF_S) who continue TLD from people with dolutegravir-resistant virus (VF_R), who switch to second-line ART (LPV/r+AZT/3TC); 2) "*Immediate switch*" to second-line; 3) "*EAC+*," additional EAC while continuing TLD with switch to second-line for anyone with persistent VF at 6m; 4) "*TLD*," remaining on TLD indefinitely. We assumed 1% of VF were VF_R and mean ART adherence was better among VF_R (85%) than VF_S (78%). We estimated 48-wk virologic suppression based on trial data and adherence (Table). Costs included TLD ($70/yr), LPV/r+AZT/3TC ($270/yr), and genotypes (RT and IN, $290/total). Outcomes were life expectancy (LE), HIV-related costs, and incremental cost-effectiveness ratios (ICERs, Δ$/ΔLE). Sensitivity analyses included %VF_R, ART effectiveness (Table), second-line cost ($60-270/yr), and genotype cost ($50-290/total).

Model Input Parameters	VF_R, Base Case (Range)		VF_S, Base Case (Range)		
Prevalence among those with VF	1% (0-20%)		99% (80-100%)		
48-week suppression	TLD: 35% (25-59%) LPV/r+AZT/3TC: 73% (62-85%)		TLD: 68% (50-71%) LPV/r+AZT/3TC: 60% (50-70%)		
Modeled Outcomes	**Undisc. LY**	**Undisc. Costs ($)**	**Disc. LY**	**Disc. Costs ($)**	**ICER ($/YLS)***
TLD	26.13	14,400	15.97	9,000	-
GRT	26.35	14,800	16.08	9,400	3,100
EAC+	26.02	17,500	15.90	10,700	Dominated
Immediate switch	25.52	19,200	15.61	12,000	Dominated

VF_R: virologic failure with resistant virus; VF_S: virologic failure with susceptible virus; GRT: genotypic resistance testing; TLD: tenofovir-lamivudine-dolutegravir; LPV/r+AZT/3TC: lopinavir-ritonavir+zidovudine-lamivudine; Undisc: undiscounted; Disc: discounted; LY: life years; ICER: incremental cost-effectiveness ratio; YLS: year-of-life-saved.
*We calculated ICERs using LYs and costs discounted at 3%/year. We considered strategies to be cost-effective if ICER<$1,175/YLS (Woods et al. 2015) or ‚dominated' if clinical outcomes were worse at higher cost.

[Table. Selected model input parameters and modeled outcomes regarding the clinical and economic impact of genotypic resistance testing after virologic failure on first-line tenofovir-lamivudine-dolutegravir in South Africa.]

RESULTS: *GRT* resulted in longer LE at lower costs than *EAC+* and *Immediate switch* (Table). *GRT* became cost-effective versus *TLD* (ICER<$1,175/YLS) at genotype cost ≤$60 or VF_R prevalence ≥5%. In sensitivity analyses, *GRT* remained clinically preferred unless virologic suppression for VF_S was higher on second-line than TLD; even then, *GRT* remained the most economically efficient strategy, unless second-line also cost less than TLD.

CONCLUSIONS: A strategy offering genotypic resistance testing after virologic failure on TLD resulted in the best clinical outcomes at lower cost than *EAC+* or *Immediate switch* and was cost-effective versus *TLD* at lower genotype cost (≤$60) or ≥5% dolutegravir resistance. Scaling up capacity for genotype in resource-limited settings is a rational addition to TLD rollout.

PDE0505

PREPARING FOR SCALE-UP: THE CHANGING COST AND COST-EFFECTIVENESS OF HIV SELF-TESTING INTEGRATION INTO COMMUNITY-BASED MOBILE OUTREACH AND INDEX HIV TESTING MODELS IN LESOTHO

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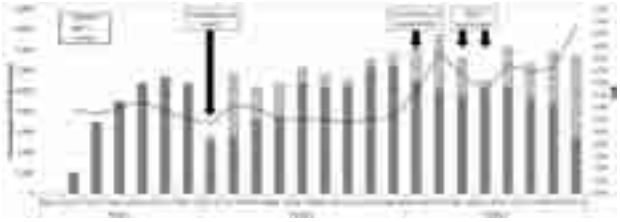
BACKGROUND: In Lesotho, 25.6% of adults are living with HIV (PLHIV) with only 81% aware of their status. HIV self-testing (HIVST) was added to existing mobile outreach and index testing (HTS) in five priority districts in 2017. We investigated costs and yield as the programme evolved (Figure 1).

METHODS: We evaluated programme costs before/after HIVST addition (Period 1 and 2: Figure 1), and after encouraging clients to use onsite HIVST booths (Period 3) allowing multiple clients to self-test concurrently and immediately link to confirmatory testing. We estimated full economic costs for mobile HTS, including central costs, and only incremental cost of adding HIVST onto HTS as well as overall cost-effectiveness of all testing.



[Figure 1. Outcomes of the ongoing HIV testing programme between May-2017 and April-2019.]

Yield corresponds to new HIV-positive cases among clients tested with HTS, including confirmatory testing following a reactive self-test

RESULTS: The introduction of onsite HIVST increased HIV yield in all districts (Figure 1). For both HTS and HIVST programmes, the drivers of costs are personnel and testing supplies (Table 1). Costs per new HIV-positive case identified increased between period 1 and period 2 but was the lowest in period 3 when onsite HIVST was introduced.

US$ 2019	Period 1		Period 2				Period 3			
Cost inputs	HTS	%	HTS	%	HIVST	%	HTS	%	HIVST	%
Personnel & Per diems	$546,031	67%	$614,262	65%	$72,445	75%	$781,795	74%	$23,121	33%
Supplies (rapid tests, HIVST kits, consumables)	$115,657	14%	$86,126	9%	$17,396	18%	$75,490	7%	$34,510	49%
Others (start-up and central costs, capital (vehicle), and other recurrent costs: fuel, waste, etc.)	$157,953	19%	$245,824	26%	$7,395	7%	$203,146	19%	$12,941	18%
Total costs – HTS and HIVST programme	$819,641	100%	$946,212	100%	$97,236	100%	$1,060,431	100%	$70,572	100%
Total costs - HIV testing programme	$819,641		$1,043,448				$1,131,003			
Total number of new HIV-positive cases identified	858		836				1,392			
Cost per new HIV-positive case identified	$955		$1,248				$813			

[Table 1. Three-month averages of costs and outcomes of the HTS/HIVST programme by period]

CONCLUSIONS: Continuous programme learning is critical for sustainable scale-up. The introduction of HIVST improved overall programme efficiency and cost-effectiveness once onsite self-testing became available. Additionally, our HIVST incremental costs assume that the existing HTS programme is adequately funded, which should considered when planning for scale-up.

PDE0506

SINGLE VERSUS MULTIPLE TABLET REGIMENS FOR FIRST-LINE ANTIRETROVIRAL TREATMENT OF HIV: A REAL-WORLD COST-EFFECTIVENESS ANALYSIS USING A PATIENT COHORT IN BRAZIL

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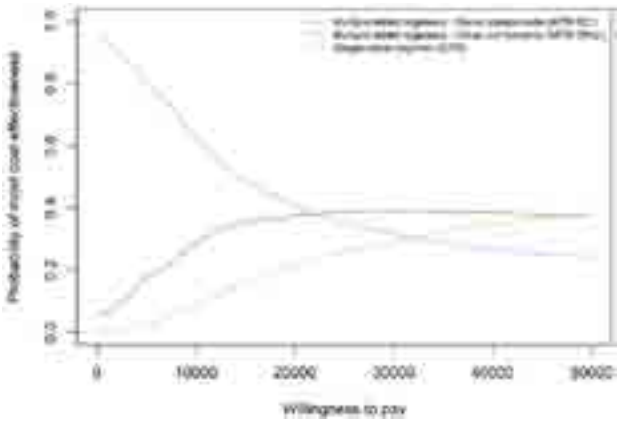
BACKGROUND: Single-tablet regimens (STR) are as effective in improving antiretroviral therapy outcomes and cost-effectivene when compared with multiple-table regimens (MTR) based on clinical trial data. However, there is currently no evidence on the real-world cost-effectiveness of STR in the Brazilian context.

METHODS: Data from 440 people initiating antiretroviral therapy in 2014 and 2015 in Belo Horizonte, Brazil were analysed. We compared the STR containing tenofovir, lamivudine, efavirenz to multiple-tablet regimens with the same components (MTR-SC) or different components (MTR-Other). We assigned effectiveness and costs to the initiating therapy and defined effectiveness as the probability of achieving viral suppression (viral load < 50 copies/ml) after 12 months of therapy. The cost analysis was adjusted for censoring and a public payer perspective was adopted, which included direct medical costs.

RESULTS: A total of 185 (42.0%) patients initiated STR, 189 (43.0%) MTR-SC and 66 MTR-Other. Overall, 64.3% of patients achieved viral suppression and the average annual cost per patient was US$ 1,544 (SD 3,803). STR was as effective but a lower cost option when compared to MTR, hence it dominates MTR (Table). The lower cost of STR was driven by a lower utilization of specialists' visits, laboratory exams, and by the lower cost of antiretroviral therapy, despite no differences in the number of dispensations among groups. STR is the optimal choice for payers with a willingness to pay threshold below US$ 19,500- 21,500 (Figure).

Outcomes after 12 months of follow-up	STR (n = 185)	MTR-SC (n = 189)	MTR-Other (n = 66)	p-value*
Supressed viral load, % (95% CI)	62.7 (55.7; 69.7)	65.1 (58.2; 71.9)	66.6 (55.0; 78.3)	0.812
Total mean cost per patient, US$ (SD)	1,102 (2,776)	1,572 (3,453)	2,706 (6,283)	0.013
Cost per responder ratio (95% IC)	1,757 (1,178; 2,461)	2,415 (1,788; 3,289)	4,059 (2,202; 7,084)	-
Incremental cost-effectiveness ratio, US$/responder	Reference	19,583	41,128	-

CI: Confidence interval, MTR-Other: multi tablet regimen with different components of STR, MTR-SC: multi tablet regimen same components of STR, SD: Standard deviation, STR: Single tablet regimen containing tenofovir disoproxil fumarate, lamivudine, efavirenz, 1 US$ = 1.996 R$
* $\chi 2$ test or Student-t tests, where appropriate



[Figure. Cost-effectiveness acceptibility curve for multiple comparisons]

CONCLUSIONS: We identified that generic STR is the most cost-effective regimen when compared to all other multiple-tablet regimens available in the period analyzed. This regimen should be the standard comparator for future evaluations and the preferred first-line therapy in the Brazilian health system.

PDE0507

THE IMPACT AND COST-EFFECTIVENESS OF EXPANDING CRYPTOCOCCAL ANTIGEN SCREENING TO INCLUDE INDIVIDUALS WITH CD4 100-200 CELLS/µL IN BOTSWANA

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BACKGROUND: Cryptococcal antigen (CrAg) screening and pre-emptive fluconazole for CrAg-positives reduces incident cryptococcal meningitis (CM) and all-cause mortality in persons with advanced HIV starting antiretroviral therapy (ART). The WHO conditionally recommended increasing CrAg screening thresholds from CD4<100 to <200 cells/µL in those initiating or re-initiating ART, but the benefit of this increase in CD4 threshold is unknown. We evaluated the marginal impact and cost-effectiveness of reflex CrAg screening among patients with CD4 100-200 cells/µL in Botswana, a country with a mature ART program still performing CD4 count monitoring post-ART initiation.

METHODS: We developed a decision analytic model to evaluate laboratory-based CrAg screening at CD4 counts of 100-200 cells/µL using local CD4 distribution, CrAg prevalence, titer, and ART status data from 2019. We estimated CM cases and deaths averted, and cost per disability-adjusted life year (DALY) averted with nationwide implementation of CrAg screening in this group compared to the current policy of no screening.

RESULTS: An estimated 34,775/650,000 (5.35%) CD4 tests nationwide in 2019 were 100-200 cells/µL; of these, 2.5% were CrAg-positive and eligible for pre-emptive therapy with 20% having a high CrAg titer (>1:160) indicating higher risk of CM progression. Only 15% were ART-naïve; 25% of ART-experienced were classified as defaulters / treatment failures. Without screening, 129 CM cases (36 in ART-naïve) and 77 CM-related deaths (21 in ART-naïve) occur. With screening and pre-emptive fluconazole for ART-naïve patients only, an estimated 6 deaths and 123 DALYs are averted at a cost of US$1385/DALY averted. With treatment extended to ART-naïve and ART-experienced, 43 deaths and 919 DALYs are averted at a cost of US$244/DALY averted.

CONCLUSIONS: In a mature ART program with routine CD4 monitoring, a low proportion of CrAg-positive patients with a CD4 100-200 cells/µL were ART-naïve. Pre-emptive treatment in ART-naïve has only a marginal impact and modest cost per death or DALY averted. Assuming a benefit in treating ART-experienced individuals (a proportion of whom are reinitiating ART), screening and pre-emptive treatment has greater impact and is more cost-effective. CrAg screening in the CD4 100-200 cells/µL group should include ART-experienced individuals, who now make up a majority of CM cases.

PDF01 QUEER EYE: A FOCUS ON GENDER DIMENSIONS IN HIV PROGRAMMING

PDF0102

STRONG IN DIVERSITY: BUILDING INTERSECTIONALITY IN CREATING AN ENABLING ENVIRONMENT FOR HIV WORK IN EAST JAVA, INDONESIA

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BACKGROUND: In the past three years Indonesia has experienced a politicized moral panic involving homophobia, transphobia, demonization of PLHIV and people who use drugs, and more generally other religious and social minorities. Human Rights Watch summarized the problem for HIV work among sexual minorities in its report: https://www.hrw.org/report/2018/07/01/scared-public-and-now-no-privacy/human-rights-and-public-health-impacts-indonesias.. Civil society has fought back intersectionally to create and maintain equity and equality, including advocating for enabling environment for work on HIV and STIs as well as sexual and reproductive health and rights more generally.

DESCRIPTION: GAYa NUSANTARA Foundation, Surabaya, East Java, Indonesia, has in 2018-2019 collaborated with (inter)faith organizations, media, human rights organizations, AIDS service organizations, academics and politicians to mainstream diversity in SOGIESC to partners in eight key municipalities or districts in East Java Province (total number of municipalities and districts: 38).

The project identifies existing sexual minority communities, often through AIDS service organizations; primes them to intersectionally and strategically work with key stakeholders; and creates local networks to work on issues of diversity in SOGIESC in a proactive and a reactive way (i.e. responding to crises such as negative government policies or disturbances by religious militias). This is done through preliminary work, and follow up workshops.

Particularly on faith issues, a workshop with progressive faith leaders and theologians as well as members of diverse SOGIESC communities in 2018 resulted in a master document on progressive interpretation of Christian and Islamic texts, currently in print. This will be used for campaigns, both offline and online, to create a conducive social environment.

LESSONS LEARNED: 1. Trans women communities are most ready to engage, while in some locations gay men are also ready. People with non-normative SOGIESC find one another and build networks, mostly through internet platforms.

2. Sexual minority communities are not in touch with key stakeholders and vice versa. The project brings them together to build advocacy and crisis response networks.

3. Allies exist in all localities. Knowledge of SOGIESC diversity and commitment to pluralism and human rights, vary.

CONCLUSIONS/NEXT STEPS: The project can be replicated in other localities. A similar project is on the drawing board in Eastern Indonesia and other localities in East Java.

PDF0103

TRANS TASK FORCE TEAM AGAINST VIOLENCE AND HARASSMENT TOWARDS MARGINALIZED TRANSGENDER COMMUNITY ACROSS PAKISTAN, 2019

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BACKGROUND: Established in 2016 and legally registered in 2018; Sub Rang Society (SRS) is working towards empowering transgender community in Pakistan to get their basic and equal human rights granted in Constitution of Pakistan as well as prescribed in Universal Declaration of Human Rights (UDHR).

DESCRIPTION: In 2019 a total of 11 transgender lost their lives in Pakistan. To fight against the harassment and violence related issues with transgender of Karachi, SRS has formulated TRANS TASK FORCE TEAM (TTFT) which is actively working across 19 towns of Karachi; against the issues faced by TGs and other sexually marginalized community members.

It was decided that two representative from each town will be selected for a point of contact, to build capacity and spread awareness of Trans Rights and legal Procedures within the trans community of their respective districts.

LESSONS LEARNED: TTFT tackles root causes of violence against transgender by working with civil society, local institutions and governments and helps change community attitudes toward transgender, supporting them to realize their potential and advocate for their rights.

TTFT will strive to minimize the cases of violence and harassment within Karachi city with the help of TTFT irrespective of Hijra Culture and their sects; work with unity and also build the capacity of TTFT to raise their voice and report the cases by TGs themselves.

CONCLUSIONS/NEXT STEPS:

1. Support safety, justice and autonomy of all victims and survivors of violence.
2. Work to meet the needs of underserved and marginalized trans community.
3. Create a forum to enhance the response of sexual violence prevention initiatives among TTFT response team.
4. Create social media to empower TTFT with the members of the group for follow up, furthermore to create awareness regarding laws and policies of state.
5. TTFT will engage trans community and their allies to educate masses to reduces violence, stigma, discrimination and bring positive change in society toward marginalized trans community.
6. Efforts are also be made by focusing on policies and efforts to engage trans community by examining and challenging destructive notions of gender and power in post-conflict settings, while being guided by the voices and inputs of community.

PDF0104

SEXUAL VIOLENCE AGAINST WOMEN AND GIRLS FUELING THE SPREAD OF HIV IN URBAN COMMUNITIES THAN RURAL COMMUNITIES IN ONDO STATE, NIGERIA

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BACKGROUND: Majority of HIV Prevention Programs in Nigeria promote safe sex through condom use while ignoring the realities of sexual violence and gender inequalities which increases the susceptibility/vulnerability of women and girls to HIV. Victims of Gender Based violence more often suffer sexual and reproductive health consequences including unwanted pregnancies, unsafe abortion, traumatic fistula, sexually transmitted infections that could lead to death or prevent survivors from achieving economic prosperity due to social stigma or physical and psychological trauma caused by the violence. This paper analyzed and reveals the relationship between sexual violence and the spread of HIV in urban settings.

DESCRIPTION: An Adolescent Girls and Young Women Program was carried out in Akure (urban) and Bamikemo (rural) communities of Ondo State between February and August 2019 where SRHR issues were discussed among 52 adolescents (10 -14) and Young Women (15-24).10 In-depth Interviews with parents and community leaders, Focused Group Discussions with 12 adolescents and another one with 15 young women were conducted in both the rural and urban communities. Also, the youth leaders (2) and women leaders (2) and Community heads were interviewed.

LESSONS LEARNED: Focus Group Discussions and interviews revealed gender based violence (structural), male superiority (cultural) and economic disadvantage (financial) as factors increasing the susceptibility of Adolescent Girls and Young Women to HIV. 73% of the women and girls in the Urban areas reported sexual violence as the definite cause of the spread of HIV/STIs while 58% in the rural communities named Poverty, ignorance (63%) and abuse of trust(42%).Interviews with the youth leaders in the Urban revealed male superiority and economic power as major drivers of HIV while the rural area revealed cultural bias. Women leaders were of the opinion that gender inequalities was at the center of problems they experience in life.

CONCLUSIONS/NEXT STEPS: Sexual Violence undermines the health, dignity and autonomy of its victims, yet it remain shrouded in a culture of silence.The power of protection and choice should be placed in the hands of women through women empowerment and female condoms availability/accessibility. The culture of acceptance of rape as something excusable or blame able should be shattered through policy advocacy &value clarification.

PDF0105

INTERNATIONAL GENDER AFFIRMING MEDICAL INTERVENTION TO AVOID PERSECUTION AND VIOLENCE IN EL SALVADOR

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BACKGROUND: Life expectancy for Central American transwomen is 35 years. They suffer sexual violence, extortion by criminal gangs and police. School bullying forces them to abandon their education. Families force them out of their homes at an early age. They are coerced into sex work or selling drugs. They are hate crime victims which are rarely investigated and criminals go 'scot-free.' Verónica, Trans woman at ASTRANS (Salvadoran human rights NGO), states: *"We know we can be killed. We do not know if we will come back home, or come to work the next day . . ."*
Gender-affirming services are vital; 'passing' as a woman or man protects against violence. Yet, sex change surgeries are not available. Trans Salvadorans must rely on hormones, but access is limited. Many transwomen inject oil into their breasts, leading to severe medical complications. Others purchase hormones, but without medical supervision, it's dangerous.

DESCRIPTION: ASTRANS has the only Non-Surgical Gender Affirmation clinic managed by 'queer' staff. They offer free-hormone therapy and social-psycho support to one hundred (100) trans patients, approx. % are HIV+. ASTRANS teaches interpreting HIV lab results, avoiding self-medication, reproductive options, legal/advocacy issues, the nature of human trafficking to reduce risk, and PrEP.

LESSONS LEARNED:

- Having a gender-affirming clinic avoids dangerous self-inflicted treatments like injecting oil in breasts as a desperate measure to enhance feminization.
- Free hormone treatment helps avoid discrimination and violence.
- HIV treatment and gender-affirming hormones in one location, and staff who reflect the clientele, fosters trust.
- Clients that have a 'safe space' clinic engage and adhere to HIV care.

CONCLUSIONS/NEXT STEPS:

1. HIV care and gender affirming clinics accelerate ending the HIV/AIDS epidemic.
2. The ASTRANS clinic model saves trans lives.
3. The Salvadoran ASTRANS clinic model needs replication.
4. US researchers should collaborate with El Salvador and expand mental health supports, gender enhancing treatment, HIV prevention, evaluation and PrEP.

PDF0106

REASONS WHY YOUNGER QUEER FACE VULNERABILITY AND RISKS WHILE SEEKING ASYLUM IN KENYA: STUDYING THREE SAFE SPACES, AUGUST 2019-JANUARY 2020

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BACKGROUND: Kenya is considered to be a more progressive country than Uganda when it comes to asylum seeking by Queer refugees from other African countries. Younger Queer refugee's face a triple stigma based on age, status conditions of asylum seeking. Kenya bases its refugee reception conditions on her Immigration Act (Cap. 172) and the international instruments. However, younger Queer refugees meet bias and prejudices as they seek asylum. This study aimed at finding out what these biases and prejudices were as they navigated access to social services while awaiting resettlement in Kenya.
METHODS: Through Respondent driven sampling, Questionnaire administering and Focus Group discussion with 74 younger MSM living in Nyeri, Nairobi and Nakuru as refugees from Uganda, Rwanda, Burundi and Tanzania.
RESULTS: All respondents stated that what was on the ground was different from what they expected. 24 (18-25 years) reported they were suspected of being impostors or telling lies; recruited into the vice; and asked questions that were off the script of eligibility Such questions were probing whether they were recruited into homosexuality or trafficked. This led to 22 (18-22 years) being denied registration in time. This caused delays in acquiring National IDs. This raised vulnerability to them.
CONCLUSIONS: Age and status of person impact presentation and case processing for Queer refugees during asylum seeking. When they are younger they are said to be recruited into homosexuality. This study report was based on self reporting, further research using a bigger sample and service providers can throw more light on reasons for delays in refugee status processing, integration in host communities, productivity and awareness levels or cultural sensitivity of providers as far as Sexuality, Orientation, Gender Identity, Gender Expression and Sexual Characteristics (SOGIESC) is concerned.

PDF02 RIGHTS ARE RIGHT: ENSURING RIGHTS BASED APPROACHES

PDF0202

ENDING DISCRIMINATION IN HIV/TB PROGRAMS: LESSONS LEARNED FROM THE GLOBAL FUND'S BREAKING DOWN BARRIERS INITIATIVE

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BACKGROUND: The Global Fund's 2017 – 2022 Strategy recognizes that addressing HIV and TB requires scaling-up programs to remove human rights-related barriers to health services and end discrimination. Supporting this goal, the five-year Breaking Down Barriers (BDB) initiative has funded HIV and TB programs in 20 countries focused upon: stigma and discrimination reduction; training for health care providers; sensitization of law-makers and law enforcement agents; reducing HIV-related gender discrimination, harmful gender norms and violence against women and girls in all their diversity; ; legal literacy; legal services; and monitoring and reforming laws, regulations and policies. Additional programs for TB include: mobilizing and empowering patient and community groups; addressing overly-broad policies regarding involuntary isolation or detention for failure to adhere to TB treatment; and making efforts to remove service barriers in prisons.
DESCRIPTION: In 2019-2020, a mid-term evaluation was conducted that assessed efforts under the initiative's 20 countries to identify progress towards a comprehensive response to reduce human rights-related barriers to service access. In addition to a descriptive assessment of barriers and facilitating factors for the implementation of human rights programs, the assessment examined program integration into national plans and existing health services, and identified emerging evidence of increased coverage, access and/or retention of key and vulnerable populations as a result of the BDB Initiative. Key informant interviews with government officials, donors, key populations and their organizations, other NGOs, policy-makers and other stakeholders formed the basis of the assessment.
LESSONS LEARNED: Eliminating discrimination is an often proclaimed goal and a frequently underfunded objective. The Global Fund's $78 million investment in the BDB initiative represents a significant step towards scaling up evidence-based programs to address discrimination and other human rights-related barriers to access HIV and TB services. Innovative programs targeting discrimination, legal services and law reform will be highlighted.
CONCLUSIONS/NEXT STEPS: The BDB initiative has resulted in a sharp increase in funding for human rights-related programs addressing discrimination. Emerging evidence suggests that key populations are increasingly able to access HIV and TB programs and be retained in care.

PDF0203

THE OBLIGATION OF THE STATE TO ENSURE FREEDOM FROM TORTURE AND ABUSE FOR WOMEN WHO USE DRUGS DURING PREGNANCY AND CHILDBIRTH

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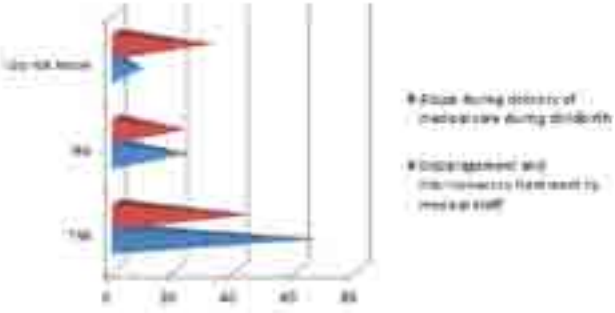
BACKGROUND: The estimated number of women who use drugs in Kazakhstan is 21,726. 87% of women who use drugs and psychotropic substances are at the fertile age. Drug-addicted pregnant women in Kazakhstan experience pain and suffering that amounted to torture. Because in Kazakhstan there are no separate normative legal acts on the provision of this medical care-doctors do not have clear algorithms for managing such patients. Support methods available in the form of methadone therapy are not available to women in maternity hospitals. Methadone therapy is not available in some regions of the country. Because of the stigma, pregnant women who use drugs do not want to seek medical help. Women do not always have access to medical services, including drug treatment, prenatal and postnatal care.

OBJECTIVE: to obtain information on the realization of the right to freedom from torture and ill-treatment for drug-addicted women during pregnancy and childbirth in Kazakhstan.
Hypothesis: women who use drugs receive necessary and timely medical care during pregnancy and childbirth without discrimination and abuse.
METHODS: To conduct the study, we used a mixed-method approach that combines the use of primarily qualitative data.
Information collection methods:

- Analysis of the laws of the country and international standards
- Focus groups and a survey of women who use drugs
- In-depth interviews with experts (practicing psychotherapists-narcologists, representatives of NGOs)
- Documentation cases of human rights violations

RESULTS:



CONCLUSIONS: Due to the stigma and lack of appropriate medical protocols, pregnant women who use drags in Kazakhstan are not always able to use the necessary medical services, including drug treatment, prenatal and postnatal care. This leads to the fact that women experience pain and suffering. Kazakhstan needs a comprehensive approach that includes working with the medical staff of women's clinics and maternity hospitals on issues of stigma and discrimination against women who use drugs.

PDF0204

BREAKING DOWN BARRIERS: ENGAGING AND TRAINING LAWYERS TO IMPROVE HEALTH RIGHTS AND ACCESS TO CARE FOR PEOPLE LIVING WITH HIV

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BACKGROUND: Even though HIV care in Argentina is provided free of charge, the fragmented health system makes it difficult for people living with HIV (PLHIV) to identify which sector is responsible for their healthcare. Therefore, PLHIV need support from lawyers to access HIV care. Beyond stigma and discrimination, the scarcity of lawyers specialized in health rights contributes to increased barriers to healthcare. AIDS Healthcare Foundation (AHF) Argentina, together with Foundation FUNDALEIS (a leading NGO in health rights) began training lawyers countrywide in health rights to help PLHIV access HIV care.
METHODS: In 2018, AHF started this initiative in 16 of 24 Argentine provinces, where AHF partners identified lawyers to attend training sessions. Following the training, a network of specialized lawyers was created, and support was offered free of charge.
RESULTS: After a total of 32 lawyers from 14 provinces completed three courses, the National Network of Lawyers for the Right to Health (NNLRH) (specializing in HIV) was established. It provided 156 free consultations related to HIV care, 149/156 were resolved after the first consultation or by extrajudicial actions. Only seven went to court, which resulted in favorable decisions for all clients. PLHIV still face constrains or unawareness about their rights due to myths, fears, and resistance, which prevents them from searching for lawyers and exercising their rights to submit claims for care.
CONCLUSIONS: This initiative showed an effective method for breaking down barriers and increasing retention by improving access to the health system. It also reinforced the role of lawyers on expanding access to HIV care by promoting health rights. Marketing campaigns on rights and NNLRH support are also required to encourage PLHIV to seek access to improve their wellbeing.
Further training sessions for lawyers on stigma and discrimination, and for PLHIV on health rights, can empower communities to support this initiative, which will further improve and expand access to HIV care.

PDF0205

PROTECTING HEALTH AND BIOMETRIC DATA IS A HUMAN RIGHTS NECESSITY

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BACKGROUND: Partners In Health is a network of 10 international NGOs unified by our work in healthcare delivery, health system strengthening, and global policy advocacy. PIH provides care and advocacy to people living with HIV/AIDS and TB through a partnership with PIH-affiliated INGOs and MOH partners in Haiti, Peru, Rwanda, Lesotho, Malawi, Liberia, Sierra Leone, Kazakhstan, Mexico, and Navajo Nation. PIH has been a pioneer in the use of electronic health records to support clinical care and quality monitoring for PLHIV since 1990, co-founding Open Medical Record System (OpenMRS) in 2004, now in use in 65 countries.
DESCRIPTION: While data security has always been a priority for the health sector, recent expansion in data-sharing requirements and biometric identification have raised questions about the important responsibility INGOs hold in ensuring data protection of personally identifiable health data, especially biometric data which can never be de-identified or anonymized. We have been involved in projects capturing fingerprint biometrics and GPS location of community based activities in multiple countries. The pathways for opting out of this data collection are not clearly communicated to PLHIV, clinicians, or INGOs, and government regulations lack specific guidance.
LESSONS LEARNED: In our partnerships with governments, we have observed sensitive data collection may in some cases undermine the principles of privacy and human rights for all PLHIV, especially those who are most vulnerable. While we recognize the significant potential for longitudinal health records and biometric data to improve access to high-quality HIV treatment, we are concerned that when data are shared without stringent governance

mechanisms and without patient consent PLHIV may be exposed to current and future harms including identity theft, criminal prosecution, harassment, or death. Our experience has been that most discussions and policies regarding data security, sharing, and privacy involve IT, legal, and administrative staff, without involving clinicians and PLHIV to ensure that their rights are protected.

CONCLUSIONS/NEXT STEPS: Upholding the responsibility of healthcare delivery organizations requires protecting the human rights of vulnerable patients. Protection must include development and implementation of practices that safeguard private health data, especially biometrics and facial recognition, empowering PLHIV to make informed decisions regarding the use of their data.

PDF0206

GLOBAL PERSPECTIVES TOWARD A RIGHTS-BASED APPROACH TO SELF-CARE INTERVENTIONS FOR SEXUAL AND REPRODUCTIVE HEALTH AND HIV: IMPLICATIONS FOR ADVANCING UNIVERSAL HEALTH COVERAGE

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BACKGROUND: Across the globe there are 400 million persons without access to essential sexual and reproductive healthcare services, signalling the urgent need for innovative solutions to realize universal health coverage (UHC). Self-care strategies can harness the ability of individuals to manage their health by improving their autonomy and agency. The 2019 World Health Organization's (WHO) consolidated guideline on self-care interventions for sexual and reproductive health and rights (SRHR) provides recommendations regarding self-care interventions alongside good practice statements to guide service delivery. These self care strategies include HPV self-sampling and HIV self testing. Perspectives from healthcare providers and users are key as we move from conceptual development to programmatic implementation.

DESCRIPTION: Three WHO expert consultations to inform the guideline included a survey to explore both healthcare provider and client perspectives on awareness of, access to, preferences and concerns around self-care interventions for SRHR. These data were collected via an online survey hosted on the website of the WHO Department of Sexual and Reproductive Health and Research and shared through a range of global listservs.

LESSONS LEARNED: There were 326 participants who provided qualitative responses to open-ended questions, these included healthcare providers (n=242) and lay persons (n=70) from 77 countries. Participants were mostly women (66.9%) and were from the African Region (34.5%), Region of the Americas (32.5%), South-East Asia Region (5.6%), European Region (19.8%), Eastern Mediterranean Region (4.8%), and the Western Pacific Region (2.8%). Participants perceived multiple benefits of self-care SRHR interventions, including: reduced exposure to stigma, increased confidentiality, reduced access barriers, empowerment, self-confidence, and informed decision-making. Concerns include insufficient knowledge, stigma, affordability, and side-effects. Implementation considerations included innovative approaches to linkages with health services as needed.

CONCLUSIONS/NEXT STEPS: Self-care interventions are especially promising for the area of HIV testing (HIV self-testing), and care management (e.g. mobile apps for ART adherence) as well as elimination of cervical cancer through better screening tools (HPV self-sampling). As many of these strategies do not necessitate direct contact with healthcare professionals, they may be ideal for key populations who face discrimination when accessing sexual and reproductive health services or for communities in which sexual and reproductive health remain highly stigmatized topics.

POSTER EXHIBITION

TRACK A

VIRAL ORIGINS, EVOLUTION AND DIVERSITY

PEA0001

EVOLUTIONARY GENETICS OF HIV-1 STRAIN CAUSING INFECTION IN DIFFERENT COHORT OF PEOPLE LIVING WITH HIV IN NEPAL

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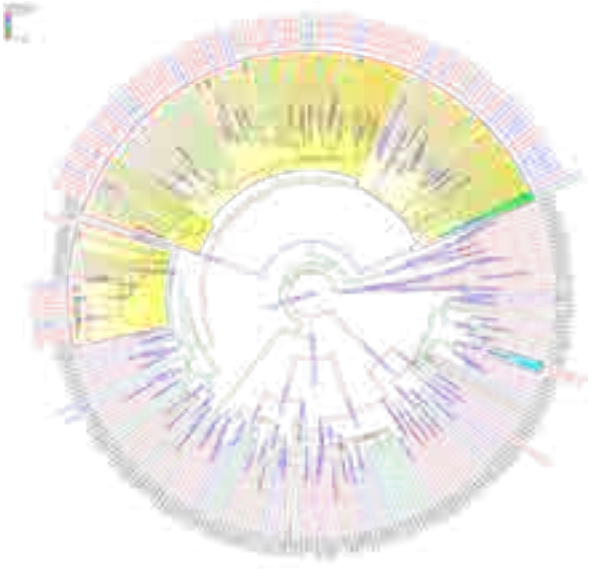
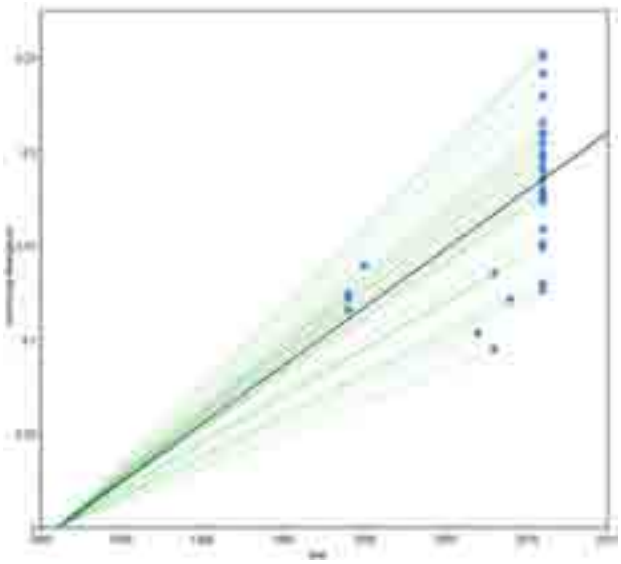
BACKGROUND: Major HIV-1 sub-types documented in South East Asian region are sub-type C . First case of HIV-1 in Nepal was reported in 1988 and till date there is very limited data on HIV-1 genetic diversity from Nepal. This study for the first time reports the genetic diversity of HIV-1 among different cohorts based on analysis of sequences of the viral envelope C2V3C3 region gene.

METHODS: The C2V3C3 region of HIV-1 env was sequenced and DNA sequences were visualized using Aliview software along with MAFFT alignment .The amino acid chain of V3 loop were tested for co-receptors and subjected to the N-linked glycosylation site prediction using the N-GLYCOSITE tool. The tip dates to root date of all the taxa included for MRCA analysis, a Molecular clock analysis was performed for HIV-1 strains.

RESULTS: Among 122 subtype C HIV-1 strains, 84% were CCR5 and 16 % were CXCR4 using strains. Glycosylation sites in the C2 and C3 region revealed that the high mannose glycan bearing sites. Molecular clock analysis for HIV-1 subtype C from Nepal, tMRCA estimated for HIV-1 subtype C Nepal was found to be in 1981.



[Figure 1. Phylogenetic analysis through Bayesian inference method with most recent common ancestral (MRCA) (BEASTv2.5.1) for ancestor determination using HIV database's Ancestor DNA alignment.]



[Figure 2. Tip to root analysis of HIV-1 sub-type C strains]

CONCLUSIONS: The study highlighted the genetic diversity of HIV-1 subtype C from Nepal. Most of the strains showed CCR5 co-receptor usage. Analysis of HIV-1 C envelope sequences indicate their introduction in Nepal in 1981.

PEA0002

PREVALENCE OF DRUG RESISTANCE MUTATIONS AMONG HIV POSITIVE INDIVIDUALS WITH LOW LEVEL VIREMIA ON ANTIRETROVIRAL THERAPY IN BOTSWANA

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BACKGROUND: Monitoring HIV-1 drug resistance mutations (DRM) in treated patients with a detectable viral load (VL) is important. Currently, there is conflicting data on the impact of low level viremia (LLV) , that is, VL<1000 on development of DRM while there is consensus on the need to investigate DRM in patients with VL of ≥1000copies/ml. The study aimed at determining the prevalence of DRM among HIV positive individuals with varying VL levels whilst on combination Antiretroviral therapy(cART) in Botswana.

METHODS: This was a cross-sectional analysis of 6078 HIV positive individuals enrolled in the Botswana Combination Prevention Project (BCPP) (2013-2018) in 30 communities. LLV was defined as detectable VL between 50copies/ml and 1000copies/ml. LLV was categorized into low and high LLV for ranges of 51-400copies/ml and 401-999copies/ml respectively. Proviral HIV sequences were obtained by long range genotyping. Pol sequences were analyzed for DRM associated with nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI), Protease Inhibitors (PI) and integrase strand transfer inhibitors (InSTI) using the Stanford HIV DRM database. We estimated proportions of DRM with 95% confidence intervals using binomial exact method.

RESULTS: Amongst 6078 HIV sequences, 6030 had known ART status. A total of 4748/6030 (78.7%) participants were on cART, 4741 had VL data whom 4385 (92.5%) were virologically suppressed and 354 had detectable VLs; 179 (3.8%) had LLV and 175 (3.7%) had VL ≥1000copies/ml. Stratified by LLV group, 78.8% and 21.2% had low and high LLV, respectively. The prevalence of any DRMs was 34.0% (95% CI 26.3-42.5%) on low LLV, 39.5% (95% CI 24.0-56.6%) on high LLV and 44.6% (95% CI 37.1-52.3%) among VL ≥ 1000 copies/ml group presented in table 1.

Viral load (copies/ml)	N	Any mutation	NRTI mutations	NNRTI mutations	PI mutations	INSTI mutations
All detectable VLs	354	143(40.4%) 95% CI; 35.2-45.7	57 (16.1%)	122 (34.5%)	20 (5.5%)	11 (3.0%)
51- 400	141	48 (34.0%) 95% CI; 26.3-42.5	14 (9.9%)	45 (31.9%)	6 (4.3%)	5 (3.5%)
401-999	38	15((39.5%) 95% CI; 24.0-56.6	5 (13.2%)	11 (28.9%)	2 (5.3%)	2 (5.3%)
≥1000	175	78(44.6%) 95% CI; 37.1-52.3)	38 (21.7%)	66 (37.7%)	12 (6.5%)	4 (2.2%)

[Table 1. Prevalence of HIV DRMs stratified by viral load group].

CONCLUSIONS: There is no statistical difference in the prevalence of DRM amongst LLV subsets suggesting the need for continued investigation into DRMs and comparison between viral RNA and proviral DNA compartments.

PEA0003

IMPACT OF HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 SUBTYPE C (HIV-1C) TRANSMITTED/ FOUNDER (T/F) VIRUSES TAT GENETIC VARIATION ON TRANSACTIVATION ACTIVITY AND DISEASE OUTCOME

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BACKGROUND: The major roadblock to eradication of human immunodeficiency virus type 1 (HIV-1) infection is the early development of latent viral reservoirs. Latent viral reservoirs comprise of cells infected with replication competent and yet transcriptionally silent provirus. However, the mechanisms that govern viral latency at the transcriptional level are not fully understood. The HIV-1 Transactivator of transcription protein (Tat) regulates viral gene transcription and is important for pathogenesis. Interestingly, inter- and intra-subtype variation that translates to differential Tat transactivation activity has been reported during chronic infection suggesting that Tat variation may influence disease outcome. Although it is well established that HIV-1 latency is established early in infection, there is still paucity of data on the effect of HIV-1 transmitter/founder (T/F) virus tat genetic variation latent reservoir development. Therefore, we hypothesized that HIV-1 subtype C T/F viruses tat genetic variation may affect disease outcome.
METHODS: To test this hypothesis, viral RNA was extracted from plasma samples obtained from 30 HIV-1 acutely infected South Africans using QIAmp RNA viral RNA mini kit (Qiagen, Hilden, Germany), reverse transcribed using SuperScript IV and followed by nested PCR using the Platinum Taq DNA polymerase (Invitrogen, Carlsbad, CA, USA). Subsequently, PCR products were sequenced using the BigDye cycle sequencing kit v3.1 (Invitrogen, Carlsbad, CA, USA) and analyzed using phylogenetic tools. The HIV-1 tat sequences harbouring mutations of interest were transfected into TZM-bl cells in order to assess their transactivation activity.
RESULTS: Co-existence of detrimental mutations to Tat activity were associated with significantly lower viral loads compared to co-existence of enhancing mutations ($p < 0.001$). Interestingly, viruses harbouring P21A Tat variant are associated with significantly lower viral loads compared to viruses without P21A mutant ($p = 0.04$). Moreover, transactivation of this mutant was almost completely abrogated. Furthermore, Tat activity positively correlated with viral load ($r = 0.85$, $p = 0.01$).
CONCLUSIONS: Taken together, our data suggest that HIV-1 subtype C T/F viruses tat genetic variation may impact disease outcome. Future studies should investigate the effect of single mutations and protein expression on the disease outcome. Understanding of how HIV-1 gene transcription is regulated, may guide future studies on cure strategies.

PEA0004

EXTENSIVE DISTRIBUTION OF SIV IN TISSUES WITH SECONDARY LYMPHOID ORGANS AS THE MAIN DRIVERS OF VIRAL DYNAMICS

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BACKGROUND: Increasing knowledge concerning the role of anatomical sites in viral dynamics is critical for developing strategies for optimal infection control. We used the model of Simian Immunodeficiency Virus (SIV)mac251 experimental infection of macaques to comprehensively determine tissue viral spread and dynamics.
METHODS: We studied the viral infection and transcriptional activity (SIV-DNA and cell-associated SIV-RNA, respectively, by ultrasensitive PCR) and quasispecies dynamics (env gene - high-throughput sequencing (Illumina)) prospectively in blood and rectal biopsies of six SIVmac251-infected cynomolgus macaques in the absence of antiretroviral therapy and in 23 anatomical sites six months post-infection (axillar/inguinal/iliac/mesenteric/popliteal lymph nodes (LNs), spleen, duodenum, jejunum, ileum, ascending/transverse/descending/sigmoid colon and rectum, bone marrow, thymus, lung, liver, kidney, adipose tissues (axillar, visceral, subcutaneous) and skin). Plasma SIV-RNA loads were then 140,000 copies/mL in median (range: 15,000-1,400,000 copies/mL).
RESULTS: All anatomical sites, including the skin and adipose tissues, showed disseminated and replicative infection. More than 50,000,000 reads were analyzed. From 28 days post-infection on,

viral variants present in the inoculum gradually disappeared, more rapidly in plasma than in PBMCs and were nearly absent after six months post-infection. The genetic distance from the inoculum was time-course dependent. The quasispecies were similar between CD14+ cells and CD4+ T-cells, in the blood and colon. At six months post-infection, LNs and spleen exhibited the highest SIV-DNA and transcriptional levels and the most differentiated and abundant viral quasispecies compared to the inoculum. Interestingly, viral variants in LNs from distinct locations were extremely homogeneous and more closely related to each other than to variants in blood. Variants in LNs were shared to a lesser extent with those of gut-associated lymphoid tissues (GALT). Non-lymphoid tissues and GALT had more variants not shared with other tissues than did LNs and spleen. Despite inter-individual differences, all animals showed the pattern of viral evolution described above.

CONCLUSIONS: In conclusion, LNs and spleen displayed a major role in driving the viral dynamics in untreated animals. Viral variants in LNs from distinct locations were more closely related to each other than to variants in blood, indicating a stronger trafficking of the infected cells (and/or virus) through the lymph than through blood.

PEA0005

IS SOMETHING CHANGING IN THE MOLECULAR EPIDEMIC OF HIV-1 IN KINSHASA, DEMOCRATIC REPUBLIC OF CONGO?

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BACKGROUND: The origin of the HIV-1 epidemic took place in the Democratic Republic of Congo (DRC). HIV-1 diversity is exceptionally high, in continuous evolution, and can impact HIV monitoring and resistance pathways. Our study describes, for the first time, the HIV-1 variants among infected children and adolescents in Kinshasa, the most recent data in adult population, and the temporal trend of HIV-1 in DRC during 1976-2018.

METHODS: From 2016-2018, dried blood specimens were collected in two hospitals in Kinshasa from 340 HIV-infected-subjects: 71 children/adolescents (median age 14) and 269 adults (median age 43). We obtained 165 HIV-1 pol sequences from 55 children/adolescents and 110 adults. For HIV-variant allocation, phylogenetic reconstructions (phy) were done by Maximum Likelihood using GTR+I+G evolutionary model. Recombination events were detected using RDP-program. Genetic diversity (D = 1-∑f2, a measure of variability that takes into account the frequencies of the variants) was calculated. We compared our results with all available HIV-1 sequences from DRC (1976-2012) deposited in Los Alamos.

RESULTS: A huge HIV-1-variants diversification was observed in Kinshasa. The main subtype was A (26.7%), followed by G (9.7%) and C (7.3%); moreover, 36.3% of samples were recombinants (12.7% CRF, 23.6% URF). Among them, we described the first detection of CRF47_BF in the DRC, variant exclusively described in Spain and Brazil. When current surveillance was compared to previous studies, a significant increase of subtype/sub-subtypes A, CRF25_cpx, CRF27_cpx, CRF45_cpx and URF were found and a reduction of subtypes C and D. Surprisingly, a transmission cluster was detected among 4 children/adolescents harboring URF_BG. Genetic diversity was higher in children/adolescents than adults [0.92 vs. 0.88] and in pure-subtypes from Los Alamos sequences (1976-2012) vs. the study cohort (2016-2018) [0.84 vs. 0.76]. CFRs diversity was higher since 2016 [0.78 vs. 0.89], but lower in children/adolescents vs. adults [0.50 vs. 0.88].

CONCLUSIONS: This study provides the most recent data of HIV-1 molecular epidemiology in Kinshasa, including children and adolescents, showing an increase in HIV-1 diversity among recombinants and a transmission cluster involving children/adolescents. The clinical and biological impact of trends of certain HIV-1 variants in DRC is unknown and should be further studied.

PEA0006

ANALYSES OF NEAR FULL-LENGTH HIV-1 GENOME SEQUENCES SHOW INCREASED GENETIC DIVERSITY OF CRF01_AE VIRUSES AND NEW RECOMBINANT VIRUSES IN VIETNAM

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BACKGROUND: Many HIV-1 circulating recombinant forms (CRFs) and unique recombinant forms (URFs) have been identified in Vietnam, but the vast majority of those viruses are characterized only by partial viral genome sequences. We aim to better understand the distribution of HIV-1 CRFs and URFs by characterizing HIV-1 whole genome sequences in Vietnam.

METHODS: Viral RNA was extracted from 36 samples from HIV-1-infected individuals in Vietnam and used for cDNA synthesis. Near full-length genome (NFLG) sequences were obtained by amplifying two overlapping half genomes. Subtypes were determined by comparing the newly obtained sequences to the HIV-1 reference sequences. The Vietnam samples were obtained to support the Duke NIAID EQAPOL viral Diversity program.

RESULTS: Phylogenetic tree analysis of NFLG sequences identified 32 CRF01_AEs (88%), one subtype B (3%), and three URFs among CRF01_AE, CRF07_BC, CRF08_BC and subtype B (9%). The diversity of new characterized CRF01_AE sequences was 6.7%, which is 1.4 and 7.4 times higher than the two CRF01_AE NFLG sequence clusters (4.1% and 0.9%) that were reported previously in Vietnam. This suggests that CRF01_AE viruses have continuously diversified to a higher level. Moreover, the new characterized CRF01_AE sequences were as divergent as those from different countries but did not cluster with the previous reported CRF01_AE NFLG sequences. This indicates that the new CRF01_AE viruses have different origins. Small fragment sequences from CRF07_BC and CRF08_BC which are mainly present in China were detected for the first time in the recombinant NFLG sequences, indicating that CRF07_BC and CRF08_BC or their recombinants have recently been introduced into Vietnam.

CONCLUSIONS: Analysis of newly characterized CRF01_AE NFLG sequences showed that they likely originated from different ancestors and have continuously diversified to a higher level. New

CRFs have been introduced into Vietnam in recent years. Continuous monitoring of HIV-1 subtypes by analysis of NFLG sequences may contribute to better control of the HIV-1 epidemic and to the development of broadly reactive vaccines in Vietnam.

PEA0007

PREVALENT SUBTYPES AND OUTCOMES OF A TREATMENT-NAÏVE COHORT FROM AN URBAN PHILIPPINE CENTER

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BACKGROUND: Circulating HIV subtypes in the Philippines are more diverse as new infections rise exponentially. We enrolled an HIV-treatment-naïve cohort, characterized GAG and POL gene subtype, and describe 1-year treatment outcomes of individuals carrying CRF01_AE, B and CRF01_AE /B recombinants.

DESCRIPTION: Eighty-eight patients at the HIV-IREACT Clinic (The Medical City, Pasig) were enrolled in the Virology Quality Assurance program (RUSH-VQA) from 7/1/2017-6/30/2019. Before initiating anti-retroviral treatment (ART), information about co-infections, AIDS-defining illnesses, CD4 cell count, and viral load (VL) were collected. The ViroSeq™ HIV-1 Genotyping System v.3 and HIV-1 Integrase Genotyping Kit identified drug resistance mutations (DRM). Subtype composition (LTR-VIF) was determined with the jpHMM HIV-1 Tool (University of Göttingen, Department of Bioinformatics) and REGA HIV-1 Subtyping Tool v.3 (Katholieke Universiteit Leuven; HIV Bioinformatics, BioAfrica) after Sanger sequencing. One-year outcomes included virologic suppression, mortality, and physician follow-up.

LESSONS LEARNED: Our cohort included 86 males and 2 females; 61/88 were MSM. Mean age was 30.5 (range 19-65) years. Initial median VL was 168,473 copies/ml with 3 having undetectable VL. Median CD4 count was 94 (0-2296) cells/mm3. Nine had HBV co-infection. 15/85 had DRM; 7/15 had major DRM. Subtyped ViroSeq™-generated sequences included CRF01_AE (58/85), subtype B (12/85), and potential recombinants (12/85). 78/83 patients began ART, 77/83 starting tenofovir/lamivudine/efavirenz. Extensive sequencing (n=70) showed CRF01_AE (50/70), subtype B (7/70), recombinants between CRF01_AE and B (9/70), and recombinants between other subtypes (4/70). Bootstrap analysis identified 7 pairs of strains with high relatedness including 2 from long-term partners. Discordant DRM appeared in 2 pairs, where 1/2 strains displayed DRM. Breakpoint patterns in CRF01_AE/B recombinants were diverse among protease (2/9), RT (5/9) and integrase (3/9) genes. After 1 year, 87 individuals are alive, with 19 lost to care. VL was repeated for 31/77 (40.2%), the majority (24/31,77.4%) being undetectable. Follow-up CD4 testing for 39/77 (50.6%) showed an increase to a median of 327 cells/mm3.

CONCLUSIONS/NEXT STEPS: Our cohort carried subtype CRF01_AE predominantly (~68-70%). Subtype B and CRF01_AE/B recombinants comprised the next largest populations. Overall survival is high after 1 year on ART. The attrition rate warrants concern, with 21.8% lost to care, and 23.6% with possible early virologic failure.

PEA0008

NOVEL HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 INTERGROUP (M/O) RECOMBINATION IN NIGERIA

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BACKGROUND: Here we show, for the first time, recombinants between two highly divergent major groups of human immunodeficiency virus type 1 (HIV-1), M and O, within a 38 years old Nigerian woman infected with two diverse HIV-1 strains, a group O virus, and a recently reported URF_A1F2 recombinant virus.

METHODS: Blood specimens were collected from ART-naïve HIV-infected individuals presenting at the University of Port Harcourt Teaching Hospital (UPTH) for voluntary counselling and testing, and routine follow-up from 2016 to 2019. They were sent to the Virus Research Unit of Department of Microbiology, the University of Port Harcourt, Nigeria where the plasma was separated from whole blood and stored at -80 ° C. Furthermore, these plasma samples were shipped to NYUSoM, where the Reverse transcription-Polymerase chain reaction (RT-PCR) and DNA sequencing was performed. Using nested extra-long PCR amplification, we sequenced from the gag to the env region with accessory genes of the viral genome gotten from the patient's plasma and examined them phylogenetically.

RESULTS: The PCR data suggested that this patient was coinfected with a group M virus and a recombinant M/O virus. Compared with reference sequences, there were multiple segmental exchanges between the two HIV-1 strains (group O and URF_A1F2) and, all the recombinants appeared to originate from a common M/O ancestor. Significantly, recombination between groups M and O occurred in the gag, pol, and env regions. Recombination between strains with such distant lineages may contribute substantially to generating new HIV-1 variants. Comparison of the type M sequences shared by the group M and the recombinant M/O viruses showed that these sequences were closely related, with only 3% genetic distance, suggesting that the M virus was one of the parental viruses.

CONCLUSIONS: Recombination between strains with such distant lineages (65% overall homology) may contribute considerably to the emergence of new HIV-1 variants. If such recombinant intergroup viruses derived better viral fitness, prompting variations in their biological properties likened to the parental group O virus, the prevalences of group O sequences could escalate rapidly. Thus, will have significant implications for serological and molecular diagnosis of HIV-1 infections as well as for antiretroviral treatment (ART).

PEA0009

HIV-1 GRAPH REFERENCE GENOME IMPLEMENTATION INFORMED BY CDNA AND NATIVE RNA SEQUENCING OF HIV-1 VIRION

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BACKGROUND: Current gold-standard approaches to recovering Human Immunodeficiency Virus (HIV) sequences from samples is based on using single linear reference genomes (LRG) for reference-based mapping. This limits recoverable information to sequences resembling the reference(s) used. Nucleobase and approximate k-mer graphs summarize genomic information in different ways. The combination of 10,617 relatively complete HIV LRGs, HIV's high sequence variability, and HIV's tractable genome size (~9kb) provides a unique opportunity for evaluating the suitability of graph reference genomes (GRG) for analyzing HIV genome variability.

METHODS: We evaluated our graph genome construction tool SWIGG (an approximate k-mer graph tool) and VG (a nucleobase graph tool). As input for these tools, we modified HIV-1 single LRGs from the HIV Sequence Database based on information from the first native RNA sequencing of HIV. Data from recent native RNA sequencing was mapped with minimap2, a leading long-read mapper. Public data from HIV-1 virion cDNA-seq (Bioproject: PRJNA320293) was mapped to LRG with with HISAT2, a leading split-read mapper.

RESULTS: We produced approximate k-mer GRGs with SWIGG, and nucleobase GRGs with VG, with k-mers also ranging in size of 16-90 bases and a set of 6 LRGs. We evaluated the resulting nucleobase graphs at well-annotated HIV-1 features. We produced a nucleobase GRG alternative to linear HXB2 or NL4-3 incorporating 6 LRGs including HXB2 for reference-based genomic applications.

CONCLUSIONS: It is possible to make intelligible graph representations of genomic information contained within HIV-1 reference sequences in both approximate k-mer and nucleobase spaces. During our trials, we developed a standardized approach to working with HIV-1 LRGs based on previous models of HIV reverse transcription and native RNA sequencing which reduced artifactually overrepresented k-mers in HIV LTR observed in graphs. This improved approximate k-mer graphs, and facilitated larger nucleobase graphs. Future directions include extending the input of VG graphs to 995 HIV-1 references (all HIV-1, and by subtype), evaluating read mapping compared to standard split and non-split mappers, facilitating nucleobase annotation of k-mer and other feature annotation of approximate k-mer GRGs. The lessons learned from the small yet information-dense HIV genome are extensible to larger genome systems.

HIV BIOLOGY (ENTRY, REPLICATIVE CYCLE, TRANSCRIPTIONAL EXPRESSION AND REGULATION)

PEA0010

HIV GENETIC VARIABILITY AND ISOMIR PRESENCE: EFFECT ON THE EFFECTIVENESS OF ANTI-HIV MICRORNAS

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BACKGROUND: microRNAs (miRNAs) play an important role in HIV infection. The role of miRNAs that target the *nef* gene is of great interest for HIV latency research. miRNAs can undergo a series of post-transcriptional modifications which yield a set of isoforms of the canonical miRNA sequence (isomiRs), that could differ significantly in terms of complementarity/affinity for the canonical target site. Our objective was to predict *in silico* the potential effect of miRNAs/isomiRs in *nef* gene regulation taking into account:

i) HIV genetic variability, and

ii) variability among canonical miRNAs and isomiRs.

METHODS: Target-miRNA hybridization free energy (ΔG) was calculated for all possible mRNA-miRNA pairs (Two State Melting software, DINAMelt Server) for 43 HIV *nef* sequences from Argentina and Brazil (subtypes B and C and five BF recombinants forms), and miRNAs reported to target nef (miR-1290, miR-196b, miR-223-3p, miR-29a-3p, miR-29b-3p, miR-326). For each miRNA, ΔG obtained with different target sequences were statistically compared using t tests. Additionally, the 10 most abundant isomiR sequences for each miRNA were included (IsomiR Bank). Target RNA secondary structure was predicted (mfold web server software, UNAFold).

RESULTS: *nef* genes from different HIV strains were predicted to bind to the same miRNA with different ΔG, with differences of up to 3.7 kcal/mol. Statistically significant differences between HIV belonging to different subtype/recombinant strains were found for all miRNAs except miR-223-3p (p-values: 0.026 - $7.5x10^{-5}$). Most isomiRs were predicted to bind their target with the same or higher (less favourable) ΔG than the canonical miRNA (maximum difference: 11.2 kcal/mol), whereas for miR-196b and miR-223-3p some isomiRs bound their target with lower (more favourable) ΔG than the canonical miRNA. Analysis of predicted target RNA secondary structures revealed that for almost all miRNAs the canonical sequence can find its target site more accessible, except for miR-29b-3p.

CONCLUSIONS: Our results revealed that HIV strains belonging to different subtypes/recombinants may be differentially susceptible to miRNA-mediated silencing and that isomiRs differ from the canonical miRNA in target binding energy and are not always less effective gene silencers than their canonical counterparts. These results should be taken into consideration for miRNA study in the context of HIV latency research.

PEA0011

INSIGHTS FROM HIV-1 TRANSGENE INSERTIONS IN THE MURINE MODEL OF HIV-ASSOCIATED NEPHROPATHY

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BACKGROUND: The Tg26 HIV transgenic mouse develops chronic HIV renal disease virtually identical to that seen in humans with HIV-associated nephropathy (HIVAN), but we also noted significant variability in disease phenotype. We wanted to define the context of HIV in this HIVAN model, including transgene copy number and orientation. We used short- and long-read RNA and DNA sequencing to characterize the HIV-1 transgene to better understand the disease variability in the Tg26 mouse.

METHODS: 1) We used RNA-seq to compare the transcriptional profiles of Tg26 mice to immortalized and primary human renal cell lines.

2) As a proof-of-concept to unambiguously cover complete HIV transgenes, we used short- (unpublished) and long-read (Gener, bioRxiv, 2019. https://doi.org/10.1101/611848) PCR DNA-seq to cover the entire HIV-1 reference HXB2 plasmid.

3) We next used short- and long-read PCR-free genomic DNA-seq to define HIV transgenes in a Tg26 mouse.

RESULTS: 1.1) Tg26 HIV mRNA approximated HIV gene expression and splicing seen in human acute infection models.

1.2) Variants in nef and the 3' LTR appeared in subsets of RNA-seq reads after removing PCR duplicates.

2.1) We defined 10 LTR and 10 other variants in pHXB2.

2.2) We sequenced the first complete HIV model proviral reads from PCR and PCR-free methods.

3.1) We defined 6 HIV transgene insertions, and used long reads to evaluate internal structure at individual HIV loci.

3.2) The HIV transgenes occur as concatemers of digested plasmid, exhibiting internal structural variation and plasmid backbone.

3.3) We discovered 46 variants within the HIV transgenes, which may be used to track individual transgene expression with native RNA sequencing.

CONCLUSIONS: Our findings of sense spliced HIV as-seen-in human, defined insertion sites, and neutrally inherited variants at HIV loci support the continued use of the Tg26 mouse as a model of HIV renal disease and extends the view of HIV gene regulation beyond what was possible with previous short-read approaches.

PEA0012

AUTOPHAGY FLUX MODULATING COMPOUNDS INFLUENCE HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 INFECTION

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BACKGROUND: Autophagy is one of the major pathways for degrading dysfunctional organelles, misfolded/aggregated proteins, and infectious microbes including bacteria, parasites, and viruses. HIV-1 replication is significantly impacted by autophagy. In infected cells, early nondegradative stages increase virus production, while maturation stages degrade virus. HIV-1 was reported to inhibit autophagy maturation by interfering with the autophagy regulatory factor Beclin-1, thereby enhancing virus biogenesis. Thus, in this study, we examined if modifiers of autophagy flux could significantly impact HIV-1 infection.

METHODS: To investigate the effects of autophagy flux modifiers on HIV-1 infection and degradation, we examined over time infection of TZM-bl indicator cells with GFP-labeled HIV-1 virions in the presence or absence of the autophagy activator spermidine or inhibitor methamphetamine by confocal microscopy. Localization of GFP-labeled HIV-1 was determined in the presences or absence of bafilomycin A1 (Baf) in cells expressing a RFP-LC3 fusion protein to mark autophagosomes or stained with anti-LAMP2 antibody to identify lysosomes. Modulation of autophagy by methamphetamine or spermidine was confirmed by measuring levels of LC3-II by immunoblot in the presence or absence of Baf. The effect of spermidine on viral replication was further examined in HIV-1 infected primary human peripheral blood T cells costimulated with anti-CD3/anti-CD28 monoclonal antibodies by assaying cell supernatants for HIV p24 by ELISA.

RESULTS: We show that entering HIV-1 viral particles are associated with both autophagosomes and lysosomes. While productive infection of target cells occurs, most viral particles are degraded through the autophagy pathway after they enter host cells. Interestingly, methamphetamine inhibits autophagosomal degradation, thereby increasing the permissiveness of target cells and productive infection. By contrast, the polyamine spermidine promotes autophagy flux and degradation of HIV viral particles, resulting in fewer productively infected cells. Furthermore, in primary T cells cultures, HIV-1 replication was significantly reduced by the addition of spermidine.

CONCLUSIONS: The data suggest that methamphetamine may enhance viral replication by interfering with autophagy. On the other hand, spermidine activates autophagy flux and suppresses viral replication, suggesting its potential for reducing HIV-1 replication in vivo.

PEA0013

EXPRESSION OF CIRCRNAS IN HIV-1 INFECTION

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BACKGROUND: HIV-1 infection is still one of the world's most significant infectious diseases, with around 37.9 million people living with HIV-1 at the end of 2018. Since the first case report, 38 years ago, about 32 million people have died of HIV-1 and still there is no accessible cure. The major barrier impeding HIV-1 eradication is a small reservoir of latently infected resting T-cells that persist after ART and can spawn new waves of infection.Circular RNAs (circRNAs) are single stranded covalently closed RNAs which lack the characteristics of linear mRNA such as 5'cap and 3'poly-A tails. CircRNAs are formed as byproduct of post-transcriptional „backsplicing" of coding-genes. Most transcriptomic studies in HIV-1 focus on RNA species, like mRNA or miRNA, while the expression of circRNAs remains to be elucidated. The expression patterns of circRNA have been reported to be sensitive to viral infection and cell division rates, which allow us to hypothesize that circRNAs could be found in HIV-1 latently infected cells.

METHODS: We re-analyzed publicly available total RNA-seq data from in vitro HIV-1 infection of Sup-T1 cells. The dataset consisted of two time points after infection (12 and 24 hours post infection) and its corresponding control (mock infected). The four corresponding samples were sequenced using two different protocols, poly-A enrichment and total RNA-seq. Reads were mapped to identify gene expression with Hisat2 and Stringtie. Additionally, reads were firstly mapped with STAR for chimeric and circular alignments and the resulted alignments were used by CIRCExplorer for circRNA identification.

RESULTS: In total, 52 circRNAs, were found to be differentially expressed in at least one comparison. Most differences, based on gene and circRNA expression, were detected when comparing HIV-1 infection at 24 hpi vs. Uninfected at 24 hpi (41 DE circRNAs).

CONCLUSIONS: The results presented here greater our knowledge of the transcriptional plasticity during H IV-1 infection and the transcriptional state of persistently infected CD4+ T-cells. We have further shown that some circRNAs are differentially expressed during HIV-1 infection and in latent cells from an in vitro HIV-1 latency model. Additional studies on circRNAs in HIV-1 persistence and infection studies are warranted.

VIRAL FITNESS, PERSISTENCE AND RESISTANCE

PEA0014

DEVELOPMENT OF RESISTANCE TO RALTEGRAVIR THROUGH Q148 PATHWAY IS RESTRICTED IN SUBTYPE F INTEGRASE GENES FROM BF RECOMBINANTS

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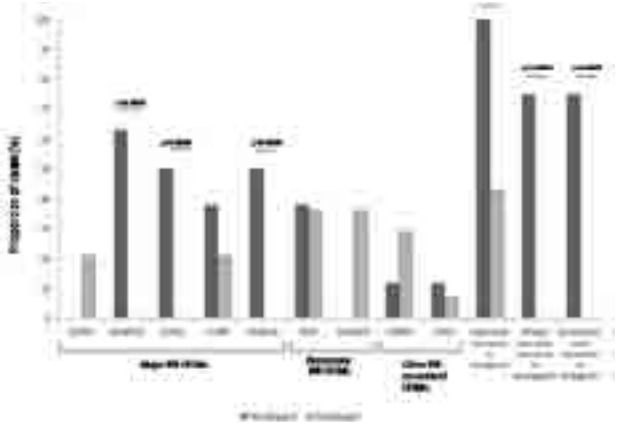
BACKGROUND: Information on resistance to HIV-1 integrase inhibitors (INIs) is mostly based on subtype B. This contrasts to the increasing use of INIs in LMIC, where non-B subtypes predominate. We aimed to investigate the role of HIV-1 subtype in the development of resistance to INIs (INI-DRMs) among HIV-1 strains circulating in Argentina.

METHODS: INI-DRMs were evaluated in 30 individuals undergoing virologic failure to raltegravir (RAL)-based ART. HIV-1 subtype was characterized by phylogenetic analysis of the integrase (IN) gene. Major INI-DRMs were introduced into infectious molecular clones with subtype B or BF integrases: NL4-3 (B), ARMA159 (BF recombinant), and URTR23 (BF recombinant with 163K polymorphism). Infectious virus stocks were generated by transfection of 293T cells and replication in CEMx174 cells. Virus susceptibility to RAL or dolutegravir (DTG) was determined by TZM-bl assay and IC50s were calculated using PRISM 8 software.

RESULTS: Patterns of INI-DRMs selected by RAL in vivo differed according to HIV-1 subtype in IN (Figure 1). Differences were independent of the median time under RAL therapy (17 versus 22 months), or HIV-1 viral load at the time of genotyping (4.85 versus 4.37 log10 copies/mL) in B or F IN genomes, respectively. In vitro, wild-type BF recombinants were as susceptible to RAL and DTG as NL4-3. As predicted, introduction of N155H (+ G163K) increased the IC50 of URTR23 to RAL (19-fold), but had no effect on susceptibility to DTG. Unlike in NL4-3, where Q148H (+/-G140S) reduced susceptibility to RAL and DTG, but had limited to no effect on viral replication, the introduction of Q148H into URTR23 abolished its ability to replicate.



[Figure 1]

CONCLUSIONS: In BF recombinants with subtype F integrase genes, development of HIV-1 resistance to raltegravir occurs through mutational pathways other than Q148, thereby retaining susceptibility to second generation INIs. Mechanisms involve a severe loss of integrase function of Q148 mutants in BF recombinants.

PEA0015

PHYLOGENY-BASED TRANSMISSION DYNAMICS OF HLA-ASSOCIATED AMINO ACID VARIANTS IN HIV-1 INFECTED INDIVIDUALS IN GHANA

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BACKGROUND: Suppressive pressure exerted by cytotoxic T lymphocytes (CTLs) leads to viral escape mutations, which are associated with human leukocyte antigen (HLA) variants. As the HLA haplotype of each person differs during an HIV transmission lineage, the virus must adapt at some cost. In West Africa, where the 90-90-90 target has still not been met, we could obtain many cases of virus-CTL interactions that were not affected by anti-retrovirus treatment (ART). Here, we present the phylogenetic-based transmission analysis combined with HLA genotyping of HIV-1 CRF02_AG-infected persons in our Ghanaian cohort that may help assess the effectiveness of CTL-based vaccines in the future.

METHODS: From 2013–2015, plasma samples were obtained from 281 females, 108 males and 1 unknown of ART-naïve individuals through voluntary counseling and testing at the Koforidua Regional Hospital, Ghana. HLA-A, -B, and -C genotypes were determined by next generation sequencing with long-range PCR amplification. Nucleotide sequences of the *gag* and *vif* genes were obtained from plasma viral RNA. Phylogenetic inference and other evolutionary analyses were conducted by maximum likelihood and Bayesian Marcov chain Monte Carlo methods using MAGA10 and BEAST1, respectively.

RESULTS: The *gag* and *vif* phylogenies of the patients revealed that 316 (81.0%) were infected with CRF02_AG, followed by subtypes A1 (10.0%), CRF06_cpx (4.6%), and G (1.5%). We identified 27 and 5 phylogenetic-based transmission clusters in Ghanaian CRF02_AG and subtype A1, respectively. During the transmission links in the clusters, HLA-associated amino acid variants in 19 *gag* and 13 *vif* sites detected in our previous study were primarily selected according to the HLA genotype of the newly infected host. However, a cluster consisting of acute phase individuals showed no associated amino acid site responses to CTLs except for gag-R91K and G357S.

CONCLUSIONS: Our results demonstrated that HIV mostly acquires a CTL epitope adapted to the host HLA genotypes sometime after transmission. The quicker response of some HIV sites in the epitopes may indicate that HLA-associated sites may have priority in the context of CTL escape. Understanding the details of the selection landscape of HLA-viral gene site interactions is necessary for the development of an effective CTL-based vaccine.

PEA0016

HIV RESISTANCE DYNAMICS ELUCIDATE PERSISTENCE MECHANISM IN PATIENTS ON 25-YEAR ART

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BACKGROUND: The low-level viremia and persistence of HIV in reservoir despite antiretroviral therapy (ART) are a challenge for HIV care. We studied the evolution of HIV-DNA level and drug resistance mutations (DRMs) in peripheral blood of patients ART-treated for 25 years.

METHODS: Twenty patients were enrolled in the Immunoco cohort in Paris, France without viral load (VL), CD4, and treatment criteria. HIV-DNA reverse transcriptase was deep sequenced from blood samples at 4 time points, around 1991 (19 samples), 1996 (15 samples), 2012 (20 samples) and 2016 (20 samples). Total HIV-DNA level was measured in leukocytes (Biocentric). DRMs in the latest ANRS algorithm were retained at 5% cut-off. The mutational load was calculated as product of DRMs frequency and HIV-DNA load.

RESULTS: Patients had a median [IQR] zenith VL of 5.06 [4.71-5.71] (log copies/mL), a nadir CD4 count of 138.5 [33.3-239.5] (cells/mm3), HIV infection time of 27.5 [27.0-28.5] (years), time on ART of 24.5 [22.8-26.0] (years), and 10.0 [6.63-12] consecutive years with VL < 200 copies/mL.

The medians [IQR] of HIV-DNA level (log copies/10e6 cells) significantly decayed over 25 years on ART, from 3.56 [3.02-3.84] in 1991 and 3.33 [2.98-3.72] in 1996 to 2.63 [2.32-2.90] in 2012 and 2.25 [2.05-2.61] in 2016 (20-fold reduction from 1991 to 2016, $p < 0.0001$).

From 74 sequenced samples, NRTI-DRMs, T215D/F/I/V/Y and M184V were detected in 57% and 40%, respectively, followed by M41L (35%), D67N (32%), K70R (25%), and L210W (24%), K219E/Q (17%), T69D/N/S/insertion (14%), L74I/V (14%), V179I(7%), E44D (6%). NNRTI-DRMs as K103N/R (8%) and E138A (8%) were less frequently detected.

Interestingly, mutational load reduced over time fastest for K70R and E138A variants (median 144-fold and 93-fold reductions, respectively) while slower for L74I/V, E44D, T69D/N/S, M41L, T215D/F/I/V/Y (10- to 19-fold), and slowest for K103N/R/S, M184V, L210W, K219E/Q, D67N, V179I (nearly 2 to 5-fold). No correlation with CD4 recovery rate and duration of suppressed VL was observed.

CONCLUSIONS: HIV-DNA significantly decayed during 25 years on ART. The different reduction rates of HIV-DNA mutational load for each DRM and no correlation with duration of suppressed VL suggest different kinetics of HIV-infected cell proliferation rather than replenishment of viruses in the reservoir.

PEA0017

COMPARATIVE MOLECULAR CHARACTERIZATION OF CONTEMPORANEOUS AND EARLIER TRANSMITTED HIV-1 VIRUSES FROM TWO UGANDAN COHORTS

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BACKGROUND: Characterization of the HIV-1 strains being transmitted in Uganda is fundamentally important to inform vaccine design and testing. Previous reports have shown that subtypes A1 and D viruses co-circulate together with inter-subtypes recombinant strains; however accurate data on the proportion and patterns of mosaic recombinants are scarce since most studies have only examined subgenomic fragments. Here we amplified the complete genome and characterized the genetic composition of the most common sexually transmitted HIV-1 strains in Uganda from Dec 2006 to June 2011 and 2015 to 2018.

METHODS: Plasma viral RNA from 40 Ugandan seroconverters from IAVI protocol C 35/40 and Good Health for Women Project (GHWP) 5/40 as examined to infer the transmitted/founder virus (TFV) using single genome amplification and sequencing assays (Sanger/Pacbio). Phylogenetic analysis (Geneious) and LANL tools identified the TFV. Subtyping and recombination tools (RIP) were used to characterize intersubtype recombinant strains.

RESULTS: For Protocol C, an initial analysis of multiple 3'-half genomes from 35 recent sero-converters revealed that like what has been reported for subtype B and C, close to 80% of the infections (28/35) resulted from transmission of a single virus, whereas about 20% (7/35) appeared as multivariant transmissions. Recombination analyses revealed that new HIV-1 infections (61%; 20/33) are established by unique mosaic intersubtype recombinants (17 A1/D, two A1/C/D and one AG_01AE) and 39% were infected by both ‚pure' subtype A (5) and D (8) variants. A very preliminary analyses from 13 GHWP seroconverters identified 5 T/F viruses. Recombination analyses using RIP from 7 full genome sequence data has revealed subtypes, A=2/7, A/D=3/7 and A/C=2/7.

CONCLUSIONS: The high transmission frequency of unique intersubtype recombinants is striking and emphasizes the extraordinary challenge for vaccine design and in particular for the highly variable and recombinogenic envelope gene, which is targeted by rational designs aimed to elicit broadly neutralizing antibodies.

PEA0018

HIV-1 COMPARTMENTALIZATION IN BONE MARROW AND CEREBROSPINAL FLUID

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BACKGROUND: Little is known about HIV replication patterns in bone marrow (BM) and the relationship of viruses in BM and cerebrospinal fluid (CSF). We evaluated HIV compartmentalization in the BM and CSF from HIV-infected participants not on antiretroviral therapy (ART) at the time of the study.

METHODS: The HIV *env* gene (V1V3 region, 519 bp) was successfully sequenced from 4/5 peripheral blood (PB), 5/5 BM, and 2/3 CSF plasma samples of 5 participants using the MiSeq sequencing platform with a unique sequence tag (PrimerID). Two participants were previously ART-treated and three were ART-naïve. Phylogenetic trees were computed with FastTree v.2.1.11 and compartmentalization was assessed with ClusterPicker (v1.2.3). Clusters comprising sequences only found in the PB, BM, or CSF within a 3% genetic distance and with a branch support of >70% were defined as compartmentalization. Clusters comprising BM and CSF sequences but not PB were also accessed to compare BM and CSF viruses. Tropism of compartmentalized viruses was predicted using the geno2pheno algorithm and a 2% false positive rate.

RESULTS: The median (IQR) log HIV-RNA (copies/ml) in PB, BM, and CSF samples were 4.85 (4.30-5.09), 4.84 (4.15-5.09), and 3.21 (2.92-3.39), respectively. The two previously ART-treated participants harbored compartmentalized viruses in BM, present at 2.11% and 16.67% of the viral populations. CSF samples were not available for these participants. Viruses from all compartments were successfully sequenced in only one ART-naïve participant. In this participant, 6.45% of viruses in CSF were compartmentalized. Furthermore, 10.3% of viruses in CSF and 4.6% in BM were detected in the same clusters without PB viruses while only 3.2% of viruses in CSF and 2.89% in PB were found in the same clusters without BM viruses (p = 0.0238). One ART-naïve participant had 12.12% of viruses compartmentalized in BM while the other had no compartmentalized viruses. In all participants, the compartmentalized sequences were CCR5-tropic virus.

CONCLUSIONS: We found that viruses in CSF were more similar to those in BM than in PB in one participant and compartmentalized viruses were detected in BM of three participants. Our findings suggest a particular condition in CSF and BM that can favor certain HIV replication patterns in these two compartments.

HIV CONTROLLERS (INCLUDING POST-TREATMENT CONTROLLERS) AND LONG-TERM NON-PROGRESSORS

PEA0019

STRENGTHS AND TRIALS FOR TRANSLATIONAL RESEARCH-TO-POLICY DEVELOPMENTS IN UGANDA

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BACKGROUND: Research and proof have an influence on policy and practice, leading to helpful results. Nevertheless, translational research is a multifarious, vigorous and non-linear procedure. Even though Makerere universities has participated in producing research evidence, it's planned methodologies to impact health policies and decision making is still fragile.

This study aimed at understanding the procedure of translational research into Policy so as to guide the planned course of Makerere University College of Health Sciences (MakCHS) and related bodies in their mission to impact health results countrywide and internationally.

METHODS: The study engaged stakeholders in HIV prevention projects that is: prevention of mother-to-child transmission (PMTCT) and safe male circumcision (SMC). The study sought to ascertain entry points, strengths and trials for research-to-policy developments by interviewing researcher, policy makers and medical practitioners.

RESULTS: A total of 30 participants was used of which 10 were researchers, 10 policy makers and 10 medical practitioners. Midst the elements that aided PMTCT policy uptake and continued application were: public platforms for knowledge and decision making among stakeholders, operation guides to assess probability of involvement, the developing agencies to commence operations research and the extraordinary prominence of policy benefits to child existence.

Among the elements that aided SMC were: the government's initiative to make SMC free of charge, the public awareness of SMC through the media and the positive consequences of SMC such as cleanness. The policy makers recommended additional research to measure implementation feasibility of SMC within ordinary health system framework.

CONCLUSIONS: This study displays effective translation of PMTCT and SMC research results claimed for a "360 degree" tactic to accumulating additional evidence to inform the enactment viability for these two HIV prevention involvements. MakCHS and related bodies should prioritize operation research to direct the policy procedures about the viability of applying new and effective innovations (e.g. PMTCT or SMC) at a large scale in situations that may be altered from the research atmospheres.

PEA0020

CHARACTERIZATION OF GAG MUTATIONS IN HIV-1 SUBTYPE A LONG-TERM NON-PROGRESSORS

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BACKGROUND: Factors associated with control of HIV in the absence of therapy are not completely understood. Protective HLA alleles and robust CD8 T cell responses contribute to immune-mediated mechanisms of control; however, HIV adaptation to immune pressure, which is evident in the accumulation of viral "escape mutations" in targeted epitopes, can result in loss of control. Some escape mutations reduce viral fitness, indicating that functional constraints may play an important role in determining the extent to which HIV can adapt to host immunity.

A better understanding of subtype-specific viral adaptation mechanisms may inform future efforts in HIV vaccine development and cure research.

METHODS: We examined plasma specimens from 20 treatment-naïve long-term non-progressors infected with HIV subtype A who maintained normal CD4 cell counts for over 25 years. The gag coding region was amplified using nested RT-PCR and sequenced using Sanger methods. Viral subtype was confirmed using phylogenetic methods. Mutations in the gag sequence consistent with escape from HLA-mediated immune pressure were identified by comparing aligned sequences to consensus reference strains in regions encoding Gag epitopes, based on the LANL HIV Immunology database.

RESULTS: We observed the following mutations in well-characterized Gag epitopes: B*57/58-KF11 [n=7 (35%) A163G]; B*57/58-TW10 [n=3 (15%) T242N, n=2 (10%) P243T, n=1 (5%) P243V]; B*44-AW11 [n=11 (55%) S310T]; B*57/58-QW9 [n=8 (40%) E312D]; B*57/58-IW9 [n=1 (5%) L147M, n=2 (10%) L147V]. Prior studies demonstrated that many of these mutations reduce in vitro HIV replication capacity, suggesting that viral attenuation is common in this cohort.

CONCLUSIONS: Reduced viral fitness associated with Gag sequence variation may contribute to long-term non-progression in this cohort of HIV subtype A-infected individuals. Future work will confirm this hypothesis by measuring the replication capacity of selected Gag clones.

INNATE IMMUNITY

PEA0021

ESCAPE OF HIV-1 ENVELOPE GLYCOPROTEIN FROM RESTRICTION OF INFECTION BY IFITM3

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BACKGROUND: Interferon-induced transmembrane protein 3 (IFITM3) is a cellular factor reducing HIV-1 infectivity by an incompletely understood mechanism. In addition to blocking the viral entry into the target cell, IFITM3 may incorporate into virions during viral assembly and thus reduce the infectivity of nascent virions. The aim of our study was to elucidate the role of the HIV-1 envelope glycoprotein (Env) in determining the viral susceptibility to IFITM3.

METHODS: We produced Env-pseudotyped viruses derived from primary and laboratory strains and determined their susceptibility to the inhibition of viral infectivity by IFITM3. To explore whether IFITM3 interact with Env in virions producing cells, co-immunoprecipitation and immunofluorescence experiments were performed. To examine if IFITM3 may induce some Env conformational changes, Env-pseudotyped viruses were tested for their sensitivity to a panel of monoclonal neutralizing antibodies (NAbs).

RESULTS: Infectivity of Env-pseudotyped viruses was decreased by IFITM3 to various levels with a decrease of more than 60% for sensitive viruses but no decrease for resistant viruses. Co-immunoprecipitation experiments showed that IFITM3 interacts with both precursor (gp160) and cleaved (gp120) forms of IFITM3-sensitive Env but only with the precursor (gp160) form of IFITM3-resistant Env. This suggested that the interaction between resistant Env and IFITM3 was inhibited once Env had matured in the Golgi apparatus. This hypothesis was supported by immunofluorescence experiments, which showed that, on the plasma membrane of virus-producing cells, IFITM3 co-localize strongly with sensitive Env but very weakly with resistant Env.

By measuring the sensitivity to NAbs of Env-pseudotyped viruses, we observed that IFITM3 increased the sensitivity of IFITM3-sensitive Env to PG16, which targets the V1V2 loop. This suggested that IFITM3 favored the exposure of the PG16 epitope of sensitive Env. Exchanges of the V1V2 loops between sensitive and resistant Env confirmed that V1V2 in combination with V3 modulate the susceptibility of viruses to IFITM3.

CONCLUSIONS: Together, our results showed that IFITM3 interacts with Env, resulting in conformational changes that may decrease the infectivity of viruses. This antiviral action is nevertheless modulated by the nature of the Env, in particular its V1V2 region, which after maturation may be able to escape this interaction.

PEA0022

WHAT'S SEX GOT TO DO WITH IT? UNDERSTANDING THE POTENTIAL FOR CONFOUNDING AND EXPOSURE MISCLASSIFICATION DUE TO VAGINAL SEX IN STUDIES OF BIOLOGICAL MECHANISMS ASSOCIATED WITH HIV ACQUISITION

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BACKGROUND: Vaginal immune marker concentrations are associated with risk of HIV acquisition in women. However, vaginal specimens may contain both female and male partner biological material following recent sex. Recent vaginal sex may confound immune marker measurement by:

1) attribution of male biomarkers to the female partner (exposure measurement error), and/or,

2) transient modification of female biomarkers due to sex.

METHODS: We enrolled female-male partners aged 18-40 who were HIV and STI negative. We measured pro-inflammatory cytokines, secretory leukocyte protease inhibitor (SLPI) and human beta-defensin (HBD)-2 in vaginal specimens collected immediately after (1-4 hours) sex and in the absence of sex (≥72 hours since last sex) and in male ejaculate samples.

RESULTS: Thirteen female-male partners were enrolled and completed follow-up. Median ages were 24 and 25 for females and males respectively. All vaginal specimens collected 1-4 hours post-sex had detectable prostate specific antigen (PSA) and 78% of specimens collected ≥72 hours post-sex did not have detectable PSA, suggesting high fidelity to protocol-required sample collection timing by participants. All semen specimens had detectable RANTES, IP-10, IL-8, SLPI and HBD-2. The concentration ranges observed in male samples overlapped with the observed female ranges for all markers except HBD-2. RANTES, IP-10 and SLPI concentrations were higher and IL-8 and HB-2 were lower, in female specimens taken immediately after sex vs. those taken in the absence of sex.

CONCLUSIONS: This study suggests that concentrations of vaginal immune markers associated with HIV acquisition vary by sex recency and confirms their presence in male seminal fluid. Therefore, the analysis of female vaginal samples may be biased by contamination of male biomarkers following recent sex. In addition, the observed differences in vaginal biomarkers from samples taken immediately after vs. in the absence of sex suggests sex-induced transient modification of these biomarkers. If true, identification of women with sustained vaginal inflammation may be confounded by frequency of vaginal sex, both of which are associated with HIV risk. While these pilot study results should be confirmed, the results suggest that use of vaginal immune markers in studies of HIV acquisition should identify methods to measure and adjust for sex recency.

PEA0023

RECOMBINANT HUMAN (RH)ERAPS ANTI-HIV EFFECT RELIES ON ACTIVATION OF INNATE IMMUNITY

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BACKGROUND: Recombinant human (rh)-ERAP2 (E2)-treated peripheral blood mononuclear cells (PBMCs) are less susceptible to in vitro HIV-1 infection. This antiviral mechanism is partially preserved even when CD8+ T cells are depleted, suggesting that other immunocompetent cells are positively sensitized by E2 treatment. Based on these observations we investigated whether E2 can trigger monocytes and monocyte derived macrophages (MDMs), boosting their antiviral potential. As ERAP1 and ERAP2 share similar functions and a high sequence homology, which allows them to work even as heterodimers, functional analyses were performed on rhERAP1 (E1) and E1+E2 treated cells as well.

METHODS: MDMs differentiated from PBMCs of 15 healthy donors were in vitro HIV-1 infected in presence/absence of 100ng/ml E1, E2 and E1+E2. Six-days post infection mRNA expression and protein production of proinflammatory cytokines were assessed by Real-Time PCR and ELISA, respectively, while viral replication was quantified by p24 viral antigen measurement. We next investigated the molecular mechanism induced by E1, E2 and E1+E2 treatment by analysing:
1) inflammasome activation (FlowSight AMNIS) in monocytes and human THP1 macrophages (hTm);
2) monocyte and Natural Killer (NK) activation (flow cytometry); and
3) phagocytosis in THP and monocytes.

RESULTS: E2 treatment resulted into a 7-fold reduction of HIV-1 replication in MDMs ($p<0,05$). This antiviral activity was associated with an increased mRNA expression of CD80, IL-1b, IL-18, TNF-α, ($p<0.01$ for cytokine) during in vitro ERAPs-treated HIV-1-infected MDMs. This was mirrored by IL-1b, TNF-α,IL-6, IL-8 protein release ($p<0.01$ for each cytokine). Notably, ERAPs addition also induced the functional assembly of inflammasome components (ASC and NLRP3) in monocytes ($p<0,01$) and hTm ($p<0,01$) as well as a rise in the percentage of activated classical monocytes (CD14+CD16-HLADRII+CCR7+CD80+) ($p<0,02$) and NK cells (CD3-CD16+CD56+CD107+) ($p<0,02$). Finally, THP and human monocytes showed an increased phagocytosis following all ERAP treatments.

CONCLUSIONS: ERAPs are able to trigger several antiviral mechanisms in monocyte-macrophagic and NK cells hence their anti-HIV potential is not exclusively dependent on their canonical role in antigen presentation and CD8+ T cell activation. Further investigations on ERAPs' role in both innate and adaptive immunostimulatory pathways and suggests their potential use in novel preventive and therapeutic approaches against HIV-1 infection.

HUMORAL IMMUNITY (INCLUDING BROADLY NEUTRALIZING ANTIBODIES)

PEA0024

AGING B-CELLS (ABC) AND ANTI-ENV HUMORAL RESPONSES ARE ASSOCIATED WITH T-BET EXPRESSION IN B-CELLS OF PERINATALLY HIV INFECTED CHILDREN (PHIV) TREATED WITHIN 24 MONTHS OF LIFE (THE CARMA COHORT)

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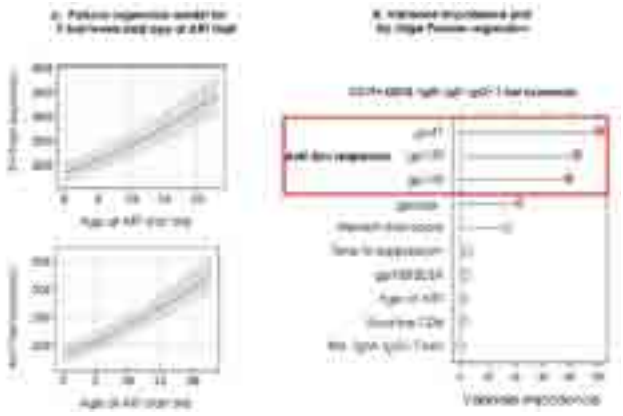
BACKGROUND: The role of T-bet, an immune factor involved in adaptative and innate response, has been poorly explored in B-cells. Previous studies concentrated on HIV+ and HIV- adults and T-bet was found to be associated with ABC. This work characterizes T-bet expression in B-cell (CD19+CD10-) subsets associated with aging (activated memory AM CD21-CD27+, Tissue Like Memory TLM CD21-CD27- and Double Negative DN CD27-IgD-) and with immunological memory (Resting Memory, RM CD27+CD21+IgD-)in PHIV.

METHODS: We studied 40 PHIV starting ART at median 4 months(m) of age (min 0m, max 22m) and ART-suppressed for >5 years (median 14 years (y) (min 5y, max 22y). Flow Cytometry was used to define B-cell phenotype and intracellular T-bet (MFI) in PHIV and in 20 age and gender-matched controls (HC). Anti-HIV serology was measured using Western blot and ELISA. Comparisons were analysed using Mann-Whitney test (MW). Associations were explored using Spearman test (rho, p) and multivariable ridge Poisson Regression model including baseline CD4, gender, and age at ART as confounders.

RESULTS: DN were expanded in PHIV compared with HC ($p=0.01$ MW). T-bet levels were elevated in AM, TLM and marginally DN compared to the others. The models demonstrated a strong association between T-bet levels and time of ART start: for each month without ART T-bet increased by 3% and 2% in DN and AM, respectively (Fig.1a). Anti-Env responses were positively associated and were identified as predictors of T-bet levels in IgG+ B-cells (rho=0.35, $p=0.03$, Fig. 1b), IgM+ B-cells (rho=0.39, $p=0.01$), RM IgM+ (rho=0.33, $p=0.042$).



[Figure 1]

CONCLUSIONS: ABC are expanded in PHIV compared with HC, despite suppressive ART. Earlier ART-start preserves from premature aging of B-cell compartment. Furthermore, elevated levels of T-bet in memory B-cells was associated with anti-Env responses. Our findings add onto the previous literature by suggesting a role of T-bet in the anti-HIV B-cell response that warrant further investigation.

CELLULAR IMMUNITY

PEA0025

LOWER IMMUNE ACTIVATION & EXHAUSTION IN PEOPLE LIVING WITH HIV INFECTED PERINATALLY THAN IN ADULT AGE

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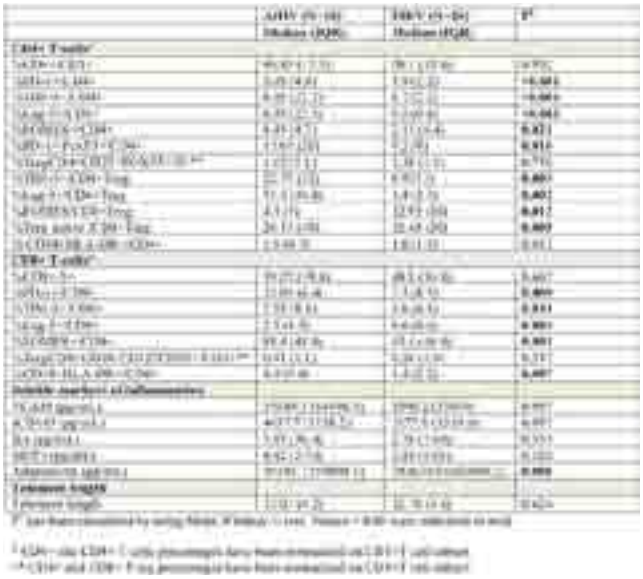
BACKGROUND: The aim of this study was to compare the level of activation, exhaustion and ageing of immune system in perinatally HIV-infected young adults (PHIV) and patients with similar age, but becoming infected in adulthood (AHIV).

METHODS: Cross-sectional study including HIV-infected patients aged 18-40 years and on ART since at least 12 months. Patients with HIV-RNA>50 copies/mL or active AIDS-defining diseases were excluded. We compared the expression of immune exhaustion and activation markers on CD4+ and CD8+T cells, soluble markers of inflammation (VCAM1, sCD163, IL-6, adiponectin) and telomere length in PHIV and AHIV patients. Values were expressed as medians (IQR) and compared by Mann Whitney U test.

RESULTS: We analysed 26 PHIV and 18 AHIV with median age of 26 (8.0) and 28 (6.8) years (p0.080) and history of 20 (9.0) and 2.5 (2.8) years of ART. Percentages of CD4+ and CD8+T lymphocytes on CD3+T subset were similar in PHIV and AHIV, but PHIV showed significant higher percentages of Naïve and lower percentages of Terminal Effector Memory CD4+ and CD8+ cells. AHIV patients consistently exhibited higher expression of exhaustion markers on both CD4+ and CD8+T lymphocytes, as PD-1, TIM-3, Lag-3 and EOMES compared to PHIV (Table).

The percentage of activated CD8+CD38+HLA-DR+T cells resulted higher in AHIV than PHIV. To concern T regulatory arm, the percentages of CD4+CD25+FOXP3+ and CD8+CD28-CD127-CD39+T regulatory cells were similar in the two groups, but the analysis of developmental stages showed a higher percentage of activated CD4+Tregs (CD45RA-FOXP3high) in AHIV (Table).

Among soluble markers of inflammation, only adiponectin showed different concentrations in PHIV than AHIV, while telomere length was similar in the two groups (Table).



[Table. Expression of immune exhaustion and activation markers on regulatory and total CD4+ and CD8+T cells and concentration of soluble markers of inflammation and telomerase length in patients perinatally infected with HIV (PHIV) and in patients infected in adulthood (AHIV).]

CONCLUSIONS: A greater immune-activation was seen in AHIV than PHIV, suggesting that lack of control in recent times, rather than the cumulative time of infection, affects immune-activation and exhaustion of CD4+ and CD8+ T cells.

PEA0026

IMPACT OF EARLY ANTIRETROVIRAL THERAPY ON B AND CD4 T CELL DYNAMICS IN LYMPHOID TISSUES OF SIV INFECTED RHESUS MACAQUES

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BACKGROUND: In SIV-infected rhesus macaques (RMs), previous studies showed an early loss of splenic and mesenteric CD4 T cells. To date, under antiretroviral therapy (ART), HIV-infected patients exhibit low viral load along with restoration of CD4 T cells counts. However, we had recently showed that despite early ART, SIV can persist in the spleen and mesenteric lymph nodes, resulting in viral rebound when treatments are interrupted. Therefore, viral persistence in these tissues may impact on T and B cells in inducing their exhaustion. Thus, we assessed in SIV-infected RMs, treated with early ART, the dynamics and differentiation of B and CD4 T cells.

METHODS: Rhesus macaques (RMs) were infected with SIVmac251 (20 AID50) and treated at day 4 with a cocktail of antiretroviral drugs including Tenofovir (TFV, 20mg/kg, GILEAD) and Emtricitabine (FTC, 40mg/kg, GILEAD) administrated subcutaneously and Raltegravir (RGV, 20mg/kg, MERCK) or Dolutegravir (DTG, 5mg/kg, ViiV) combined with Ritonavir (RTV, 20mg/kg; Abbvie) administrated by oral route. RMs were sacrificed either under ART or after ART interruption (ATi).

In addition to peripheral blood, we recovered the spleen, mesenteric lymph nodes (MLN) and peripheral lymph nodes (PLN) immediately after euthanasia. Cells were isolated and stained with specific monoclonal antibodies and further analyzed by flow cytometry. We also evaluated viral load in ART and ATi RMs.

RESULTS: We provided evidences that early ART restore efficiently CD4 T cells in MLN, PLN, spleen and blood. However, in reservoir tissues (MLN and spleen) in which SIV persists, Tfh cells as well CD4 effector memory cells (TEM) are partially restored compared to the blood and PLN. We also observed that B cells expressed higher levels of CD95 and PD1 under ART compared to healthy RMs. By analyzing specific SIV antibodies in the sera of RMs, we noticed that all RMs under ART displayed SIV-specific IgG antibodies although at lower levels compared to untreated SIV-infected RMs.
CONCLUSIONS: These results indicated that early ART does not fully restore immune system as "naïve" individual suggesting that persistent viral reservoir impairs B and T cell dynamics. Therefore, strategy aims to eliminate viral reservoirs should be essential for adaptive immune responses.

PEA0027

DIFFERENCES BETWEEN HYPERIMMUNE CD4+ T-CELL RECOVERY IN CHRONIC HIV PATIENTS VS ACUTE HIV PATIENTS FAVORS EARLY TREATMENT

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BACKGROUND: CD4+ T-cell recovery after antiretroviral therapy (ART) initiation is variable and difficult to predict. ART administered during acute HIV-infection (AHI) is associated with improved CD4+ T-cell recovery and normalization of the CD4/CD8 ratio. Here we describe different patterns of CD4+ T-cell recovery and their associated T-cell subsets phenotype, according to time from infection to ART initiation.
METHODS: We analyzed two cohorts: The first one was composed of patients with AHI treated within the first 24 hours of HIV diagnosis. The second one was a retrospective cohort of patients with chronic HIV infection (CHI) on their first ART regimen that were identified as Hyperimmune recuperators (Hypers). Hypers were defined as patients with CHI that achieved CD4+ counts >1000 cells/ml before 48 months since ART initiation. We performed Flow-cytometry analysis in fresh whole blood. We defined Naïve-(Nv), central memory (CM), effector memory (EM) and terminally differentiated T-cells (TMRA) with CD3, CD4, CD8, CD45RA, CCR7, CD38, CD31 and HLA-DR markers. We used CD28 and CD57 to identify immunosenescent cells and Fox-P3, CD 25, CD127 and CD45RA to identify Regulatory T-cells and their subsets.
RESULTS: We included 32 patients with AHI and 26 Hypers. After one year of follow-up, AHI patients' median CD4+ T-cell counts increased from 407.28 to 595.5 cells/mm3 (p=0.005), median CD4/CD8 ratio increased from 0.376 to 0.898 (p<0.001). When comparing both patterns of T-cell recovery, AHI patient's CD4+ T cell and CD4/CD8 ratio recoveries closely resembled the pattern shown by the Hypers (p>0.999). AHI patients had more CD8+ EM cells (33.3 vs 27.6, p=0.025), lower total activation (CD4: 0.56 vs 1.16, p<0.001; CD8: 1.42 vs 5.73, p=0.001) and lower CD4+ immunosenesce (1.41 vs 39, p<0.001) with higher CD8 immunosenesce (32.4 vs 22.5, p=0.034), when compared to Hypers.
CONCLUSIONS: ART initiated during acute HIV infection had a marked impact on T CD4+ and CD4/CD8 ratio recovery. Even if the pattern of recovery was similar to Hyper-patients, these had higher immune activation and lower immune senescence, highlighting the importance of early treatment. This suggests the possibility that the superior CD4+ recovery seen in both populations stems from common well-preserved homeostatic mechanisms, and warrants further investigation.

PEA0028

INCREASED FREQUENCY OF NAÏVE T CELL IS A DISTINCTIVE CHARACTERISTIC OF YOUNG ADULTS WITH PERINATAL HIV INFECTION

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BACKGROUND: Children infected via perinatal transmission at the beginning of the HIV epidemic are now reaching adulthood and data on this population is scarce. HIV infection during the development of the immune system could be associated with irreversible immune damage, once adulthood is reached. Here, we aimed to evaluate the quality of the cellular immune response in perinatally-infected young adults.
METHODS: Three groups were enrolled in 2019 in an Argentinean public hospital: 1-study group (SG): 15 perinatally-HIV-infected young adults (20-30 years); 2-Age control group (CA): 12 young adults with HIV acquisition after 16 years (paired by age to SG); 3-Time-of-infection control group (CT): 14 adults (>40 years) paired to SG, by infection time. Blood samples were obtained at enrollment. Phenotype, immune-activation and senescence markers on NK and T-cells were assayed by flow cytometry. Data was analyzed using non-parametric statistics.
RESULTS:

Characteristic	Young adults non-perinatally infected (CA)	Adults non-perinatally infected (CT)	Perinatally infected young adults (SG)	p-value (CA vs SG)	p-value (CT vs SG)
Female (n, %)	2, 18.2	7, 50	11, 73.3	0.0064	0.2035
Nadir LTCD4+ count -cells/mm3- (median, IQR)	313, 239-562.3	132, 72-407	412, 40-930	0.8558	0.2299
Current LTCD4+ count -cells/mm3- (median, IQR)	672, 608-903	653, 584-912	774, 609-1249	0.6614	0.4082
Current CD4/CD8 (median, IQR)	0.74, 0.58-1.06	0.94, 0.7-1.42	0.8, 0.58-1.26	0.6403	0.4321
ART duration (time since first ART initiation) -months- (median, IQR)	44.3, 33.9-62.9	219.5, 178.72-253.54	208.8, 60.8-262.7	0.0001	0.0160
Time between HIV diagnosis and first undetectable VL -months- (median, IQR)	14.73, 5.62-38.2	104.15, 74.66-190.72	165.73, 144.1-215.57	0.0001	0.0447
Time undetectable -months- (median, IQR)	31.69, 27.02-47.21	170.12, 115.46-230.10	106.45, 65.82-164.55	0.0007	0.0291
Age at time of study enrollment -years- (median, IQR)	28.04, 26.39-30.07	50.91, 47.59-57.6	24.77, 21.92-28.44	0.0734	0.0000

[Table.]

The main characteristics of participants are described in Table-1. Despite similar LTCD4+ count and CD4/CD8 ratio, SG had higher frequency of naive LTCD4+ (44.4%, IQR:33.6-55.8) than CT (13.9%, IQR:3.4-25, p=0.0003) and CA (25.3%, IQR:9.3-37, p=0.01). Regarding naïve LTCD8, the higher frequency was observed in SG (29.3%,

IQR:19.5-46.1) but it was only statistically different to CT (5.9%, IQR:1.9-9.9, p=0.001). LTCD4+, LTCD8+ and NK PD1 expression was lower in SG, being significantly different between LTCD4+PD1+ of SG and CT (27.7%, IQR:20.2-39.1 vs 43.4, IQR:30.4-59.4, p=0.016).

CONCLUSIONS: Young adults,HIV perinatally-infected at the beginning of the epidemic in Argentina, had a history of more difficulties to achieve viral control. Nevertheless, and despite being undetectable for only a median of 8 years, these individuals exhibited a lower frequency of exhausted T-cells and NK-cells, and higher rates of naïve T-cells. These findings could reflect an adaptive response during the development of the immune system in the context of an immunosuppressive virus. Further analyses regarding immune functionality and reservoir composition in this special population are needed.

MUCOSAL IMMUNITY

PEA0029

RESIDENT MEMORY CD8+ T CELLS CONTROL THE HIV RESERVOIR IN CERVIX

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BACKGROUND: In tissues, resident memory CD8+T cells (TRM) are most likely necessary to eliminate remaining cellular HIV-1 reservoirs. However, TRM signature includes expression of molecules associated to exhausted phenotypes during chronic viral infections. Here we addressed the functional capacity of CD8+TRM from the cervical mucosa of HIV-infected women on ART to determine the most effective phenotypes at limiting viral persistence.

METHODS: CD8+T cells from cervical tissues were phenotyped based on CD69 expression to determine TRM signature (n=6-9). Frequency and phenotype of CD8+TRM subsets were compared between healthy (n=9) and ART-suppressed HIV+ women (n=18). In a subset of these patients, we determined total vDNA in blood and cervix (n=7). Gag-specific responses and functional assays were assessed to determine suppression of viral reactivation by CD8+TRM in ART-suppressed HIV+ women.

RESULTS: Cervical CD69+CD8+T cells protein profile was compatible with >90% belonging to bona fide CD8+TRM, as determined by CCR7, S1PR1, T-bet, Eomes, Hobit, α1 and PD-1 expression. Cervical samples from ART-suppressed patients were enriched in total CD8+T cells compared to uninfected women, including higher frequencies of non-TRMs ($p<0.01$) and TRM ($p<0.05$), and higher expression of HLA-DR ($p<0.01$). Importantly, the frequency of cervical CD8+TRM correlated with proviral HIV-1 DNA in cervix ($r=-0.82$) and blood ($r=-0.62$). Moreover, tissue CD8+TRM were more efficient at eliminating reactivated HIV-1-infected CD4+T cells than circulating effector CD8+T cells.

CONCLUSIONS: The CD8+T cell compartment from the cervical mucosa of HIV+ women remain disturbed even after several years of effective ART-suppression. The association between higher proportion of CD8+TRM in cervix and less proviral HIV-1 DNA, together with data showing higher control of virally-reactivated infected cells by CD8+TRM, indicates that these cells may be critical to control persisting virus in tissues.

PEA0030

LONGITUDINAL GENITAL CYTOKINE SIGNATURES OF SUB-SAHARAN AFRICAN WOMEN ASSIGNED TO DMPA VERSUS NET-EN

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BACKGROUND: Hormonal contraception may influence acquisition of sexually transmitted infections (STIs) including HIV, as may inflammatory cytokines in the lower female genital tract. While the ECHO trial found that intramuscular depo-medroxyprogesterone acetate (DMPA-IM) did not significantly increase HIV risk compared to the levonorgestrel implant nor the copper intrauterine device, the trial was unable to include injectable norethisterone enanthate (NET-EN).

METHODS: We therefore compared the cytokine responses to NET-EN versus DMPA-IM in cervicovaginal secretions collected from menstrual cups of 47 women assigned to DMPA-IM as part of the ECHO trial in three sites: Cape Town and Johannesburg, South Africa and Kisumu, Kenya, and from 43 women assigned to NET-EN as part of the UChoose study in Cape Town, South Africa. Samples were collected at baseline (pre-initiation), and post-initiation after two injections of either NET-EN (given every 2 months) or DMPA-IM (given every 3 months). Concentrations of 27 cytokines were measured by Luminex and analysed in R using descriptive statistics, logistic regressions and non-parametric tests to evaluate differences between groups.

RESULTS: At baseline, genital cytokine levels, STI prevalence, and Nugent scores were similar between women initiating DMPA-IM and those initiating NET-EN. There was no significant increase in genital inflammation, including cytokines related to HIV-risk, in either group post-contraceptive initiation compared to baseline, nor did any cytokine changes differ between women using DMPA-IM or NET-EN. DMPA-IM decreased 20 cytokines up to 1.8-fold, while NET-EN decreased 21 cytokines up to 2.2-fold. However, this fold-decrease was more pronounced for DMPA-IM than NET-EN for 18 cytokines. NET-EN decreased RANTES (1.2-fold), IL-9 (1.1-fold) and IL-10 (1.4-fold), while DMPA-IM did not. Possible confounders including age, marital status, number of partners, number of sexual acts per week, and condom use did not influence the associations between contraceptive type and cytokine concentrations.

CONCLUSIONS: Initiation of DMPA and NET-EN did not increase genital inflammation in sub-Saharan African women, suggesting that their administration is safe in African women at risk for HIV and STIs. A subset of the evaluated cytokines responded differently to NET-EN versus DMPA-IM initiation. As different cytokines have varying biological effects, further investigations are needed to evaluate the clinical relevance of our findings.

PEA0031

PECULIAR PHENOTYPIC AND FUNCTIONAL FEATURES OF PULMONARY MUCOSAL CD8 T-CELLS IN PEOPLE LIVING WITH HIV RECEIVING LONG-TERM ANTIRETROVIRAL THERAPY

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BACKGROUND: We recently demonstrated HIV reservoir persistence in the lung mucosa of people living with HIV (PLWH) receiving long-term viral-suppressive antiretroviral therapy (ART). Cytotoxic CD8 T-cells play a pivotal role in controlling chronic viral infections, with CD8 exhaustion/senescence contributing to HIV persistence. Here, we explored the unique phenotypic and functional features of pulmonary versus blood CD8 T-cells in ART-treated PLWH and uninfected controls.

METHODS: Bronchoalveolar lavage (BAL) fluid and matched blood were obtained from participants including ART-treated PLWH smokers (n=10) and non-smokers (n=15) and uninfected smokers (n=12) and non-smokers (n=5) without any active respiratory symptoms. CD8 T-cell immunophenotyping was performed by flow cytometry. *In vitro* CD3/CD28-induced CD8 T-cell degranulation ability (CD107a expression) and functional cytotoxicity to kill autologous Gag-labeled CD4 T-cells (Annexin-V+) were also performed. Transcriptional mRNA profiling was assessed by HiSeq sequencing on FACS-sorted pulmonary CD8 *versus* peripheral memory CD8 T-cells.

RESULTS: In all HIV-infected/uninfected groups, pulmonary CD8 T-cells compared to blood were enriched in cells with an effector memory phenotype to the detriment of naive and terminally differentiated memory T-cell subsets, as well as higher levels of immune pulmonary CD8 T-cell activation (HLA-DR$^+$) and exhaustion (PD1$^+$). Significant reduction in senescent pulmonary CD28$^-$CD57$^+$ CD8 T-cells only in smoking PLWH was observed. Importantly, in all groups pulmonary *versus* blood CD8 T-cells showed reduced Perforin expression *ex vivo*, with Granzyme-B expression being reduced only in non-smoking PLWH. Also, the HIV-specific CD73$^+$ CD8 T-cell subset was significantly reduced in BAL compared to blood. Upon *in vitro* functional assays, pulmonary *versus* blood CD8 T-cells showed a significantly lower capacity to kill autologous Gag-labeled CD4 T-cells, and a lower degranulation capacity (CD107a$^+$) following CD3/CD28 triggering. Finally, genome-wide transcriptional profiling demonstrated overexpression of several metabolic and pro-inflammatory pathways in lung versus blood memory CD8 T-cells.

CONCLUSIONS: Pulmonary mucosal CD8 T-cells differ from blood circulating CD8 T-cells by having a highly differentiated, activated, and exhausted phenotype, along with decreased killing capacity and peculiar metabolic/pro-inflammatory transcriptomic profiles. Such unique features of pulmonary CD8 T-cells may contribute to the establishment and maintenance of HIV reservoirs in the lungs of ART-treated PLWH.

PEA0032

THE IMPACT OF SEMEN EXPOSURE ON CYTOKINE RESPONSE AND BACTERIAL VAGINOSIS IN THE FEMALE GENITAL TRACT

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BACKGROUND: Diverse microbial communities and inflammatory cytokine responses in the lower female genital tract (FGT) are closely associated with increased human immunodeficiency virus (HIV-1) risk, possibly through increasing mucosal HIV target cell frequency and T-cell activation. The presence of semen in the vagina during unprotected sex has been associated with short-term activation of mucosal immunity. Here, we investigated the extent to which partner semen impacts on cytokine and microbial profiles measured in 248 HIV-uninfected women at high risk for HIV infection.

METHODS: We assessed the semen exposure in SoftCup supernatants by quantifying prostate specific antigen (PSA) levels using enzyme-linked immunosorbent assay (ELISA). Luminex was used to measure 48 cytokines in SoftCup supernatants and the vaginal swabs were used for diagnosis of bacterial vaginosis by Nugent score.

RESULTS: PSA, which denotes semen exposure within 48 hours prior to sampling, was detected in 19% (43/248) of SoftCup supernatants. Of the 43 PSA positive women, 70% (30/43) had self-reported condom use at their last sex act and 84% (36/43) had non-Lactobacillus dominant microbiota (Nugent score >7). In addition, PSA was significantly associated with prevalent bacterial vaginosis (Relative Risk (RR), 2.609; 95% Confidence Interval (CI), 1.104 - 6.165; p = 0.029), after adjusting for potential confounders such as age, STIs, current contraceptive use and condom use.

Furthermore, women with detectable PSA had high median concentrations of Macrophage inflammatory protein- beta (MIP-1β) (p=0.047) compared to those without PSA.

CONCLUSIONS: These findings suggest that the presence of semen has a potential to alter the inflammatory response and microbial communities of the FGT, which may facilitate recruitment of HIV susceptible cells, resulting in increased susceptibility to HIV-1 infection.

HIV TRANSMISSION AND DISSEMINATION

PEA0033

MOTHER TO CHILD TRANSMISSION RATES AND CARE FOR HIV-EXPOSED INFANTS IN UGANDA

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BACKGROUND: Women of reproductive age (15–49 years) in Uganda have high HIV prevalence (5.7%), and the model-based estimate of early mother to child transmission of HIV (MTCT) rate is 3.9%. We evaluated the effectiveness of the Uganda national prevention of MTCT (PMTCT) program on early MTCT.

METHODS: Our baseline cross-sectional study included a nationally representative sample of 12,627 mother-infant pairs from 152 public and private health facilities. Eligible infants were aged 4–12 weeks, recruited from September 2017 to March 2018. Sociodemographic, behavioral, and health-related data were obtained from interviews with mothers and medical records. We performed virologic polymerase chain reaction tests on infant blood samples to determine early MTCT rates and rapid HIV tests for mothers who did not have documented HIV-positive status. Using STATA 15, multivariate logistic regression was used to determine factors independently associated with MTCT and their corresponding 95% CI.

RESULTS: Median age of mothers was 24 years (interquartile range [IQR], 20–28 years, 10.2% (1290/12,627) were HIV positive, and just over three-quarters (77.7%) reported adherence to antiretroviral therapy. The infant median (IQR) age was 56 days at enrollment, with DPT1 immunization coverage of (91.2%); higher in HIV non-exposed (91.4%) than in HEIs (89.7%; p=0.05). Exclusive breastfeeding was higher among HEIs (89.2%) than HIV non-exposed infants (86.4%; p<0.05).

Receipt of Nevirapine prophylaxis after delivery was 85.3%, but 10.1% of mothers reported skipping Nevirapine for infants, Cotrimoxazole prophylaxis was reported for only 31.9% of infants aged 0–6 weeks. Early MTCT occurred in 28/1216, 2.3%; CI (1.53, 3.33), significantly lower if mother was virally suppressed adj.OR 0.20; 95% CI (0.07 – 0.57).

CONCLUSIONS: Early MTCT in this study was slightly lower than the modelled estimate, but both indicate continuing high levels of transmission. This makes a compelling case for intensive efforts to increase PMTCT programme effectiveness such as addressing the suboptimal infant ART prophylaxis, maternal ART enrolment, adherence and retention, and increasing antenatal care attendance.

PEA0034

AMINO-ACID DELETION IN GAG P6 DOMAIN ALTERS GALECTIN-3 PROMOTING EFFECTS ON VIRUS INFECTION OF HIV-1 CRF07_BC FROM INJECTING DRUG USERS

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BACKGROUND: HIV-1 CRF07_BC, a recombination strain, is prevalent in injecting drug users (IDUs) in Taiwan. A sequence alignment of clinical CRF07_BC isolates reveals natural deletions of Gag p6. We previously found that galectin-3 (Gal-3) promotes HIV-1 subtype B viral budding through an association with Alix and Gag p6. However, the role of Gal-3 in HIV-1 CRF07_BC infection is unknown.

METHODS: HIV-1 CRF07_BC infectious clones were constructed using full-length CRF07_BC genes from HIV-1 CRF07_BC-infected IDUs, which contains 7 and 11 a.a. deletions (-7d and -11d) plus a repaired form in the Gag p6 domain. Infectivity assay, replication kinetics, ELISA and immunoblotting were used to evaluate the regulating effects of Gal-3 on CRF07_BC infection, replication, and budding.

RESULTS: Data from co-transfections of pHIV-1 CRF07_BC-7d, -11d, and pGal3 vectors into 293T cells indicate that Gal-3 expression resulted in a slight increase in CRF07_BC viral budding and slower replication kinetics compared to the NL4-3. This phenomenon could be compensated when repairing a.a. deletions in the p6 domain. Immunofluorescent staining and super resolution analyses indicate approximately 20-30% colocalization of Alix and deleted Gag-p6. Gal-3 expression slightly enhanced this colocalization to 30-40%; a significant increase (60-70%) was noted when Alix was colocalized with repaired 07BC-Gag (p<0.01).

Membrane flotation data indicate that:

(a) Alix, Gag-7d or -11d, and flotillin-1 (a lipid raft marker) exhibited reduced co-fractionation toward cell membranes, and;

(b) Gal-3 expression slightly increased the co-fractionation of these proteins,

(c) while significantly increasing the co-fractionation of Alix and repaired Gag-p6 moving toward cell membranes.

Our Co-IP data indicate that IP Alix and Gag-7d or -11d pulled down smaller amounts of Gag-7d or -11d and Alix regardless of the presence of Gal-3 expression. We also detected higher concentrations of Gal-3 in sera collected from patients infected with HIV-1 subtype B compared to patients infected with CRF07_BC.

CONCLUSIONS: This study underscores the integrity of HIV-1 p6 domain and indicates the deletions in the Gag p6 ameliorating the effects of Gal-3 on HIV-1 CRF07_BC replication and budding.

PEA0035

PREVALENCE OF HIV-1 DRUG RESISTANCE MUTATIONS IN NEWLY DIAGNOSED INFANTS IN BOTSWANA

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BACKGROUND: Despite a successful prevention of mother-to-child-transmission (PMTCT) and improved antiretroviral regimens in Botswana, there is no data on HIV drug resistance mutations (DRM) prevalence among infants. We describe the prevalence of surveillance HIV DRMs among infants diagnosed with HIV in the Botswana routine early infant diagnosis program.

METHODS: Residual dried blood spots (DBS) from <18-month old HIV positive children who were diagnosed as part of the Botswana public sector HIV early infant diagnosis (EID) program between 2016 and 2018 were available for HIV DRM surveillance (n = 78). The protease and reverse transcriptase regions were amplified and sequenced using the ATCC HIV-1 Drug Resistance Genotyping kits and big dye chemistry. Surveillance drug-resistance mutations were assessed using the Calculated Population Resistance program (http://cpr.stanford.edu/cpr.cgi) from Stanford.

RESULTS: Of the 78 samples available, 32 (41%) were successfully amplified and sequenced and 1 was excluded due to APOBEC-induced mutations. The median age was 2 months (IQR: 2- 4). Three (9.7%) newly diagnosed infants had detectable SDRMs. Although PMTCT coverage is >95% in Botswana, PMTCT exposure data was not available for all infants. Among these infants, one (33%) had a non-nucleoside reverse transcriptase inhibitor (NNRTI) HIV SDRM (K103N) detected and two (67%) had a detectable protease inhibitor (PI) SDRMs (M46L and L23I).nm

CONCLUSIONS: We observe relatively high and regionally comparable rates of SDRMs among newly diagnosed infants with unknown PMTCT exposure in Botswana; which may suggest that most transmissions occurred in mother-baby pairs who did not access PMTCT services.

PEA0036

ENDOGENOUS GALECTIN-3 REGULATES CELL-TO-CELL TRANSMISSION OF HIV-1 CRF07 BC

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BACKGROUND: HIV propagation is mainly through cell-to-cell transmission via virological synapse (VS) and budding viruses in the early and late phases, respectively. The formation of VS is known for recruiting several viral and cellular factors engaged at membrane lipid raft. HIV1 CRF07_BC is prevalent among injected drug users(IDUs). CRF07_BC clinical isolates in Taiwan contained 7-13 amino acids naturally deletion in p6Gag domain. Galectin-3 (Gal3) was recently reported to promote HIV-1 NL4-3 budding. However, the effect of Gal3 in CRF07_BC is still unclear. This study aimed to investigate the role of endogenous Gal3 in CRF07_BC infection, mainly focused on HIV cell-cell transmission.
METHODS: The CRF07_BC infectious clones containing 7 and 11 amino acid deletions (7d&11d), and a non-deletion wild type (wt) in p6Gag were constructed. Jurkat cells expressing CCR5 and Gal3 were generated (Jurkat-R5/Jurkat-R5-Gal3). A cell-to-cell transmission assay was established using HIV-1 infected cell (donor cells) co-cultured with HIV-1 uninfected cells (target cells). Transmission efficacy and VS formation were analyzed by flow cytometry and confocal microscope.
RESULTS: Results from cell-to-cell transmission indicate that Gal3 expression in Jurkat significantly promoted CRF07_BC-wt transmission. We noted that this promotion effect regulated by Gal3 was not observed in CRF07_BC-7d and CRF07_BC-11d. Results from confocal microscope and flow cytometry indicate that more Env, Gag and CD4 engaged at cell-cell contact regions and higher amounts of VSs of CRF07_BC-wt-infected Jurkat-Gal3-R5 cells compared to CRF07_BC-wt-Jurkat-R5 cells were observed. The phenomena were not observed in CRF07_BC-7d and CRF07_BC-11d infected Jurkat-R5 or Jurkat-R5-Gal3 groups.
CONCLUSIONS: This study concluded that endogenous Gal3 expression promotes the intercellular transmission of CRF07_BC-wt instead of CRF07_BC-7d or CRF07_BC-11d.

PEA0037

BONE MARROW STROMAL ANTIGEN 2 (BST-2) MRNA EXPRESSION PROFILE MAY MODULATE ANTIBODY-DEPENDENT CELL-MEDIATED CYTOTOXICITY (ADCC) IN HIV-1 CHRONICALLY INFECTED PATIENTS

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BACKGROUND: Tetherin, bone marrow stromal antigen 2 (BST-2) is an interferon-induced protein that blocks the release of HIV-1 and other enveloped viral particles from the plasma membrane of infected cells. A previous study showed association of BST-2 polymorphisms with protection and disease progression in mother-to-child HIV-1 transmission. An ex vivo study showed that enhancing virion tethering by BST-2 sensitizes HIV-1 infected cells to antibody-dependent cell-mediated cytotoxicity (ADCC).However, the role of endogenous BST2 expression level on ADCC has not been determine. The aim of this study was to characterize the expression profile, frequency of single nucleotide polymorphisms of BST-2 in HIV-1 subtype C chronically infected individuals and associate this with disease outcome and ADCC.
METHODS: To this effect RNA was extracted from cryopreserved PBMCs obtained from 20 HIV-1 negative and 30 positive participants (RNeasy mini Kit (Quigen, Hilden, Germany), reverse transcribed (iScript Synthesis Lit (BIO rad, California, USA), Quantitative PCR was performed using SYBR Green chemistry and analyzed using LightCycler 480 (Roche). Subsequently, TaqMan Assay was used to determine the frequency of SNPs rs919267 and rs9576.
RESULTS: Interestingly, our data demonstrate that HIV-1 of uninfected participants have higher BST2 expression compared to HIV-1 positive participants (p< 0.0001). The SNP rs919267 AG allele was associated with low expression in both infected (p=0.017) and uninfected individuals (p=0.053) this SNP also showed a trend toward lower levels of viral load (p= 0.099). The SNPs rs9576 GT was nominally associated with the trend toward high BST2 expression.
CONCLUSIONS: Ongoing analysis include looking at the CD4 decline overtime from baseline and ADCC activity. Determining the influence of rs919267 and rs9576 on BST2 expression and disease outcome.

PEA0038

IMPACT OF HUMAN HIV- 1 SUBTYPE C (HIV-1C) TRANSMITTED/FOUNDER (T/F) VIRUSES LTR AND TAT CO-VARIATION ON DISEASE OUTCOME

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BACKGROUND: The persistent latent viral reservoir which is established early in infection is the greatest barrier to HIV-1 eradication. Latent reservoirs comprise cells infected with replication competent yet transcriptionally silent provirus. However, the mechanisms that govern viral latency at the transcriptional level are not known. Previous studies associated viral latency with cellular factors such as integration sites. While other studies investigated the role of viral factors such HIV-1 LTR and tat during chronic infection. HIV-1 LTR is the promoter that drives viral gene transcription while the tat encodes Transactivator of transcription protein (Tat) that enhances the transcription activity of the LTR. Despite that knowledge that viral latency is established early, the role of the transmitted/founder (T/F) viruses LTR and Tat on latency development has not been extensively investigated. Therefore we hypothesized that covariation of HIV-1 subytpe C (HIV-1C) T/F viruses LTR and Tat may impact disease outcome.
METHODS: To this effect, viral RNA was extracted from plasma samples obtained from 30 South Africans with acute HIV-1 infection, reverse transcribed (SuperScript IV Invitrogen), amplified using nested PCR for LTR and tat, separately (Platinum Taq DNA polymerase, Invitrogen) and sequenced (BigDye cycle sequencing kit v3.1, Invitrogen). Subsequently, HIV-1C LTR and tat sequences either wildtype or variants were co-transfected into Jurkat cells to assess the expression of the reporter gene luciferase, under the HIV-C LTR promoter.

RESULTS: Although wild type Tat increased the LTR activity for most of the LTR variants, the T/F virus LTR containing the TATA box mutation (TATAA à TAAAA) was not induced. Interestingly, our data demonstrate that autologous Tat induced transcription positively correlated with viral load at transmission (p=0.0086, r=0.71). Furthermore, the autologous Tat increased transcription activity of the TATA box mutant LTR, albeit at significantly low levels compared to other LTR variants. On the other hand, P21A Tat variant in combination with other mutants are associated with significantly lower viral loads when was assessed on TZMbl cells.

CONCLUSIONS: Taken together our data suggest that HIV-1C T/F viruses LTR and Tat genetic variation may impact disease outcome. The ongoing experiments includes assessing the effect of these mutants on latent reservoir development and reversal.

SYSTEMIC IMMUNE ACTIVATION AND INFLAMMATION

PEA0039

HIV-1 INDUCED TELOMERE ATTRITION AND ITS EFFECTS IN PI3K/ATM DYNAMICS

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BACKGROUND: Lower CD4 T cell count characterizes the canonical HIV/AIDS conciliated immune deficiency. CD4 T cell depletion is a hallmark of HIV/AIDS however; the underlying mechanism is still unclear. Telomeres are aging markers and HIV infection-induced telomere attrition might instigate T-cell aging and senescence. We have recently reported the deficiency of ataxia-telangiectasia mutated (ATM) in patient-derived CD4 T cells accelerates DNA damage, telomere erosion, and cell apoptosis in HIV-infected individuals on antiretroviral therapy (ART). Whether these alterations in ART-treated HIV subjects occur in vitro in HIV-infected CD4 T cells remains unknown.

METHODS: T-cell isolated from HIV-infected patients from James H. Quillen VA Medical Center and healthy subject, as well as, T-cell line samples are used for this research. Experimental techniques such as flow cytometry, cell culture, RT-PCR, western blotting, microscopy and overexpression/silencing approaches are used to generate the data for this work.

RESULTS: An in-vitro model of HIV-1 infection is established which helped characterize the mechanisms underlying CD4 T cell destruction by analyzing the telomeric DNA damage response (DDR) and cellular apoptosis in highly permissive SupT1 cells. We illustrated complications within telomeric DDR, T-cell apoptosis and PI3K/ATM dynamics in activated primary CD4 T cells with active or drug-suppressed HIV-1 infection. Overall, we were able to mimic the results of ATM dynamics observed from patient samples in an in-vitro infection model. Specifically, we have established an in vitro HIV-1 T cell culture system with viral replication and raltegravir (RAL, an integrase inhibitor) suppression, mimicking active and ART-controlled HIV-1 infection in vivo. We have evidence of HIV-induced telomeric DDR playing a pivotal role in triggering telomere erosion, premature T cell aging, and CD4 T cell apoptosis or depletion via dysregulation of the PI3K/ATM pathways.

CONCLUSIONS: We conclude the deficiency of ATM triggers T-cell senescence dismantling PI3K dynamics resulting in a DDR failure and T-cell senescence. Both patient samples and in vitro model support our conclusion. We believe this in vitro model provides an easier approach to investigate the HIV pathogenesis. We aspire our results shed more light on the molecular mechanisms of telomeric DDR and CD4 T cell homeostasis during HIV-1 infection.

PEA0040

INCREASED PROPORTION OF THE HIGHLY PERMISSIVE TH17 CELL PROFILE DURING HIV-1 INFECTION AFTER MACROPHAGE MIGRATION INHIBITORY FACTOR (MIF)-CD74 AXIS SIGNALING

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BACKGROUND: MIF plasma levels are increased in people living with HIV/AIDS (PLWHA). In vitro, treatment of HIV-infected primary monocyte-derived-macrophages (MDMs) with MIF generates a pro-inflammatory environment which fosters HIV-1 infection/replication in non-activated CD4+ T-lymphocytes (CD4TLs). However, whether MIF exerts an effect on CD4TL activation and/or profiling during the infection is unknown. Aim: To evaluate the role of MIF in CD4TL function during HIV infection.

METHODS: CD4TLs and MDMs were obtained from healthy donors. MDMs were infected with HIV-1 and allogeneic MDMs-CD4TLs co-cultures plus 25 ng/ml MIF were assayed. Also, stimulation was performed with MIF-neutralizing reagents. Likewise, PBMCs from PLWHA were treated with MIF. Soluble cytokine production was evaluated by ELISA. Intracellular cytokine and transcription factor expression were evaluated by flow cytometry. Data was analyzed by parametric or non-parametric methods.

RESULTS: MIF stimulation induced the expression of IL-6 (p=0.013) and IL-1b (p<0.0001) in HIV-infected MDMs, , whereas IL-10 was diminished (p<0.0001), compared to control. Increased IL-17A-expressing (p=0.02), RORgt-expressing CD4TLs percentages (p=0.038) and soluble IL-17A (non-statistically significant) were found in the MIF-stimulated MDMs/CD4TL co-cultures. A decrease in soluble IFNg but no differences in neither IFNg-producing nor Tbet-expressing CD4TLs were observed. MDM infected with transmitted/founder HIV-1 strains model recapitulated these results. Monoclonal antibody (p=0.00046) or chemical antagonist (MIF098) mediated MIF-neutralization (p=0.025), induced a decrease in IL17+ CD4TLs. Also, a slight decrease in IL-17A+ CD4TLs was observed when neutralizing IL-6 and IL-1b activity (non-statistically significant). Additionally, in samples from PLWHA, higher MIF plasma level were related to higher IL-17+ CD4TLs percentages (p=0.02). In vitro, 24-hour MIF-stimulation of PBMCs from PLWHA led to an increase in the Th17 population (p=0.004), and in IL-6 concentrations in culture supernatant (p=0.04) compared to control.

CONCLUSIONS: These results suggest that CD4TLs exposed to the environment produced by MIF-stimulated HIV-infected MDMs biases responding CD4TLs toward a Th17-like profile. The results ob-

tained using T/F HIV-1 strains and PBMCs from PLWHA further support these findings. Overall, MIF may contribute to viral pathogenesis by generating an immune environment enriched in activating mediators and Th17 CD4TLs, which are reported highly susceptible to HIV-1 infection and relevant to viral persistence.

PEA0041

PLASMA BILE ACID LEVELS PREDICT SERIOUS NON-AIDS EVENTS

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BACKGROUND: People with HIV (PWH) have increased risk of serious non-AIDS events (SNAEs). Perturbations in bile acids have been implicated in cardiovascular disease, fatty liver disease, and other pathologies. We hypothesized that PWH who had SNAEs would have altered bile acid profiles.

METHODS: We identified 19 PWH with a SNAE, e.g. death, cardiovascular event, malignancy, end-stage renal or hepatic disease, and 19 age- and sex-matched controls. Biomarkers were measured by ELISA on plasma from entry (T1) and proximal to the event (T2), and bile acids by liquid chromatography - tandem mass spectrometry at T1. Bile acids in PWH and 10 healthy persons were compared with the Mann-Whitney U test and cases and controls with the Wilcoxon signed-rank test. Spearman correlation coefficient was calculated for biomarkers and bile acids.

RESULTS: Median age was 48 years for cases and 47 for controls; 79% were male. Median time between T1 and T2 was 34 and 35 months in cases and controls; median time between T2 and event was 18 months. Cholic acid (CA; P=0.04), glycocholic acid (GCA; P=0.008), taurocholic acid (TCA; P=0.01), and taurochenodeoxycholic acid (TCDCA; P=0.007) levels at T1 were higher, and lithocholic acid (LCA; P=0.0005) levels were lower in PWH. CA (P=0.066) and tauromuricholic acid (TMCA; P=0.08) levels were higher whereas ursodeoxycholic acid (UDCA; P=0.098) and glycoursodeoxycholic acid (GUDCA; P=0.055) levels were lower in cases versus controls.

Higher sCD163 levels at T2 were associated with higher T1 CA (r=0.39, P=0.02) and TMCA (r=0.39, P=0.02) levels, and lower UDCA (r=-0.49, P=0.002) and GUDCA (r=-0.41, P=0.01) levels. IL-6 levels at T2 correlated with baseline TCA (r=0.35, P=0.04), and inversely with UDCA (r=-0.44, P=0.007), GUDCA (r=-0.40, P=0.02), and tauroursodeoxycholic acid (TUDCA) (r=-0.43, P=0.008).

CONCLUSIONS: Higher primary bile acids levels and lower UDCA levels and its conjugate GUDCA tended to predict SNAEs that occurred 4 years later. Levels of primary bile acids and conjugated bile acids were higher whereas the secondary bile acid LCA was lower in PWH. As intestinal microbiota convert primary to secondary bile acids, the shift from secondary to primary bile acid predominance in PWH, especially with SNAEs, may reflect underlying dysbiosis.

PEA0042

CIRCULATING WHITE BLOOD CELL POPULATIONS IN PLHIV ON CART COMPARED TO HEALTHY CONTROLS

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BACKGROUND: HIV infection alters the immune cell architecture, which may be partially restored by cART. In these individuals, HIV persists in a small pool of latently infected cells, the so-called viral reservoir. Our aim was to comprehensively assess the peripheral blood white blood cell (WBC) composition of people living with HIV (PLHIV) on long-term suppressive cART. We compared their WBC subpopulations with those of healthy individuals and explored clinical and lifestyle factors, as well as the association with the viral reservoir.

METHODS: We included Caucasian PLHIV, aged ≥18 years, on cART >6 months and with HIV-RNA <200 copies/ml. Healthy controls were simultaneously sampled every three months for four times. A total of 133 WBC subpopulations were characterized using flow cytometry on whole blood and peripheral blood mononuclear cells (PBMCs). The HIV reservoir was quantified by ddPCR on HIV-DNA and cell-associated HIV-RNA (caHIV-RNA)in CD4+ cells. Data were analyzed using linear regression and corrected for age, sex, and seasonal effects. FDR-corrected p-values <0.05 were considered statistically significant.

RESULTS: PLHIV (n=211) were older than controls (n=56), with median (IQR) age of 52.5 (13.2) years vs. 30.0 (27.1) years (p<0.001), and more often male (91.0% vs 60.7%, p<0.001). Besides decreases in proportions of CD4+ cells and increases proportions of regulatory T cells (Tregs) and CD8+ cells, PLHIV showed significant changes in B cell maturation stages. In addition, PLHIV had fewer naive cells and an expansion of effector cells. These changes were accompanied by increased proportions of cells expressing the proliferation marker Ki67 or activation marker HLA-DR+. While age, sex, smoking, and nadir CD4+ significantly influenced the WBC composition, no effects were found for cART regimen. HIV-DNA and caHIV-RNA were significantly associated with lower proportions of (naïve) CD4+ cells, higher proportions of CD8+ cells and Tregs, as well as decreases in memory B cells.

CONCLUSIONS: Despite long-term suppressive cART, the immune cell architecture of PLHIV remains significantly altered. Next to age, sex, smoking, and nadir CD4+, the viral reservoir influences the WBC composition and these changes are not restricted to the (infected) CD4+ cells.

PEA0043

PLASMA CYTOKINE PREDICTORS OF HIV DISEASE PROGRESSION

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BACKGROUND: Previous studies have highlighted the role of pre-infection systemic inflammation on HIV acquisition risk however they did not examine the impact on disease progression outcomes. Here we characterised the association between pre-infection plasma cytokine/chemokine expression and the rate of disease progression in the CAPRISA 004 cohort, a phase IIb, randomised, double-blinded, placebo-controlled study which compared 1% tenofovir gel with a placebo gel in South African women from KwaZulu-Natal.
METHODS: We used Bio-PlexTM 200 system to measure the expression of 47 cytokine/chemokines in a cohort analysis of 783 samples from the CAPRISA 004. The study included 69 cases and 714 controls with cases sampled 330 (IQR 211 to 493) days prior to HIV infection. Cox proportional hazards regression analyses were used to measure associations between pre-infection cytokine expression and the rate of CD4 decline prior to ART initiation (cases only). Pearson correlation was used to measure the correlation between log10 pre-infection plasma cytokines with viral load (peak and set-point) and CD4:CD8 ratio (< and >180 days post infection).
RESULTS: We identified several cytokines that were associated with HIV disease progression outcomes (including IL16, SCGFβ, MCP-3, IL-12p40 and TNFβ). The strongest associations were found for SCGFβ, which correlated with peak viral load (r=0.42, p=0.001) and faster CD4 decline below 500µl (HR=3.71;95% CI 1.28-10.80; p=0.016) in univariate analysis and this remained true in multivariable analysis correcting for contraception, age, study site, baseline HSV-2 and study arm.
CONCLUSIONS: Our results show that pre-infection systemic inflammation is associated with the rate of HIV disease progression.

PEA0044

MONOCYTES FROM PEOPLE LIVING WITH HIV ARE LESS SENSITIVE TO INHIBITION OF TNF-ALPHA PRODUCTION BY PROSTAGLANDIN E2

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BACKGROUND: Monocyte activation plays a central role in the persistent inflammation associated to HIV chronic infection. Prostaglandin E2 (PGE2) is an immune modulator known to mediate inflammatory and anti-inflammatory effects, notably the inhibition of tumor necrosis factor alpha (TNF) production by monocytes. Our aim was to investigate the role of PGE2 in the pathogenesis of chronic inflammation associated to HIV infection.
METHODS: We recruited a group of people living with HIV (PLHIV, median age 37y, n=37) with viral load undetectable for at least 2 years and no comorbidities or coinfections. Healthy non-infected (NI) persons matched by sex and age were recruited as control group (median age 40y, n=29). All comparisons reported between groups are statistically significant (p<0.05) after Mann Whitney U test.
RESULTS: First, we confirmed that PLHIV showed signs of systemic inflammation including monocyte activation. Plasma levels of TNF and IFN-gamma were increased compared to NI individuals. PLHIV presented increased proportions of non-classical monocytes (CD16+). Furthermore, monocytes isolated from PLHIV produced more spontaneous and LPS-induced TNF than monocytes from NI controls. Importantly, levels of plasma PGE2 were higher in PLHIV than controls. Then we investigated gene expression of PGE2-related genes in purified monocytes by quantitative PCR. Increased expression of PTGS2 and mPGE-S1 (both involved in PGE2 synthesis) was observed in PLHIV, but lower levels of PTGER2 (PGE2 receptor EP2). Using specific receptor antagonists we demonstrated that EP2 receptor mediates PGE2 inhibition of TNF production in monocytes.
Therefore we investigated whether monocytes from PLHIV were less sensitive to inhibition of PGE2. For this, we determined inhibitory concentration 50% (IC50) of PGE2 using dose-response curves in which monocytes were exposed to serial dilutions of PGE2 and then LPS-induced TNF production was measured by ELISA (n=6).
Curves obtained with monocytes from PLHIV showed higher IC50 than curves produced with control monocytes, indicating that PGE2 was less potent to inhibit TNF production in monocytes from PLHIV.
CONCLUSIONS: Our results suggest that monocytes from PLHIV are less sensitive to the inhibitory effect of PGE2 on TNF production. Loss of this negative feedback could be a factor contributing to exacerbated TNF secretion by monocytes and ultimately to persistent inflammation.

PEA0045

PLATELET SEROTONIN REGULATION AND CONSEQUENCES IN HIV INFECTED INDIVIDUALS

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BACKGROUND: Serotonin (5-HT) is mainly synthesized in the gut and thereafter stored inside platelet dense granules and released upon activation. While higher platelet 5-HT levels are linked with thrombosis, selective serotonin reuptake inhibitors usage is associated with bleeding risk. Platelets can also interact with immune cells and change their phenotype. Various factors known to regulate 5-HT biosynthesis are altered in HIV infection, including tryptophan metabolism, intestinal microbiome, intestinal CD4 cells. In this study, we first aimed to compare platelets 5HT levels and tryptophan metabolism shifting in people living with HIV (PLWHIV) vs healthy controls. Next, we linked platelet serotonin levels with platelet reactivity and immune cell differentiation.
METHODS: This study included 208 viral suppressed PLWHIV and 56 Dutch healthy controls. Validation was done in Art-NeCo-HIV cohort. Intra-platelet 5-HT concentrations were determined by fluorescence spectrophotometer. Quadrupole time-of-flight mass spectrometer was used to measure tryptophan metabolism pathway. Immunophenotyping and platelet reactivity were measured using flowcytometry.

RESULTS: Platelet 5-HT concentrations were significantly higher in PLWHIV compared to healthy controls (mean±SD 659±280 vs 535±214 nmol/1011 platelets; p=0.004). This was also observed in the Art-NeCo cohort (mean±SD 1125±253 vs 596±96 nmol/1011 platelets; p=6 x 10-7). Ratio of breakdown product of 5-HT (acetyl-n-formyl-5-methoxykynuneramine; 5-hydroxyindoleaceticacid) and kynurenine (2-oxoadipate) to tryptophan were higher in PLWHIV compared to healthy controls (p<0.0001). This suggests higher turnover rates of tryptophan to both serotonin and kynurenine in PLWHIV. As a consequence, increase in platelet 5-HT levels was associated with higher αIIbβ3 integrin binding, both in low dose and cross-linked collagen-related-peptide (CRP-XL) stimulation and in basal condition (p<0.05). Increased platelet 5-HT concentration correlated positively with the percentage of Th17 cells among CCR6(+) memory T helper cells, while it correlated negatively with the percentage of CCR6+ cells among mTreg cells (p<0.05). PLWIH showed a significant reduction of CCR5(+) expression in CD45 cells, granulocytes and mTreg cells in association with higher platelet 5-HT content.
CONCLUSIONS: Platelet 5-HT concentration and turnover of tryptophan towards serotonin were higher in viral suppressed PLWHIV. Increased in platelet 5-HT was associated with higher platelet reactivity and altered percentage of CCR5(+) immune cells, memory T-helper and T-regulatory cells.

PEA0046

CHANGES IN THE Vα7.2+ CD161++ MAIT CELL COMPARTMENT IN EARLY PREGNANCY ARE ASSOCIATED WITH PRETERM BIRTH IN HIV-POSITIVE WOMEN

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BACKGROUND: HIV infection is associated with an increased risk of adverse pregnancy outcomes, including preterm birth (PTB), despite viral suppression with antiretroviral therapy. Mucosal-associated invariant T (MAIT) cells are an immune cell subset involved in antimicrobial immunity at mucosal surfaces. MAIT cells have been found at the maternal-fetal interface and MAIT cells are typically depleted early in HIV infection. We aimed to investigate changes in MAIT cells in relation to maternal HIV/ART status and PTB.
METHODS: We conducted flow-cytometric analysis of peripheral blood samples from 47 HIV-positive (HIV+) and 45 HIV-negative (HIV-) pregnant women enrolled in a prospective pregnancy cohort study in Soweto, South Africa. Frequencies of Vα7.2+ CD161++ MAIT cells and proportions of CD4+, CD8+ and CD4-/CD8- MAIT cells were compared between women with and without HIV infection, and between women with and without PTB or spontaneous preterm labour (Sp-PTL).
RESULTS: Although overall MAIT cell frequencies were the same between HIV+ and HIV- patients, HIV+ patients had a higher proportion of CD8+ MAIT cells in the first two trimesters. Women with PTB and spontaneous preterm labour (Sp-PTL) also had a higher level of CD8+ MAIT cells in the first trimester compared to women without these outcomes. An additive effect on MAIT cell subsets was seen in women with both HIV infection and PTB/Sp-PTL.
CONCLUSIONS: Imbalances in MAIT cell subsets in early pregnancy may contribute to the increased risk of PTB in HIV+ patients by altering the overall functionality of the peripheral MAIT cell compartment.

T CELL DEPLETION AND RECONSTITUTION, AND IMMUNE AGEING

PEA0047

MULTIMORBIDITY AND IRREVERSIBLE DEPLETION OF CD4+ T-CELLS IN HIV INFECTED GUT MUCOSA SAMPLED WITHIN HIGH HIV ENDEMIC AREAS IN SOUTH AFRICA

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BACKGROUND: HIV pathology involves gut barrier breakdown, microbial translocation and immune activation that drives disease progression, which is not reversed by current antiretroviral therapy (ART). However, the underlying mechanisms for the lack of immune reconstitution remain unknown.
METHODS: Here, we present a large cohort of 463 patients from a gastrointestinal (GI) clinic in KwaZulu-Natal, South Africa recruited within extremely high HIV endemic areas. Human gut biopsies were collected during Endoscopy, colonoscopy and Endoscopic retrograde cholangiopancreatography (ERCP) procedures to obtain duodenum and colon (ascending, transverse and sigmoid) pinch biopsies with matching blood. Phenotypic characterization of immune markers in these samples such as CD4+ T cells, activation and inflammation markers was done using multiparameter flow cytometry and fluorescent immunohistochemistry. Luminex and Enzyme-linked immunosorbent assay (ELISA) was used to elucidate markers of microbial translocation. Antiretroviral (ARV) drug levels in plasma were quantified by mass spectrometry.
RESULTS: Clinical symptoms were dominated by non-infectious comorbidities such as dysphagia, colon-cancer, polyps and obstructive jaundice. Strikingly, HIV infected women and men presented to the GI clinic 13 and 8 years earlier than uninfected patients (P<0.0001), respectively, suggesting that HIV infection drives early GI pathology. The overall HIV prevalence in the cohort was 30% (137/463) with every second woman under 50 years testing HIV positive. We observed persistent immune activation and inflammation in HIV infected patients despite suppressive ART. We quantified ARV levels in plasma and found 19% (17/90) treatment failures with viremia in the presence of ART in plasma. Despite 81% plasma viral suppression and long-term ART in this cohort, severe depletion of gut CD4 T-cells was observed in the duodenum (3.7% vs 9.5%, P<0.0001) and colon (6.9% vs 13.7%, P=0.008). Sustained CD4 T-cell loss remained in fully viral suppressed (VL<20cps/ml) patients (P<0.0001) that was confirmed by fluorescent immunohistocytometry.
CONCLUSIONS: This large GI cohort is a unique opportunity to further reveal the unknown mechanisms of gut barrier breakdown central to both HIV pathology and continued comorbidities in the growing population of individuals receiving ART in Sub-Saharan Africa that may be different to that of Caucasian populations.

PEA0048

AKT BLOCKADE LIMITS T CELL CHEMOTAXIS AND FAVORS T CELL CLEARANCE IN HIV-1 INFECTION

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BACKGROUND: Akt signaling plays a central role in many biological processes, which are key players in human immunodeficiency virus 1 (HIV-1) pathogenesis. Akt activation favors cell mobility and survival and interacts with the HIV-1 Nef protein. HIV-1 Nef inhibits T cell chemotaxis in response to the physiological ligands CXCL12 and CCL5, and modulates T cell apoptosis. We assessed the role of Akt inhibition on both T cell chemotaxis and apoptosis in HIV-1 infection.
METHODS: Peripheral blood lymphocytes (PBLs) isolated from healthy donors were assessed for apoptosis and for CXCL12- and CCL5-mediated chemotaxis in response to exogenous Nef, in the absence and presence of Akt inhibitors. In addition, in PBLs infected with wild type HIV-1 (HIV-WT) and an isogenic mutant infectious HIV-1 clone deleted for the nef gene (HIVΔNef) we compared the rate of apoptosis and CXCL12- and CCL5-mediated chemotaxis in the presence and absence of Akt inhibitors. Chemotaxis assay was performed in a 24-well plate that carries transwell inserts of a 5 micron pore size. Apoptosis measurement was assessed using an annexin V assay.
RESULTS: We found that exogenous Nef inhibits T cell chemotaxis in response to CXCL12 and CCL5. Following infection with the wild type HIV-1 virus, HIV-WT, but not with HIVΔNef, T cell chemotaxis in response to CXCL12 and CCL5 was inhibited. In agreement with a positive role for Akt activation on chemotaxis, Akt inhibitors further blocked the inhibition of T cell chemotaxis induced by exogenous and virus-associated Nef. T cell apoptosis observed with both exogenous and virus-associated Nef was increased using Akt inhibitors.
CONCLUSIONS: We observed that Nef-mediated inhibition of T cell chemotaxis in response to CXCL12 and CCL5 could be further enhanced by Akt inhibitors. In addition, Akt inhibitors enhanced the rate of apoptotic T cells exposed to Nef. By limiting the spread of infected T cells and enhancing their elimination, Akt inhibitors could be a new therapeutic approach to fight HIV-1 infection.

MICROBIOMES AND MICROBIAL TRANSLOCATION

PEA0049

HIV ASSOCIATED MICROBIAL TRANSLOCATION IDENTIFIED BY 16S SEQUENCING

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BACKGROUND: Recent studies have shown that blood from healthy humans contains DNA from translocating microbes. Human blood has been thought to be a sterile environment, the finding of components of microbes in blood was interpreted as an indication microbial translocation. The evidence for the existence of a healthy human blood-microbiome is gradually accumulating. Although the origin, identities and functions of blood microbiota remains to be elucidated, studies on blood-borne microbial phylogeny is increasing. The Human Microbiome Project revealed that the blood microbiome are most likely to have originated from the mucosal and skin microbiome. We hypothesized that the microbiome in HIV+ plasma will differ from that in HIV- plasma from participants. In this study, we isolated DNA from plasma samples from both HIV infected and Healthy donors, and the samples were analyzed by 16S rRNA gene sequencing.
METHODS: DNA for each plasma sample was purified by using the QIA symphony DSP Circulating DNA kit. Dual barcoding amplification was used to provide maximum flexibility for V3-V4 regions of the 16S rRNA bacterial gene. The 127 libraries were sequenced on the Illumina MiSeq to a depth sufficient to capture the total taxonomic composition of our samples. The data was demultiplexed and split into FASTQ files, and the pair-ends reads were processed in DADA2 pipeline. Data analysis was performed in RStudio.
RESULTS: The taxonomic diversity and profile of the bacterial DNA present in the serum of HIV-infected and Healthy donors is distinctly different. The distribution of reads assigned at the phylum level reveals that the HIV-infected plasma contain bacterial DNA mostly from the Firmicutes phylum, and HIV-negative with Proteobacteria. At a deeper taxonomic level the Bacilli class is mostly found in HIV-positive, and Class Gammaproteobacteria and Alphaproteobacteria in HIV-negative serum.The Statistical analysis showed that the HIV+ and HIV-neg populations were significant (p=0.001).
CONCLUSIONS: We demonstrate in this study the presence of a highly diversified plasma microbiome in HIV infected and healthy donors, which is quantitatively significant and differs between plasma fractions and donors. HIV positive patients have higher levels of systemic inflammation and the increased microbial translocation could be a contributing factor.

PEA0050

TEMPORAL SHIFTS IN VAGINAL MICROBIOTA AND CYTOKINES IN WOMEN TREATED FOR BACTERIAL VAGINOSIS

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BACKGROUND: BV increases genital inflammation and risk for HIV infection, although current standard treatment for bacterial vaginosis (BV), with oral metronidazole, is often ineffective, and recurrence rates are high. To evaluate whether BV has a long-term influence on mucosal immune function, we investigated the effects of the BV treatment on the genital microbiota, including the relative effects of BV eradication or recurrence on vaginal microbiota and genital inflammation.
METHODS: Fifty-six HIV-negative women were screened for BV and STIs and followed up six weeks and three months after treatment. The composition of vaginal microbial communities were characterized using 16S rRNA gene sequencing of lateral vaginal swabs of BV+ women pre- and post-metronidazole treatment for BV. Concentrations of 48 cytokines were measured via Luminex, including several

pro-inflammatory, hematopoietic, regulatory and adaptive cytokines and growth factors were measured in Softcup secretions. Genital inflammation was defined by 6 of 9 chemokines and/or inflammatory cytokines being in the top 75th percentile.

RESULTS: Of the 56 women treated for BV, 17/56 resolved BV and remained Nugent score <3 at 6 weeks post-treatment, while 39/56 were considered to have persistent BV (Nugent score >3). At 3 months post-treatment, 5/39 in the persistent BV group resolved their BV, while 9/17 of the cleared group had a recurrent BV episode. BV treatment temporarily reduced the relative abundance of BV-associated anaerobes (particularly Gardnerella vaginalis and Atopobium vaginae) and increased lactobacilli species abundance, resulting in significantly altered mucosal immune milieu over time. Women who cleared BV had decreased concentrations of TNF-α, IL-1β, IL-8, and LIF, while those with persistent BV following treatment had elevated concentrations of IL-1α, IL-18, MIF, IL-7, and LIF; even after adjusting for potential confounders like age, recent sexual activity, and genital examination.

CONCLUSIONS: Our findings demonstrate that BV treatment induces a but short-term shift in the vaginal microbiota and mucosal cytokines. Novel therapeutic strategies against BV-related vaginal biofilms are needed to provide sustained cure and efficacy against BV-associated sequelae in women.

CORRELATES OF HIV SUSCEPTIBILITY AND DISEASE PROGRESSION (BIOMARKERS AND GENETICS)

PEA0051

HOST GENETIC VARIATION IN TOLL-LIKE RECEPTOR 3, RETINOIC ACID SIGNALING, NK CELL ACTIVATION, AND HEMATOPOIESIS ARE ASSOCIATED WITH THE HIV RESERVOIR SIZE IN PERIPHERAL CD4+ T CELLS

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BACKGROUND: Several factors are known to influence the size of the HIV reservoir, including timing of ART initiation, T cell activation, and host genetics. Although polymorphisms in HLA and CCR5 genes have been associated with HIV replication in the absence of therapy, they only explain a small proportion of the person-to-person variability and have not been linked to HIV persistence in a genome-wide study of treated HIV disease.

METHODS: Whole exome and custom sequencing was performed from 202 HIV+ ART-suppressed individuals in the UCSF SCOPE cohort. HIV-1 cell-associated total DNA and unspliced RNA were quantified from CD4-enriched cryopreserved peripheral blood cells. To test for associations with common variants (minor allele frequency (MAF)>5%), linear mixed models were adjusted for sex, timing of ART initiation, cell count, and genetic ancestry. Associations with rare variants (MAF<5%) were analyzed using variant Set Mixed Model Association Test (SMMAT). Gene set enrichment analyses were performed using the MSigDB database.

RESULTS: 1,281,473 variants and 21,649 genes from 197 participants passed quality control. Participants were mostly male (95%) with median age 46, nadir CD4+ count 341 cells.mm3, pre-ART HIV RNA 4.3 log10copies/mL, median 5.1 years ART suppression and 1.9 years from infection to ART initiation. Race/ethnicity was most commonly self-reported as Caucasian (63%), African-American (12%), and Latino (11%). Gene-based analyses identified 1,786 genes associated with HIV RNA; top gene sets included STAT signaling, retinoic acid receptor signaling, NK cell activation, and hematopoiesis. Genes involved in toll-like receptor 3 (TLR3) signaling were associated with HIV DNA.

[Figure.]

CONCLUSIONS: Our analysis suggests that host genetic variation in pathways such as TLR3, retinoic acid receptor, and type I interferon signaling, as well as novel pathways involved in NK cell activation and hematopoiesis may shape the size of the HIV reservoir and warrant further study for their potential functional impact on HIV persistence.

PEA0052

PLACENTA AND PLASMA EXPRESSION PROFILES OF MIR3181 AND MIR199A IN HIV+ CAMEROONIAN PREGNANT WOMEN

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BACKGROUND: HIV infection during pregnancy has devastating effects on both the mother and her unborn child, one of which is a reduced transfer of protective maternal antibodies needed during early postnatal life. Although the underlining mechanisms of the transplacental transfer of antibodies are not well understood, it is believed that microRNAs (miR) could play an important role. MicroRNAs 3181 and 199a have been associated with the transfer of antibodies into tissues; however, their implication in the reduced placental transfer of protective antibodies in HIV+ women has not been extensively investigated. We proposed to determine the effect of HIV on the expression levels of miR3181 and miR199a in the placenta and plasma of HIV+ women on ART at delivery.

METHODS: In this pilot case-control study, plasma and placenta biopsies were obtained from 36 (18 HIV+ and 18 HIV-) pregnant Cameroonian women at delivery. MicroRNA was extracted from samples, cDNA synthesized and microRNAs 3181 and 199a levels were measured by RT-qPCR. Wilcoxson matched-paired rank test and Mann-Whitney test were used to compare microRNA levels between placenta and plasma and, HIV+ and HIV- women respectively. SPSS v22.0 and R v3.60 were used to analyze data and p-values less than 0.05 were considered significant.

RESULTS: Maternal and fetal sociodemographic and clinical characteristics were not significantly different between HIV+ and HIV- women. HIV+ women were on known regimen Tenofovir-Lamivudine-Efavirenz and had suppressed viral loads. Similar levels of miR3181(p>0.05) were seen in the placenta and plasma of HIV+ and HIV- women. miR199a levels were higher in overall plasma vs placenta(p=0.00005). Similarly, levels of miR199a were higher in plasma of HIV+ than HIV-women(p=0.027). miR199a was also higher in

plasma of HIV+ vs HIV- women (p=0.028). Linear regression models adjusted for systolic pressure showed no association (p>0.05) between levels of the two microRNAs in the plasma and placenta with HIV.

CONCLUSIONS: Our findings suggest that even though ART uptake by HIV+ women might play a role in maintaining FcRn synthesis at comparative levels to those of their HIV- counterparts, the significantly lower levels of miR199a in the plasma of HIV+ women requires further investigation.

PEA0053

LONG-TERM CART MARKEDLY MITIGATES THE POTENCY OF CXCR4 TROPIC HIV-1 ON MORTALITY AND MORBIDITY: UP TO 18 YEARS FOLLOW-UP IN A WOMEN'S COHORT

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BACKGROUND: CXCR4(X4)-tropic HIV-1 strains are well documented to herald CD4 cell depletion and accelerated disease progression, even in those receiving cART. Most individuals previously studied, however, were antiretroviral naïve or received cART for only a few years. To update this finding, we investigated whether the deleterious effect of X4 strains is mitigated by long-term cART.

METHODS: We examined the relationship of HIV-1 tropism to morbidity and mortality in 529 participants followed for up to 18 years in the Women's Interagency HIV Study, a prospective, observational study of HIV-1 infection in women. 61% of participants were African American and 30%, Hispanic. Tropism of plasma-derived HIV-1 was determined genotypically.

RESULTS: We categorized participants into groups according to reported number of visits on cART after initiation: Group 1) ≤3 visits, 74% of whom reported no cART, called little or no cART; Group 2) ≥4 and <70% of visits on cART, called intermittent cART; Group 3) ≥70% of visits on cART, consistent cART. AIDS mortality rates for participants in each group with detectable X4 compared to exclusively R5 strains, respectively, were: 1) little or no cART: 62% vs 40% (P=0.0088); 2) intermittent cART: 23% vs 22% [Nonsignificant (NS)]; 3) consistent cART: 7% vs 14% (NS).

Logistic Regression found that HIV-1 suppression for ≥10 semiannual visits (≥5 years total) mitigated X4 tropism's deleterious effect on mortality, controlling for maximal viral load and nadir CD4. Logistic Regression analysis of all participants found that women who achieved <10 visits with complete viral suppression on cART were three times [OR 3.342 (1.952-5.72)] more likely to experience mortality due to AIDS compared to those who achieved 10 or more visits with viral suppression. Kaplan-Meier curves depicting time to AIDS death or new AIDS defining illness showed more rapid progression in participants with ≤3 cART visits and X4 viruses (P=0.0028), but no difference in progression rates stratified by tropism in the other groups.

CONCLUSIONS: Long-term cART markedly mitigated the potency of X4 strains on AIDS morbidity and mortality. Mitigation of disease progression was correlated with the duration of viral suppression on cART, supporting HIV-1 suppression as a crucial treatment goal.

VIRAL MECHANISMS OF HIV/SIV PERSISTENCE AND LATENCY

PEA0054

THE EMERGING VIRAL STRAINS OF HIV-1 SUBTYPE C MAINTAIN LATENCY THROUGH TFBS VARIATION: AN EXTENSION OF A CLINICAL STUDY FROM INDIA

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BACKGROUND: In a collaborative clinical study, after screening primary viral strains from nearly 800 ART-naïve patients from four geographically distant clinical sites in India (Bangalore, Chennai, Delhi, and Pune), we report the emergence of a large number of transcription factor binding site (TFBS) variant HIV-1 strains over the past ten years in India. The common theme of the variation appears to be duplication of NF-κB and RBEIII motifs, with implications for latency. We examined the impact of RBEIII (R) and NF-κB (N) site duplication on the latency kinetics and activation of the virus.

METHODS: We constructed the panels of reporter sub-genomic and full-length viral vectors expressing d2EGFP under the control of canonical (RN3, One RBEIII, and three NF-κB sites) or three variant LTRs (RN4, R2N3, and R2N4) identified from the patient samples. We used T-cell lines or primary CD4 cell model (Bcl-2 expression) to evaluate the latency kinetics and activation profiles under diverse activation conditions, with the help of flow cytometry. To further understand this phenomenon in the patient samples, we performed Illumina sequencing of LTR variants from five patients for at least 3 time-points. We amplified the LTR region from genomic DNA and plasma RNA to identify the reservoir and actively replicating virus, respectively, in the patients infected with RN3 and R2N3 or R2N4 virus.

RESULTS: We observed that the LTRs containing RBEIII site duplication (R2N3- and R2N4-LTRs) entered latency at a significantly faster rate as compared to the RN3-LTR. Importantly, latency reversal was profoundly influenced by a delicate balance between the number and position of RBEIII and NF-κB sites in the LTR. The R2N4- but not R2N3-LTR could be reversed from latency under comparable activation conditions as that of the canonical RN3-LTR. The R2N3-LTR established avid latency and needed several folds higher concentration of activators or cocktails of activators for reversal.

CONCLUSIONS: Our work demonstrates that a fine balance between the number and position of NF-κB and RBEIII sites present in the emerging variants influences the viral latency. Some of the emerging strains could be achieving greater levels of replication fitness and may establish expanding epidemics in the future, which requires monitoring.

PEA0055

DUSQ (DNA ULTRA-SENSITIVE QUANTIFICATION): A NEW TECHNOLOGY FOR QUANTIFYING THE HIV UNINTEGRATED LINEAR DNA RESPONSIBLE FOR PRE-INTEGRATIVE LATENCY

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BACKGROUND: HIV latency is the major barrier to viral eradication. Our study focuses on pre-integrative latency, more specifically on processed Unintegrated Linear DNA (ULD). Due to the lack of a sufficiently sensitive and specific quantification method, ULD stability has not yet been evaluated in vivo. We have successfully developed such a method (DUSQ: DNA Ultra-Sensitive Quantification) based on NGS, in order to study the dynamics of ULDs and their importance in latency.

METHODS: DUSQ combines Linker Mediated PCR (LM-PCR) to a new method of ultra-deep sequencing. An adapter carrying a Unique Molecular Identifier (UMI) that acts as a molecular barcode is ligated to ULDs. LM-PCR is then used to specifically pre-amplify ligated ULDs, followed by a second PCR round using oligonucleotides harboring Illumina sequences. Sequencing is then performed and reads carrying the same UMI are sorted – as they are considered to be products of amplification of the same ULD – and counted, allowing an ultrasensitive quantification.

RESULTS: We first evaluated the sensitivity of DUSQ on a dilution gradient of artificial ULD and compared it to that of the canonic qPCR. We found a detection threshold for DUSQ of 5 copies of ULD/105 cells, which indicates that our technology is 100 fold more sensitive than the canonic qPCR.

We then quantified the ULD proportion over time in MT4-R5 infected cells using either qPCR or DUSQ, and showed comparable results for most samples. However, due to the difference in their detection threshold, the qPCR method is not as efficient as DUSQ for the quantification of samples with low amounts of ULD. In fact, this qPCR method was unable to detect ULDs from viremic infected patients' PBMCs, but ULDs were indeed present in these samples, as we were able to quantify an average of 1 copy/103 cells using DUSQ.

CONCLUSIONS: Our data shows the efficiency of DUSQ, a new high throughput technology, to efficiently detect ULDs in vitro and in vivo with a very high sensitivity. Such a technology could be further used to explore the roles and dynamics of ULDs in order to develop a new modeling of pre-integrative latency.

PEA0056

LYMPH NODE-BASED CD3+CD20+ CELLS RESULT FROM MEMBRANE EXCHANGE BETWEEN FOLLICULAR HELPER T-CELLS AND B-CELLS AND EXPAND FOLLOWING SIV INFECTION IN RHESUS MACAQUES

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BACKGROUND: CD4+ T follicular helper cells (TFH), residing within B-cell follicles, support the development of class-switched antibodies by promoting germinal center B-cell responses. During their complex interaction TFH and B-cells signal each other through a series of receptor-ligand pairs, involving cell-to-cell contact events. TFH cells have also been identified as a key cellular target for HIV replication and persistence. Here, we describe and characterize a subset of lymphocytes that are found in secondary lymphoid organs that express both T- and B-cell lineage markers.

METHODS: The presence of CD3 and CD20 on the same cell (double positive, DP) was demonstrated by using a combination of flow cytometry, image stream, and immune-histochemistry analyses. DP functional and transcriptional profile were evaluated by intracellular cytokine staining and gene expression signature, respectively. Cell-associated SIV-DNA was measured by qPCR and compared between sorted CD3+CD20+ and CD3+CD4+ lymph node (LN) cells.

RESULTS: DP cells were identified in LN and spleen, but not blood, of RMs. A large fraction of DP cells shows similar phenotypic (expression of PD-1, CXCR5, ICOS, Bcl-6), functional (IL-21 production), and transcriptional profile of TFH cells. They also express other B-cell markers like CD21, HLA-DR, CD79, and surface immunoglobulins. This phenotype was confirmed in the LN of HIV-uninfected and HIV-infected humans. Of note, upregulation of CD40L following brief in vitro stimulation transcriptionally identified DP cells that are TFH in origin vs. those of B-cell lineage. Analysis of 56 RMs revealed a significant expansion in the frequency of DP cells following SIV infection as compared to uninfected animals (p=0.007). DP cells were significantly reduced by ART, and expanded again to a significantly higher level then pre-infection following ART-treatment interruption (p=0.003).

CONCLUSIONS: The DP phenotype may identify a subset of lymphoid TFH and B-cells that have recently undergone high affinity interactions. These cells expand following SIV infection and during active replication. Due to the critical role of TFH and B-cell interaction to the maintenance of TFH cells, a critical component of the persistent HIV reservoir, our data highlight the need for further research to determine how the expansion of DP cells impact HIV/SIV pathogenesis and persistence.

IDENTIFICATION AND CHARACTERIZATION OF HIV RESERVOIRS

PEA0057

DIVERSITY OF THE REPLICATION-COMPETENT HIV RESERVOIR IN PATIENTS WITH DIFFERENT TREATMENT HISTORY

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BACKGROUND: Viral rebound after treatment discontinuation is considered to originate mostly from viral genomes integrated in resting CD4+ T-lymphocytes. Replication-competent proviral genomes represent a minority of the total HIV DNA, and their characterization is relevant for strategies aiming the reduction of the reservoir. Here, we evaluated the consequences of the timing of treatment initiation and its duration on the diversity of replication-competent viruses, as measured by near full-length genome sequencing and phenotypic characterization.

METHODS: Resting CD4+ T-lymphocytes were isolated from 40 ml of peripheral blood from 8 successfully treated patients. Cells were stimulated and cultured under limiting dilution conditions with activated donor CD4+ T-lymphocytes, to allow individual virus outgrowth. Viral replication was monitored by p24 quantification, and between 4 and 14 (mean 8) individual viral isolates per patient were collected after short-term culture. The near full-length genomes of individual viral isolates were obtained by next generation sequencing, and their single-cycle infectivity was compared.

RESULTS: In 5 of the 8 patients, genotypically identical viral isolates were observed in independent wells, suggesting clonal expansion of infected cells. In these patients, identical viruses represented between 25 and 60% of the isolates (mean 48%). Although some viruses shared large identical portions of their genomes (e.g env), they displayed differences elsewhere, raising caution on the extrapolation of clonality from partial genome sequencing. The mean pairwise distances (MPD) observed in different patients correlated with the time before treatment initiation (r=0.96, p=0.003), suggesting that the complexity of the replication-competent reservoir mirrors that present at treatment initiation. No correlation was observed between MPD and the duration of successful treatment (mean 8 years, range 2-15). Moreover, a correlation was observed between the proportion of identical viral isolates and the duration of treatment (r=0.82, p=0.019), suggesting progressive clonal expansion of infected cells during ART. Consistent with genotypic data, a broader range of infectivity (up to 100-fold) was observed among isolates from patients with delayed treatment initiation than in those treated early.

CONCLUSIONS: This work unveiled differences in the genotypic and phenotypic properties of the replication-competent reservoir from treated patients, and suggests that delaying treatment results in increased diversity of the reservoir.

PEA0058

QUANTIFICATION AND CHARACTERIZATION OF HIV RESERVOIRS IN INDIVIDUALS TREATED DURING HYPER-ACUTE INFECTION

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BACKGROUND: ART is not curative and is unable to completely eradicate HIV, which persists as a latent reservoir in long-lived memory CD4+ T cells and other tissue sanctuaries. We hypothesized that initiation of ART in the hyperacute phase of infection may significantly reduce the size of the viral reservoir presenting a greater chance of achieving HIV remission after ART interruption.

METHODS: Study participants were females from the FRESH study cohort, established in Durban, South Africa, where acute infections were identified through twice weekly screening of high-risk individuals. We used an ultrasensitive real time PCR assay to longitudinally quantify subtype C HIV-1 DNA levels in PBMCs from 20 participants who initiated treatment during acute infection and in 11 participants who initiated treatment during chronic infection. We also used near-full-length, single genome next-generation sequencing to longitudinally genotype HIV-1 DNA in a subset of these participants.

RESULTS: There was a slow but steady decrease of total HIV DNA from ART initiation (median = 2.43 log copies/106 cells) to 12 months post treatment initiation (1.64 log copies/106 cells) (p=0.0007) in patients identified with Fiebig I acute HIV infection. Treatment initiated during Fiebig stage I of infection significantly blunted peak viral load (p=0.001) but not peak total HIV DNA (p=0.20). Participants who initiated treatment in early versus chronic infection did not differ significantly in one-year post treatment levels of total HIV-1 DNA (p=0.15). Viral sequencing revealed that at the earliest stages of infection majority of HIV genomes are intact, with a few having large deletions, and no observable APOBEC hypermutations. ART initiation altered the viral DNA landscape such that it was predominated by defective, truncated genomes.

CONCLUSIONS: Total HIV DNA is detectable very early and even in early treated participants the size during acute infection is similar to chronic treated participants. Early initiation of cART leads to slow but steady decay of the total HIV DNA reservoir. At 12 months post-treatment initiation total HIV DNA could still be detected, however intact HIV genomes are no longer detectable. These data have implications for cure strategies in patients initiated on ART during the acute HIV infection stage.

PEA0059

INTRAGENIC PU-BOXES CONTROL HIV-1 TRANSCRIPTION AND REPLICATION IN MYELOID LINEAGES

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BACKGROUND: Accumulating data evidence the persistence of HIV-1 in cells of myeloid lineages, although the specific molecular mechanisms controlling HIV-1 transcription in these reservoirs remain poorly understood. Here, we revealed the presence of three binding sites for the myeloid-restricted transcription factor PU.1 in the intragenic cis-regulatory region (IRR) of HIV-1 and further demonstrated their importance in controlling viral gene expression in infected myeloid lineages.

METHODS: PU.1 binding sites were studied in vitro by EMSA and in vivo by ChIP experiments. Reporter assays were used to assess the role of PU.1 binding sites in the enhancer activity of the IRR. Following site-directed mutagenesis in full-length infectious HIV-1 proviral clones, we evaluated the functional effects of mutations in the PU.1 sites by infection studies.

RESULTS: We report that HIV-1 intragenic PU.1 binding sites positively regulate the enhancer activity of the HIV-1 IRR. We then further showed that the three HIV-1 intragenic binding sites for PU.1 are crucial for HIV-1 replication, since their mutation impaired viral fitness. Together, our biochemical and functional studies highlight the importance of the IRR transcriptional control in the HIV-1 life cycle.

CONCLUSIONS: The HIV-1 intragenic region brings an additional element in an already complex network of regulators affecting the level of HIV-1 transcription. In particular, the IRR appears to be important for a cellular-specific control of HIV-1 gene expression. To tackle HIV- 1 persistence, targeted approaches for each specific reservoir are needed. As a proof-of-concept, we reveal the potential therapeutic application of specific inhibitors that interfere with PU.1 binding as a new anti-HIV-1 strategy for myeloid reservoirs.

PEA0060

SAFETY AND EFFICACY OF COPPER-64 LABELLED 3BNC117 COMBINED WITH PET/MRI TO IMAGE HIV

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BACKGROUND: Non-invasive methods to detect and quantify HIV persistence in tissue in people living with HIV (PLWH) on antiretroviral therapy (ART) are needed. Infusing copper-64 (^{64}Cu) radiolabelled broadly neutralising antibodies (bNAbs) targeting HIV envelope (Env) with CT scan and positron emission tomography (PET) identified HIV Env in tissues in SIV infected non-human primates . We aimed to determine if a similar approach was effective in PLWH

METHODS: Unmodified 3BNC117 was compared with 3BNC117 bound to the chelator MeCOSar and ^{64}Cu (^{64}Cu-3BNC117) in vitroto assess binding (to plate-bound gp140 and detection by ELISA or Env expressed in HEK cells and detection by flow cytometry) and neutralization (using viruses pseudotyped with different Env strains). ^{64}Cu-3BNC117 was infused into HIV uninfected (Group 1), HIV infected and viremic (viral load, VL >1000 c/mL; Group 2) and HIV infected aviremic (VL <20 c/mL; Group 3) participants using two dosing strategies: high protein (3mg/kg unlabeled 3BNC117 combined with <5mg ^{64}Cu-3BNC117) and trace (<5mg ^{64}Cu-3BNC117 only). All participants were screened for 3BNC117 sensitivity from virus obtained from viral outgrowth. Magnetic resonance imaging (MRI)/PET and pharmacokinetic (PK) assessments (ELISA for serum 3BNC117 concentrations and gamma counting for ^{64}Cu) were performed 1, 24- and 48-hours post dosing.

RESULTS: Comparison of unmodified and modified 3BNC117 in vitro demonstrated no difference in HIV binding or neutralisation. 17 individuals were enrolled of which 12 were dosed including Group 1 (n=4, 2 high protein, 2 trace dose), Group 2 (n=6, 2 high protein, 4 trace) and Group 3 (n=2, trace only). HIV+ participants had a mean CD4 of 574 cells/microL and mean age 43 years. There were no drug related adverse effects and no differences in tissue uptake in regions of interest (ROI, e.g lymph node gut, pharynx) between the 3 groups. In the high protein dosing group, serum concentrations of 3BNC117 and gamma counts were highly correlated demonstrating that ^{64}Cu-3BNC117 remained intact in vivo.

CONCLUSIONS: In PLWH on or off ART, infusion of ^{64}Cu-3BNC117 and MRI/PET imaging over 48 hours, there was no detection of HIV-1 Env expression in vivo. Future studies should investigate alternative radiolabels such as zirconium which have a longer half-life in vivo.

ELIMINATING/SILENCING LATENCY

PEA0061

IDENTIFICATION OF NOVEL COMPOUNDS THAT REACTIVATE HIV REPLICATION FROM LATENTLY INFECTED CD4 T CELLS

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BACKGROUND: Human immunodeficiency virus (HIV) persists in a latent form in infected individuals under antiretroviral therapy (ART) through integrating proviral DNA into the genome of host immune cells. The lack of therapeutic cure and the propensity of HIV-1 to develop resistance to commonly used drugs require continued development of novel drugs for HIV/AIDS treatment and cure. One therapeutic strategy for HIV eradication aims to reactivate HIV production in the latently infected cells, so that these cells could be detected and eliminated by the immune system. In this study, we aimed to identify novel small molecules with new targets for HIV treatment.
METHODS: Using cells that contain an integrated HIV LTR linked to the luciferase reporter gene, and HIV latently infected cell lines A72, J lat and U1, we screened small molecules isolated from traditional Chinese medicines and a library of heterocyclic compounds. The library is constructed using "scaffold-directed" methods to efficiently generate novel benzofused compound scaffolds with a high degree of structural diversity and ability to bind to multiple receptors with high affinity and favourable pharmacokinetic properties.
RESULTS: We identified four hit novel small-molecules. Two compounds inhibited HIV-1 entry, one inhibited HIV reverse transcription, and one compound isolated from Spatholobus suberectus Dunn., Daidzein and its analogues, reactivated HIV replication from latently infected CD4 T cell lines J lat and A72 dose dependently, but not monocytes U1. Moreover, by using TZM-b1 and 293T cells that contain an integrated HIV LTR linked to the luciferase reporter gene, we found that Daidzein activates HIV replication at the level of transcription. This effect is through Akt signaling pathway, and do not induce global T cell activation. Structure-activity relationships (SARs) analysis of Daidzein and its five analogues revealed that three analogues, Daidzin, Glycitein and Glycitin, reactivate HIV replication without obvious cell toxicity observed, and 4'-hydroxyisoflavone is their bio functional core structure.
CONCLUSIONS: Therefore, Daidzein and its analogues reactivate HIV replication from latently infected CD4 T cells. Moreover, identification of the bio functional core structure enables their potential to be modified to improve their potency and developed into significant components for HIV therapy.

GENE THERAPY

PEA0062

EPIGENETIC SILENCING SIRNA DELIVERED TO THE NUCLEUS OF HIV-1 INFECTED CELLS VIA NANOPARTICLE SYSTEM

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BACKGROUND: Inhibition of virus transcription via RNA-directed epigenetic silencing of HIV-1 is used as a potential targeted functional cure approach. However, the delivery of such a gene therapeutic into primary human cells is a big challenge. Avoiding the issues involved in viral delivery, we hypothesize the use of novel nanoparticle technology as an efficient method for siRNA delivery to cell lines and primary human cells.
METHODS: The epigenetic silencing siRNA siPromA, targeting the HIV-1 5'LTR or siScrambled control is loaded onto a Layer-by-Layer nanostructured film to treat HIV-1NL4.3 fluorescent virus infected cells. For this study we used primary human Monocyte-derived Macrophages. Visualization of the localization of fluorescence-labelled siRNA inside infected cells we use a fluorescent microscope DeltaVision Elite and identify successful delivery into cells and localization in the nucleus by Arbitrary line intensity profile and 3D Volume Viewer. Functional delivery is being analysed using Reverse Transcriptase Assay and RT-qPCR.
RESULTS: Imaging confirmed the entry, detachment and successful delivery into the nucleus of MDMs 48h after the siRNA caring Nanoparticles were added to the cultures. RT-Assays were unable to show clear functional data, however RT-qPCR was used and results for all three donors for MDMs showed a slower increase in viral RNA than all four controls.
CONCLUSIONS: This study in primary human cells shows successful nanoparticle delivery of epigenetic silencing siRNA and release inside the cell for transport to the nuclei. Here we have shown a pathway for RNAi therapeutic delivery in primary human cells. Successful targeted delivery of gene-therapy agents via the use of a nanoparticle system provide an important step for the future use of gene-therapy agents.

ARVS, SMALL MOLECULES AND IMMUNOMUDULATING AGENTS

PEA0063

DUAL BROMODOMAIN-HISTONE DEACETYLASE INHIBITORS DESIGNED AS LATENCY-REVERSING AGENTS

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BACKGROUND: HIV reservoir remains one of the main barriers to eliminate the virus. Latency-reversing agents, such as histone deacetylase (HDAC) and bromodomain (BRD) inhibitors have been described to decrease HIV reservoirs, however, these classes alone exhibited several limitations. Here, we described the design, preparation and evaluation of optimized hybrid compounds designed to target both bromodomain (BRD4) and HDAC 1-3, simultaneously.

METHODS: Docking simulation was performed using CovDock (Covalent Docking approach) by Schrödinger® using BRD4 (pdb code: 4WIV; resolution 1,56 Å) and HDAC-2 (pdb code: 4LY1; resolution 1,56 Å). All compounds were prepared through divergent synthesis in four steps. First, it was performed a Suzuki coupling reaction between the methyl 4-iodobenzoate and boronic acid derivatives. The ester function was hydrolyzed, and the compound was coupled with o-phenylenediamine using EDC as coupling reaction. The ability of all compounds (at 10mM) to inhibit both enzymes HDAC 1-10 and BRD-4 were evaluated. BRD assay was performed using TR-FRET technology using recombinant bromodomain and BET Ligand. Vorinostat and JQ-1 was used as drug references for HDAC and BRD assays, respectively.

RESULTS: Docking simulation suggests that all compounds are able to interact with BRD-4 and HDAC-2 with best docking scores values than references drugs vorinostat and JQ-1. After computational study, five compounds were synthesized at global yields ranging from 11-20%. All structures were characterized by analytical methods. Enzymatic assays using HDAC reveals that all compounds are selective for class I, specifically HDAC 1-3. Compounds inhibited HDAC-1 at values ranging from 8-95%, for HDAC-2 those values were 10-91% and for HDAC-3 were 3-77%. Against BRD-4, the inhibitory effect ranged from 14-25%. The most promising compound was able to inhibit HDAC 1, 2 and 3 and BRD4 at values of 75 %, 72 %, 57 % and 21 %, respectively.

CONCLUSIONS: Hybrid compounds were designed, synthesized and evaluated against the enzymes HDAC and BRD. These dual compounds were able to inhibit BRD4 and HDAC 1-3 (class I) suggesting its potential use as latency-reversing agents. In the next steps, these compounds will be evaluated in vitro against infected HIV cells in order to characterize its latency-reversing effects.

PEA0064

CHRONIC HIV-1 PATIENTS ON TREATMENT WITH TYROSINE KINASE INHIBITORS HAVE A LOW RESERVOIR SIZE AND ACTIVE CYTOTOXIC CELL POPULATIONS

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BACKGROUND: We previously demonstrated that tyrosine kinase inhibitors (TKIs) significantly interfere with HIV-1 proviral infection and transcription in CD4+ T cells of humanized mice. In this transversal study, we analyzed how treatment with TKIs of HIV-1 infected patients with chronic myeloid leukemia (CML) may affect the reservoir size and immune response.

METHODS: PBMCs from 6 HIV-infected patients with CML that were on treatment with TKIs (imatinib, dasatinib or nilotinib) for 4.6 yrs (range 0.4-11 yrs) were analyzed (estimated incidence of both diseases 1:65,000). CD4>500 in 4/6 patients (CD4/CD8 ratio 0.93±0.7). PBMCs from 18 HIV+ patients with CD4>500 (CD4/CD8 0.95±0.3) were used as controls. Cell populations and synthesis of cytokines were analyzed by flow cytometry. Plasma cytokines were analyzed by Luminex. Proviral integration was quantified by Alu-qPCR. All HIV+ patients were on standard cART with undetectable viral RNA.

RESULTS: 1) HIV-patients on TKIs showed a reduction of 2.9-fold on average in proviral integration ($p<0.05$).

2) TEM and TEMRA CD4 subpopulations were reduced 2.4- and 10.2-fold, respectively.

3) IL-7 levels in plasma were reduced 2.1-fold. However, IL-15 and IL-21 were reduced only in HIV-patients treated with dasatinib. The levels of IL-2 were similar in all patients.

4) HIV-patients treated with TKIs and cART showed a 1.6-fold increased expression of NK activation marker CD56. NK cells also showed 1.4-fold and 1.7-fold increased expression of markers CD57 and PD1, respectively.

5) Plasma levels of cytotoxic mediator granzyme B were increased 2.6-fold and proinflammatory cytokines IFNγ and TNFα were increased 2.4-fold and 1.8-fold, respectively.

6) Stimulation of CD8 from patients on TKI and cART with NL4-3 virus did not induce IFNγ release, indicating that IFNγ was mostly released by NK cells.

Stimulated CD8+TCRγδ+ cells released 1.7-fold more TNFα than HIV-patients only on cART.

CONCLUSIONS: Long-term treatment of HIV-patients with TKIs such as imatinib and dasatinib was safe. Treatment with TKIs reduced effector CD4 subpopulations and plasma levels of homeostatic cytokines involved in reservoir replenishment. TKIs increased cytotoxic populations of functional NK and CD8 with antiviral activity. Therefore, TKIs may constitute novel and promising adjuvant therapy of cART to control reservoir size and replenishment in chronic HIV patients.

NOVEL ANTIVIRALS AND FORMULATIONS

PEA0065

ALTERNATIVE "MORNING AFTER" RECTAL OR VAGINAL ADMINISTRATION APPROACH FOR POST-EXPOSURE PROPHYLAXIS OF HIV

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BACKGROUND: Since 2013 the annual incidence of newly diagnosed cases of HIV has practically remained unchanged. Current post-exposure prophylaxis (PEP) involves prolonged oral systemic treatment, often with considerable side effects. Under WHO guidelines, PEP in a sexual exposure (PEPSE) is limited to only high-risk scenarios. The size of the population exposed to low to moderate risk scenarios is unclear.

The overarching aim of this project is to develop a nanoparticle-based PEP for local rectal or vaginal administration after a low to moderate risk sexual exposure. We also aim to assess the size of the population in need for this alternative PEP approach.

METHODS: A 14-question survey in Bristol Online Surveys was designed, focusing on sexual behavior and condom usage. 3,217 participants were recruited. The target population for a novel PEPSE was defined based on sexual activity, self-reported condom usage, HIV negative test, and the disclosure of scenarios with a low to moderate risk of HIV infection in the last 3 years.

To increase drug loading, dolutegravir was chemically modified, producing a dolutegravir myristate (MDTG). A two-step nanoprecipitation system was designed. In the first step, an unstable MDTG nanoparticle system was obtained. These unstable MDTG nanoparticles were coated with different masses of polymeric carriers. Dynamic light scattering (DLS), and transmission electron microscopy (TEM) were used to assess both steps. MDTG content in the nanoformulations was measured by means of HPLC-UV.

RESULTS: As many as 28% of the surveyed sexually active population reported at least one incident of low to moderate risk in the last 3 years, and therefore is a target for a novel PEPSE. The uncoated nanoparticles were on average about 190 nm in size, while coated nanoparticles were 215 nm. Importantly, all developed nanoformulations had drug content above 50%.

CONCLUSIONS: The survey provided evidence on the surprisingly large size (28%), currently unprotected by prophylactic approaches. This identified unmet need could be addressed by alternative PEP approaches. Nanoformulations with a very high drug content of MDTG were developed. A high drug content is of paramount importance, as absorption of nanoparticles from rectum or vagina is likely to be quantitatively low.

NUCLEIC ACID-BASED HIV THERAPIES

PEA0066

A PILOT STUDY: CRISPR/CAS9 THERAPY FOR AN EFFECTIVE CONTROL OF GENETICALLY DIVERSE HIV-1

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BACKGROUND: Although HAART effectively suppresses HIV replication, the compromised effectiveness of HAART against non-B subtypes, challenge in eliminating latent proviruses, life-long treatment, and viral resistance complicates the cure for HIV-1. CRISPR/Cas9, the latest genome editing tool, is able to overcome some of the problems seen with HAART. By targeting LTR, the promoter of HIV, CRISPR/Cas9 is able to disrupt the latent reservoirs of HIV. In this study, we designed an improved CRISPR/Cas9 system to concurrently knockdown the structural genes (Pol and Gag), regulatory genes (Rev and Tat) and accessory genes (Vif) of HIV. We investigated the efficacy of this tool as a therapy against different viral subtypes in a subset population, which reflects other low and middle-income countries with similar HIV pathogenicity and comorbidities.

METHODS: Our in-vitro study showed a huge decrease in viral load and we verified the safety of CRISPR in human cells. Next, we subtyped the virus from HIV-1 positive HAART naïve patients in Malaysia. Subtyping of the HIV-1 was done with nested PCR. Infected peripheral blood mononuclear cells (PBMCs) were treated with combinatorial CRISPR/Cas9 to determine its efficacy in reducing the viral load with p24 measurements, and its effect on cell proliferation with CD4+ quantification. We also determined the correlation of the efficacy of tool with gender and age.

RESULTS: There was a 19-fold decrease in p24 expression compared to untreated samples, and a 30-fold increase in CD4+ cell proliferation. CRISPR gave the greatest reduction in viral production and better immune recovery in patients with B viral subtype, male and younger patients.

CONCLUSIONS: This preliminary pilot study in HIV patient samples suggests CRISPR/Cas9 could serve as a therapy to control the morbidity of HIV-1 in Malaysia. The potentially of this tool can be extrapolated to other low and middle-income countries where treatment is not easily accessible, hence giving an overall effect on the pathogenicity, comorbidity and immune system exhaustion, which in turn, affects the efficacy of treatment. In the future, we will be investigating the efficacy of CRISPR in combination with other currently existing therapies, and in patients on HAART.

HIV AND CO-MORBIDITIES

PEA0067

HIV INFECTION INDUCES HUMAN ENDOGENOUS RETROVIRUSES AND LINE-1 EXPRESSION IN BREAST CANCER TISSUES

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BACKGROUND: Despite the sharp decline in AIDS defining cancers in people living with HIV (PLWHIV) in the HAART era, non-AIDS defining cancers are still one the leading causes of death among PLWHIV. Intriguingly, breast cancer (BC) has a lower incidence rate among women living with HIV when compared to matched HIV-negative women, suggesting unidentified biological mechanisms confer protection to development of BC in PLWHIV. PBMCs infected with HIV and BC cell lines express locus specific retrotransposons. We hypothesized that HIV might upregulate some retrotransposons in BC tissue.

METHODS: We sequenced the transcriptome and retrotranscriptome from formalin-fixed paraffin-embedded BC samples of 10 women (4 HIV+: 6 HIV-). We performed RNA extraction, cDNA library preparation and total RNA sequencing. Paired-end reads were filtered and illumina adapters were removed using Trimmomatic. Filtered reads were aligned to hg38 using Bowtie2 and HISAT2. Bowtie2 output was used in Telescope and HISAT2 output was used in HTSEq. Differentially expressed genes (DEG) were analyzed by DESeq2 and graphs created using R. Gene Set Enrichment Analysis (GSEA) using reactome pathway functional database was performed in WebGestalt.

RESULTS: We found a total of 192 DEG (q-value < 0.05): 174 host genes (171 upregulated and 3 downregulated); 4 HERVs and 14 L1 upregulated in BC samples from PLWHIV. Principal component analysis distinguished two groups of samples, BC HIV+ and BC HIV-. Using GSEA, we found immune system, extracellular matrix organization and metabolic signaling genes as upregulated pathways in BC HIV+.

CONCLUSIONS: Our findings show that HERVs and L1 are upregulated in BC tissue from PLWHIV, but not in women without HIV infection.

PEA0068

SALT-SENSITIVITY IS ASSOCIATED WITH HYPERTENSION, INFLAMMATION AND NON-DIPPING BLOOD PRESSURE IN HIV

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BACKGROUND: Apart from HIV, increased intake of dietary salt is associated with inflammation and development of hypertension in animals and in some human studies but the mechanisms are elusive. A significant change in blood pressure following salt loading or deprivation is termed salt-sensitivity. Though the relationship between salt-sensitivity and hypertension in HIV is unknown we hypothesized that salt altered inflammation, blood pressure and dipping status. We conducted a study to determine associations between salt-sensitivity and hypertension, dipping and inflammatory markers in people living with HIV (PLWH).

METHODS: This was a cohort study conducted at Livingstone Central Hospital where we recruited 85 adult participants consisting of 43 PLWH (22/43 hypertensive) and 42 HIV negative controls matched for hypertension status (1:1), age and sex. Salt-resistance and salt-sensitivity were defined by a mean arterial pressure (MAP) difference of ≤5mmHg and ≥8mmHg respectively, between the last day of low (4g) and high (9g) dietary salt intake week. Dipping was defined as 10-15% decrease in nocturnal blood pressure. Cytokine production was determined by flow cytometry using BioLegend's LEGENDplex™ bead-based immunoassay. Electrolytes were measured using Ion Selective Electrode (ISE) technology. We used logistic regression, chi-square and Mann-Whitney tests for inferences.

RESULTS: Mean age was 40± 3.5 (SD). 51% (43/85) and 55% (47/85) were hypertensive and female respectively. In PLWH, salt-sensitivity among hypertensive and normotensives was 96% (21/22) and 10% (2/22) respectively compared with the 71% (15/21) and 29% (6/21) HIV-negative. Salt-sensitivity was associated with hypertension (OR 28 95%CI 7,116, p<0.001) regardless of HIV status, body mass index, sex and age. Compared with the HIV negative, salt-sensitivity in PLWH was associated with increased levels of IL-6, monocyte count and expression of CD80+ (immune activation), siglec-8 (eosinophils) on total leucocytes (CD45+), and expression of D11 (IsoLevuglandin) on monocytes (CD14+) (p<0.01). In both PLWH and HIV negative salt-sensitivity was associated with non-dipping blood pressure (p<0.05).

CONCLUSIONS: Sensitivity to dietary salt is significantly associated with inflammation and immune activation in HIV and with hypertension and non-dipping blood pressure irrespective of HIV status. Modulation of dietary salt intake has potential to improve blood pressure and dipping.

PEA0069

RE-IMAGINING RESILIENCE: HIV, THE TRAUMA TRAJECTORY AND THE OPIOID CRISIS

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BACKGROUND: Resilience – positive adaption and "bouncing forward" from trauma – has been deployed as a crucial strategy for increasing survivability among people living with HIV/AIDS (PLH) and for surviving the HIV/AIDS crisis more broadly. In this interdisciplinary project, we consider the limitations of a resilience model for patient-based HIV care. We highlight chronic pain-and often subsequent opioid dependence- as one indication of these limits. We describe how an integrative trauma-informed care approach that recognizes chronic pain as a corporeal manifestation of stored trauma may address gaps in resilience-based care paradigms for people living with HIV and opioid dependence.

DESCRIPTION: In Atlanta's Ponce de Leon Center, we are piloting an innovative NIH-funded pain management and opioid mitigation study. To date, 100% of participants report decreased or full elimination of pain and opioid use after program participation. Our program emphasizes:

1) the deep structural vulnerability of marginalized populations, particularly in regard to access to HIV care;

2) the pervasive role of stored trauma in the face of HIV and chronic pain;

3) that investing in resilience need not be synonymous with suffering but must directly address the physiological, psychological and historical roots of that suffering.

LESSONS LEARNED: While we do not advocate for abandoning resilience as a broader framework through which to understand survival in the face of unimaginable odds, we offer caution about the unintended effects of care models that place the onus of resilience on marginalized individuals. We have learned from our work that order to be most effective as activists and as caregivers for people living with HIV, we must revise how we apply resilience to our practices.

CONCLUSIONS/NEXT STEPS: Resilience is as crucial as ever for the HIV community. Paradoxically, however, demanding resilience of individuals and communities can produce a persistent vulnerability. Instead, we aim to disrupt a linear trajectory of a "resilience" paradigm that unintentionally results in the storing of trauma, diffuse chronic pain and subsequent opioid dependence. Fully addressing trauma - ranging from the collective experience of surviving the early HIV/AIDS crisis to individual burdens carried by marginalized PLH - is central to a fuller commitment to maximizing wellbeing and reimagining resilience.

PEA0070

REGIONALIZATION AND INTEGRATION OF SCREENING SERVICES FOR COLLABORATIVE PREVENTION AND CONTROL OF HIV, HBV, HCV, SYPHILIS AND HSV

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BACKGROUND: Because of specialization and structure of health service provision in many resource constrained setting, health services are provided in standalone-specially designated clinics. New services, especially those for program priority disease come with dedicated funding. Due to requirements for accountability, monitoring and evaluation, integration of such disease management together with routine health services remain a desirable goal. To identify need for collaborative integration of screening services for HBV, HCV, Syphilis and HSV, we tested HIV clients attending comprehensive care clinics for the 5 infections.

METHODS: Samples were collected voluntarily from clients attending specialized HIV clinics upon informed consent. Serological screening and confirmatory testing followed approved in-country testing algorithms with modifications where necessary. Sampling criteria took into consideration the country diversity in terms of health service distribution, demographics, and geographical localities including regions and administrative counties. In this study, 7 out the 8 regions and 11 of the 47 administrative counties were included in the study.

RESULTS: Three thousand two hundred and fifity samples were collected from clients across the health facilities in Kenya. Overall prevalence of HBV, HCV, HSV and Syphilis was 29%, 14%, 50% and 14% respectively. Co-infections were at 71%, while geographical distribution ranged between 19-31% for HBV, HCV (8-19%), syphilis (4-26%), and HSV (29-67%).There was no integration of services for these five infections. Routine screening services were only available for HIV.Testing for HBV, HCV, Syphilis and HSV were only available upon request with clinical indication.

CONCLUSIONS: Considering the high prevalence and potential for co-infections, availability of testing services for HBV, HCV, Syphilis and HSV in health facilities across the country is necessary. While testing for HIV is readily accessible, screening for HBV, HCV, Syphilis and HSV is a desired goal. This can be provided under integration of services, leveraging on the successful infrastructure and capacity build over the years for HIV. Model integrated screening facilities to serve regions are recommendable to cater for large populations within counties and regions as reference labs.

PEA0071

EVALUATION OF SECOND LINE ANTIRETROVIRAL PROGRAMMATIC AND TREATMENT OUTCOMES IN MOZAMBIQUE BETWEEN 2015-2017

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BACKGROUND: Access to antiretroviral therapy (ART) has improved considerably in Mozambique, with a significant impact on reducing morbidity and mortality among people living with HIV (PLHIV). In June 2018, there were 1,216,427 patients on ART of which an estimated 16,325 patients (1.3%) were on second-line treatment. Monitoring and optimizing clinical outcomes of these patients is important for programs treating PLHIV. This study evaluates the characteristics, virological suppression (< 1000 copies), and treatment outcomes of patients on second-line treatment in Mozambique.

METHODS: This is a retrospective cohort study using routinely collected program data. We extracted data registered in the Mozambique Electronic Patient Tracking System for all PLHIV with at least one viral load (VL) who initiated second-line treatment between January 2015 to December 2017 in six provinces where data was available. Variables of interest included patients' characteristics (age, gender), treatment outcomes (death, loss to follow up (LTFU), transferred to another site, and active in treatment) and virological suppression (yes/no) 12 months after treatment. Frequency tables and descriptive statistics were produced.

RESULTS: Of 416,030 patients on ART by December 2017, 8,140 (~2.0%) were on second-line ART during the study period. Out of these 6,911 (84.9%) were adults ≥ 25 years (4,180 female and 2,731 male), and 1,229 (15.1%) were adolescents aged 15 to 24 years (927 female and 302 male). At the end of a total follow-up duration of 12 months on second line treatment, 9 (0.1%) patients died, 540 (6.6%) were LTFU, 5 (0.1%) were transferred and 7,586 (93.2%) were retained in treatment. Among retained patients, 2,588 (34.1%) had VL suppression.

CONCLUSIONS: In Mozambique few (~2%) HIV patients were enrolled on second line treatment up to December 2017. More than 93% of these patients were retained on treatment 12 months after second line regimen initiation though only 34% of them had a suppressed viral load. This is challenging as alternatives to the second line treatment may not be accessible to most patients. Tailored strategies for these patients should also consider strengthening and refining counseling on adherence and improving clinical care.

PEA0072

ABORTIVE VIRAL REPLICATION IN HIV-INFECTED HEPATOCYTES: IS IT BENEFICIAL OR DETRIMENTAL?

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BACKGROUND: Despite the emergence of potent antiretroviral therapy, liver disease remains one of the leading causes of mortality among HIV infected individuals. Liver disease accounts for 18% of all-cause mortality, and approximately 50% of mortality from HIV-related liver disease in the United States is attributed to alcohol. Here, we hypothesize that ethanol metabolism potentiates accumulation of HIV in hepatocytes, causing oxidative stress and massive apoptotic cell death. Engulfment of HIV-containing apoptotic hepatocytes by hepatic stellate cells (HSC) triggers their activation and liver injury progression.

METHODS: This study was performed on Huh 7.5 cells safely transfected with CYP2E1 (designated as RLW cells) and LX2 cells (HSC model) Since RLW cells do not effectively metabolize alcohol, they were treated with acetaldehyde generating system (AGS) to mimic alcohol metabolism in hepatocytes. Cells were exposed to HIV-1_{ADA} at 0.1 MOI for 18 hours, washed and cultured for additional 3 - 5 days. Viral replication was measured by HIV RNA (RT-PCR), viral protein (P24) expression (western blot), reverse transcriptase (RT) activity and integrated HIV DNA by ddPCR. LX2 cells were exposed to apoptotic bodies from HIV-infected RLW cells for 2 hours and measured profibrotic markers (Collagen 1A1 and TGFβ) by RT-PCR.

RESULTS: HIV RNA was detected in RLW HIV-infected cells, also p24, reverse transcriptase activity and HIV DNA were detected. When the RLW HIV-infected cells were exposed to AGS, there was an upregulation of intracellular HIV RNA expression, p24 concentration, RT and massive apoptosis when compared to AGS-untreated RLW cells. RLW HIV-infected apoptotic cells upregulated collagen 1A1 by 2.5 folds higher, and TGFβ by 2 folds higher in LX2 cells when compared to the control.

CONCLUSIONS:

[Figure. Alcohol metabolism potentiates HIV accumulation in hepatocytes, causing oxidative stress and massive apoptotic cell death. Engulfment of HIV-containing hepatocytes by hepatic stellate cells (HSC) triggers their activation and liver injury progression]

We conclude that while HIV and ethanol metabolism-triggered apoptosis clears up HIV-infected hepatocytes, continued generation of HIV-expressing apoptotic bodies may be detrimental for progression of liver fibrosis due to constant activation of LX2.

HIV AND CO-INFECTIONS (TB, VIRAL HEPATITIS, OTHER)

PEA0073

CERVICAL HUMAN PAPILLOMAVIRUS DNA DETECTION IN WOMEN LIVING WITH HIV AND HIV-UNINFECTED WOMEN LIVING IN LIMBE, CAMEROON

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BACKGROUND: There are limited data on cervical HPV prevalence in Cameroon and none from its Anglophone region. We investigated cervical HPV prevalence in HIV-uninfected (HIV[-]) and HIV-infected (WLWH) women living in the region.
METHODS: A convenience sample of consecutively recruited HIV[-] women (n=295) and women living with HIV (WLWH) (n=560) attending the Limbé Regional Hospital were enrolled into a cervical screening study. Women underwent screening that included HPV testing of self-collected and provider-collected specimens. We calculated the HPV prevalence by HIV status, overall and stratified by age, and among WLWH, stratified by CD4 counts. We compared the concordance for the detection of HPV between self- and provider-collected specimens.
RESULTS: Crude HPV prevalence was 21.69% (95% confidence interval [95%CI]=17.21-26.48%) for HIV[-] women and 46.43% (95%CI=42.24-50.66%) for WLWH (p<0.001). Among WLWH, older age (ptrend=0.01) and higher CD4 counts (ptrend=0.007) were associated with lower HPV prevalence. There was a good-to-excellent agreement for HPV detection between specimens, and self-collected were more likely than provider-collected specimens to test HPV positive, for all women and stratified by HIV status.
CONCLUSIONS: HIV-related immunosuppression was a risk factor for HPV prevalence in this population. HPV testing of self-collected specimens appeared to be less specific than HPV testing of provider-collected specimens.

PEA0074

A SYSTEMATIC REVIEW AND META-ANALYSIS ON HIV INFECTED INDIVIDUALS WITH MULTI-DRUG RESISTANT TUBERCULOSIS

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BACKGROUND: The progressive HIV epidemic and the increasing number of MDR-TB are serious threats to the global tuberculosis control programs. The study was aimed to summarize available evidences on the association of HIV infection and development of MDR-TB, and to provide a pooled estimate of risks.
METHODS: Search was based on PubMed, MEDLINE, Google Scholar and ScienceDirect databases to select eligible observational studies for meta-analysis, published between January, 2010 and July, 2019 in English. Considering low statistical power, studies fewer than fifty participants were excluded. Random-effects model was used to obtain the pooled odds ratio of the crude association between HIV infection and MDR-TB with 95% confidence interval. Publication bias was affirmed by funnel plot symmetry and confirmed by Egger's test. Heterogeneity was determined by Cochran's Q statistic and quantified by I2.
RESULTS: Identifying 1496 records 47 articles (60754 enrolled TB patients) in the study were included. Overall, the pooled odds ratio was 1.47(95%CI 1.19- 1.81, I2=80.49%) with substantial heterogeneity and evidence of publication bias (p=0.13). Subgroup analysis revealed, the estimated pooled odds ratio for European countries (OR=2.31, 95% CI 1.80-2.96, I2=32.26%) was higher than the South American, Asia, African. Effect estimate was higher for primary MDR-TB (OR=3.13, 95% CI 1.59-6.13, I2=13.13%) with no heterogeneity among the studies. Additionally, the pooled odds ratio for MDR-TB and HIV increased with age (mean or median age of MDR-TB cases >=40, OR=1.96, 95% CI 1.41-2.73, I2=69.11%), higher in female (>60%) predominant studies (OR=1.97, 95% CI 1.03-3.78, I2=80.35%), significant in countries with high burden for TB/HIV and/or MDR-TB (OR=1.51, 95% CI 1.18-1.92, I2=78.1%) and with high income (OR=2.64, 95% CI 2.01-3.48, I2=15.01%).
CONCLUSIONS: The meta-analysis demonstrates that the risk of MDR-TB increases significantly with HIV coinfected individuals based on evidences from last decade. It has become imperative to improve the detection and overall management of MDR-TB in HIV endemic settings to achieve the aims of Eradication of HIV by 2030 along with WHO End TB strategy 2035.

PEA0075

FACTORS ASSOCIATED WITH SPUTUM ORDERING FOR TUBERCULOSIS DIAGNOSIS IN PEOPLE LIVING WITH HIV IN THE GREATER ACCRA REGION

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BACKGROUND: People living with HIV (PLHIV) have an increased risk of developing TB. The World Health Organization recommends systematic and routine screening of PLHIV for TB and further testing using sputum for those with a positive TB screen test. Not all PLHIV with a positive TB screen test in Ghana are further tested for TB and the factors for this are not well understood. This study assessed factors associated with sputum ordering for TB diagnosis in PLHIV who screened positive for TB in the Greater Accra region of Ghana.
METHODS: Mixed method study performed at three purposively selected hospitals providing HIV care and treatment services in the Greater Accra region. The study involved a cross-sectional review of patients' charts and in-depth interviews with health workers involved in the care and treatment of PLHIV. Quantitative data were analyzed using STATA version 15. The backward elimination method with a threshold of 0.2 was used to construct the multiple logistic regression model. Inductive thematic analysis was used to determine emerging themes from the interviews.
RESULTS: 400 patient charts were reviewed of which 67.7% were female with a median age of 39 (IQR 31-49). TB screening was recorded in 78% of the patients of whom 92 patients had a positive TB screen test. Only 53 (57.6%) who had a positive screen test had sputum ordered. Patient general appearance described as abnormal (OR=3.05, p=0.036), having more than one TB symptom (OR=3.42, p=0.028) and presence of an alternative presumptive diagnosis (OR=0.34, p=0.023) were associated with having a sputum test ordered. Lack of training, high patient numbers, inability to produce sputum and unwillingness of the not so sick patients to provide sputum.

CONCLUSIONS: Almost half of PLHIV with a positive TB screen test did not have a sputum test documented. Sputum testing was likely to be done in patients with an abnormal general appearance and more than one TB symptom and unlikely in those with an alternative presumptive diagnosis. High workload, costs of TB tests, lack of training for health workers and inability to produce sputum by patients were the barriers to sputum testing highlighted by the health workers.

PEA0076

SEROPREVALENCE OF HIV-SYPHILIS COINFECTION AND ASSOCIATED RISK FACTORS AMONG PREGNANT IN CAMEROON, 2016

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BACKGROUND: Syphilis and HIV remain a public health problem in Africa and can be transmitted by pregnant women to their children. These infections are diagnosed during Demographic Health Surveys planned every five years and sentinel surveillances every two years among first antenatal care (ANC-1) attendees. Our objective was to estimate seroprevalence of HIV, Syphilis and HIV-Syphilis coinfection and explored associated risk factors.

METHODS: We conducted a cross-sectional study in Cameroon, targeting 7000 ANC-1 attendees (4000 from urban and 3000 rural area) over 60 sites selected according to antennal care services and technical platform. All pregnant women coming for their ANC-1 from September to December 2016 were enrolled and sociodemographic as well as clinic information were collected. HIV test was performed blindly by the on 'site' laboratory and the National Reference Laboratory (NRL) following the national guidelines. Syphilis testing was performed using the Treponema Palladium Hemagglutination assay (TPHA) / Veneral Diseases Research Laboratory (VDRL). Prevalences were estimated and associated risk factors explored using multinomial logistic regression.

RESULTS: Of 6859 women enrolled, 6566 were invited to take the HIV test and 6513 accepted (99.19% of acceptability). The median age was 26 years [IQR: 21-30] and 46.47% of them were housewife. The estimated HIV prevalence was 5.7% (95% CI: 4.9-6.4), the Syphilis prevalence was 5.63% (95% CI:4.9-6.4) and HIV-Syphilis coinfection prevalence was 0.59% (95% CI:0.4-0.9). Pregnant women residing in rural areas were more likely to be infected with syphilis than those living in the urban area (aOR=1.8 [95% CI: 1.3–2.4]) Single pregnant women were three time more likely to be infected by HIV/Syphilis Co-infection than married, cohabiting, widow and divorced pregnant women (aOR=2.8 [95% CI: 1.3–2.4]). Pregnant women aged 25 – 49 years old were strongly more likely to be co-infected (aOR=15.1 [95% CI: 3.0–75.7]) by HIV and Syphilis than those aged 15-24 years.

CONCLUSIONS: Our results have shown the burden of HIV and syphilis among pregnant women and probably in general population. Our findings support the fact that while emphasizing strategies to fight HIV among adult women, to also find out strategies to prevent and fight Syphilis infection especially in rural and northern regions.

PEA0077

IN SILICO PREDICTION OF HUMAN LEUKOCYTES ANTIGEN (HLA) CLASS II BINDING HEPATITIS B VIRUS (HBV) PEPTIDES IN BOTSWANA

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BACKGROUND: Hepatitis B virus (HBV) is the primary cause of liver-related malignancies worldwide, and currently there is no cure for chronic HBV infection (CHB). Strong immunological responses induced by T cells are associated with HBV clearance during acute infection; however, the repertoire of epitopes (epi) presented by major histocompatibility complexes (MHCs) to elicit these responses in various populations is not well understood.

METHODS: In silico approaches were used to map and investigate 15-mers restricted to 9 HLA class II alleles that have high population coverage in Botswana. Sequences from 44 genotype A and 48 genotype D non-recombinant, complete HBV surface-gene (PreS/S) from Botswana were included. A cascade of bioinformatics pipelines inlcluding were used to sort the determined epitopes and reconstruct 3D tertiary structure of the candidate vaccine.

RESULTS: Of the 1,853 epi predicted, 12.6% were strong binders (SB) and none were promiscuous to all 9 haplotypes suggesting that multi-epitope, genotype-based population-based candidate vaccines (MEPBGBV) will be effective against CHB as opposed to previously proposed broad potency vaccines. Epitope-densities (Depi) between genotype A –PreS1 (8%), PreS2 (34%), and S (34%) – and genotype D – PreS1 (13%), PreS2 (21%), and S (37%) – were similar. Polymorphisms that hindered HLA-epitope binding were 86T, 90T, and 94P in PreS1A; 54P, 79E, 84S, and 85Q in PreS1D; 12I, 31I, and 54P in PreS1A; 5F, 22H, 22L, 22P, 32H, 36L, and 42S in PreS1D. We also identified antigenic and genotype-specific peptides with characteristics that are well suited for the development of sensitive diagnostic kits. The results obtained were validated using available 18,161 HBV sequences of genotypes (A-I), and 3 HepB vaccines currently in use.

CONCLUSIONS: This study identified candidate peptides that can be used for developing multi-epitope vaccines and highly sensitive diagnostic kits against HBV infection and suggests that HBV variability may hinder peptide-HBV epitope-MHC binding required to initiate a cascade of immunological responses against infection.

NOVEL ASSAYS OF IMMUNE RESPONSES

PEA0078

A CHALLENGE FOR HIV TREATMENT: THE LONG TIME TO IMMUNE RECOVERY OF PEOPLE LIVING WITH HIV UNDER ANTIRETROVIRAL THERAPY. A LONGITUDINAL STUDY IN A BIG STATE OF BRAZIL

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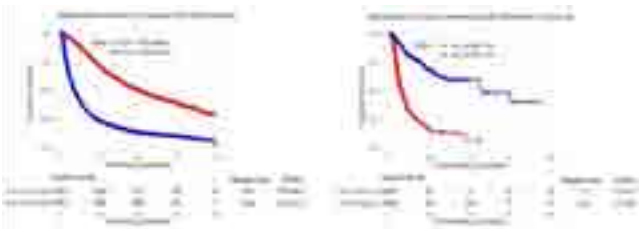
BACKGROUND: The impact of antiretroviral therapy (ART) on morbidity and mortality of people living with HIV (PLHIV) depends on the CD4-count distribution in treated individuals. Increased CD4 indicating immune-recovery (IR) is a reflection of the health of treated PLHIV. In order to get attention to long time and to propose improvements to IR, our study estimates the median-time until IR and associates it to factors that may impair the IR.

METHODS: Retrospective analysis was performed among PLWH (>18 years) living in Minas Gerais state, Brazil, using data obtained from national health care databases. Eligible patients initiated ART between 2009-2018 and had CD4 measurements recorded before and after ART-initiation. Descriptive analyses, cumulative and person-time incidence of IR (≥500 cells/µl) were calculated. The general median-time to IR and stratified by CD4-baseline and time-varying variables (ART-adherence: ≤45 days between consecutive ART dispensing dates) were estimated via Kaplan-Meier and the associated by Cox-regression, adjusted for age, gender and ART-initiation year.

RESULTS: Most participants (n=8,014) were male (67%), with mean age(SD)=38.7(11.5) years and baseline CD4(SD)=228(137) cells/µl. Follow-up time was 15,872 person-years. Cumulative-incidence of IR was 58% (n=4,678), corresponding to an incidence-rate of 29.47/100 person-years. General median-time to IR was 22.8 months (CI95%:21.9-24.0). Baseline CD4≥200 cells/µl was associated with presence of IR that the median-time to IR was 5.6 times lower and hazard-risk (HR)=4.2(CI95%:3.9-4.5), compared to patients with lower CD4. Presence of ART-adherence decreases 7.5 times the median-time to IR and HR=3.1(CI95%:2.87–3.4)(Figure 1-Table 1).



[Figure 1. Kaplan Meier for median-time to immune recovery stratified by CD4-baseline and time-varying ART adherence, in people living with HIV under antiretroviral therapy (n:8014), in Minas Gerais, Brazil.
Immune recovery: CD4≥ 500 cells/µl; baseline CD4 count: CD4 measurement within 90 days before ART initiation; ART adherence presence: until 45 days between two consecutive ART date registers; CI: confidence interval.]

Covariables	n (%)	event (%)	Multivariate analysis	
CD4 count baseline			HR (CI95%)	p-value
<200cells/µl	3443	1200 (35)		
≥200cells/µl	4571	3478 (76)	4.2 (3.9-4.5)	<0.05
ART-adherence				
No	1058	181 (17)		
Yes	6956	1670 (24)	3.1 (2.87–3.4)	< 0.05

[Table 1 - Adjusted HR, fitted via Cox-Regression, Summarizing the Relationship between time to IR and each of baseline CD4 and Time-varying ART-adherence, adjusted for gender, age and year ART initiation.]

CONCLUSIONS: The IR time remains long and depends on early treatment and ART adherence. Overcoming these factors represents the principal challenges to success on IR.

NOVEL APPROACHES TO ASSESS VIRAL LOAD AND ARV RESISTANCE/TROPISM

PEA0079

DIAGNOSTIC ACCURACY OF PAN DEGENERATIVE AMPLIFICATION AND ADAPTION ASSAY FOR DRUG RESISTANCE MUTATIONS AMONG HIV-1 INFECTED ADOLESCENTS FAILING ART THERAPY IN ZIMBABWE: ROLE OF A POINT MUTATION ASSAY

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BACKGROUND: HIV drug resistance (HIVDR) is a barrier to sustainable virological suppression among HIV infected people in resource limited settings (RLS). Point mutation assays targeting priority mutations are being developed, validated and implemented to improve accessibility to HIV drug resistance (HIVDR) testing in RLS. Here, we evaluated the diagnostic accuracy of a simple, rapid, and affordable assay to monitor HIVDR mutations among HIV-infected young people failing ART.

METHODS: In a cross-sectional study between June 2018 and September 2019, we evaluated the diagnostic accuracy of the PANDAA assay (cutoff >5%) compared to the reference standard Sanger sequencing (cutoff > 15%-20%). Plasma samples from young people (10-24 years) at the HIV treatment clinic failing ART (VL>1000 cps/mL X 2) were collected at baseline in a randomized clinical trial. Sensitivity and specificity of each DRM (K65R, K103N, Y181C, M184V and G190A) were determined by a diagnostic algorithm (diagt) using Stata version 14. Agreement between genotyping methods was evaluated by the Cohen's kappa coefficient as follow: values ≤ 0 indicating no agreement; 0.01-0.20 slight; 0.21-0.40 fair; 0.41-0.60 moderate; 0.61-0.80 substantial; 0.81-1.00 almost perfect agreement.

RESULTS: 150 participants were included. For each mutation detected (K65R, K103N, Y181C, M184V and G190A), PANDAA showed a sensitivity and a specificity of >=95% and >=83% respectively. For acquired NRTI drug resistance, sensitivity (95%CI) and specificity (95%) were reported in 98% (92%-100%) and 100%(94% - 100%) respectively with an accuracy of 99%. For NNRTI-DRMs, sensitivity and specificity were reported in 100%(97%-100%) and 76%(61%-87%) respectively

both with an accuracy of 93%. PANDAA showed a strong agreement with Sanger sequencing for K65R, K103N, M184V and G190A (r>0.85) and a substantial agreement for Y181C mutation (r=0.720).

CONCLUSIONS: With high sensitivity in detecting DRMs, PANDAA assay could be used in RLS to monitor HIV-1 infected patients failing ART. The low specificity of PANDAA to Sanger may be explained by the presence of minority variants detected by the PANDAA assay (cutoff >5%). With the implementation of TLD (tenofovir, lamivudine and dolutegravir) in many low and middle-income countries, PANDAA may be suitable to inform strategies for the use of alternative NRTIs to optimize responses to Dolutegravir.

PEA0080

A98S MUTATION/POLYMORPHISM ON RT REGION OF HIV-1 SUBTYPE C ISOLATES: POSSIBLE IMPACT OF GEOGRAPHICAL VARIATION ON DRUG RESISTANCE

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BACKGROUND: The mutation A98S at reverse transcriptase (RT) region of the polymerase (Pol) genome of HIV-1 has been known as a common polymorphism that does not reduce non nucleoside reverse transcriptase inhibitors (NNRTIs) susceptibility. However, recently it is introduced as a resistance mutation to nevirapine (NVP) by the French drug resistance interpretation's algorithm (ANRS) for only subtype C isolates.

METHODS: HIV-1 chronically infected antiretroviral treatment naïve (n=220) and treatment experienced (n=100) patients visiting Gondar University Hospital, Northwest Ethiopia were recruited consecutively. Antiretroviral treatment (ART) was initiated based on the WHO clinico-immunological parameters. HIV RNA level and sequence of the entire protease and partial RT (76%) region was determined at baseline and after a median time of 30 months on ART.

RESULTS: At baseline, A98S mutation was detected in 24.4% (39/160) of the treatment naïve Ethiopian patients infected with subtype C. Nineteen out of 22 patients with A98S polymorphisms at enrolment initiated NVP containing regimen. After a median time of 30 months on ART, all of the 22 patient were found to be virological suppressed (HIV RNA less than 400 copies/ml). The mean CD4+ T cell count was increased from 189 to 367 cells/mm3 after 30 months of ART. All isolates with and without this mutation had various genetic signatures and polymorphisms in their protease (PR) region which are considered as compensatory drug resistance mutation in HIV-1 subtype B isolates (I13V, K20I, M36I, H69K, T74S, V82I, L89M, and I93L).

CONCLUSIONS: A98S mutation is a frequently observed natural polymorphism among Ethiopian HIV-1 subtype C isolates and hence shall not be considered as mutation conferring resistance to NVP among subtype C sub-Saharan isolates.

PEA0081

IMPROVING GENO2PHENO[CORECEPTOR] TO PREDICT THE TROPISM OF CLINICAL HIV-1 CRF01_AE SAMPLES

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BACKGROUND: HIV-1 uses either CCR5 (R5) or CXCR4 (X4) as coreceptor for entry. A tropism switch to X4 is associated with accelerated disease progression and, especially in perinatally HIV-1 infected children, frequent tropism switches have been observed over time (Foster_et_al.2015). Also, in antiretroviral therapy the tropism plays a key role, i.e in the usage of the CCR5 antagonist Maraviroc (MVC).
This indicates that accurate monitoring of viral tropism is critically needed for suitable treatment, and reliable tools are key for tropism determination.The widely used genotyping tool geno2pheno was developed based on subtype B sequences, and recently we and others demonstrated an X4-overcalling in HIV-1 CRF01_AE isolates by the current version of the geno2pheno [coreceptor] algorithm (Matsuda_et_al.2018).
The aim of this study was therefore the suitable adaptation of the prediction tool geno2pheno [coreceptor] to subtype CRF01_AE isolates.

METHODS: V3-sequences of 44 clinical HIV-1 subtype CRF01_AE samples from female Thai sex workers were analyzedby geno2pheno [coreceptor] and, in parallel on the same samples, by replicative phenotyping in human cells in the presence of specific X4- or R5-inhibitors.

RESULTS: The combination of genotypic data and corresponding phenotypic profiles confirmed a dramatic systematic overcalling of X4-tropism for CRF01_AE viruses in the current version of geno2pheno [coreceptor] using the false-positive-rate (FPR) cut-off of 10%.
A cut-off of 10% FPR showed a sensitivity of detecting 100% of the phenotypically classified X4-tropic viruses in our cohort, indicating that no X4-tropism is misclassified. However, too many R5 variants were misclassified as X4-variants indicating a low specificity (35%) for R5 viruses. Lowering the FPR in our sample collection to 4.5% or 1% improved the specificity to 67.5% or 97.5% respectively, while maintaining a sensitivity of 100%.

CONCLUSIONS: This study demonstrates the necessity of adjusting the FPR for subtype CRF01_AE. Although in our cohort, a theoretical FPR cutoff of 1% could be used, a more conservative cutoff of 4.5% would prevent incorrect prescription of MVC. Our study will be of utility for clinical therapy guidance and an appropriate use of MVC for patients carrying HIV-1-CRF01_AE. With this knowledge, prediction tools might be improved also for other non-B subtypes and benefit future strategies towards eliminating and eradicating HIV.

PEA0082

INTEGRATED POINT-OF-CARE (POC) DIAGNOSTICS FOR TB AND HIV (EID/VL) IN CAMEROON – EARLY IMPLEMENTATION RESULTS ACROSS FIVE GENEXPERT (GX) TESTING SITES

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BACKGROUND: Cepheid GeneXpert® platforms can be used for multiplex testing. In Cameroon, these platforms are mainly used for Tuberculosis (TB) diagnosis. However, the average device spare capacity with just TB testing in 2016 was 80% indicating the platforms could be used to perform additional testing for HIV, HPV, and HCV. In 2017, CHAI/UNICEF through Unitaid funding supported the National TB Program to leverage five GeneXpert devices used for TB testing to integrate HIV (EID/VL).

DESCRIPTION: Firstly, a mapping and site selection exercise was conducted using criteria such as device spare capacity, accessibility, and existing sample transport system, staff capacity, turn-around time and test volumes. Of the 08 GeneXpert sites assessed, 05 were selected and trained to process EID and VL samples. Following site selection, EID and VL commodities were procured and distributed to the selected sites. The study was conducted from June 2017 to June 2019. Data collected included the number of TB tests conducted before integration, number of TB, EID and VL tests conducted after integration. Hub and spoke mini-sample transport models were used for testing and return of results. Data was entered and analyzed using MS Excel 2016.

LESSONS LEARNED: Overall, 7280 tests were conducted. Of these, 3978 (55 %) VL, 2296 (36 %) TB and 1006 (14 %) EID tests. In 11 months at 80% device capacity, an increase in device utilization rate from 13% (with TB testing only) to 42% (with TB-HIV integration) was observed, corresponding to a drop in spare capacity from 80% to 58%. Of the 7280 tests run, 6875 successful tests were recorded (6% error rate), of which 931 HIV-exposed infants had access to EID testing and 3705 PLHIV had access to at least one VL test across all 05 sites.

CONCLUSIONS/NEXT STEPS: TB/HIV Integrated POC testing is beneficial, feasible and improves access to EID and VL testing services. Adding HIV (EID/VL) testing increases the device utilization rate without compromising TB testing run on GensXpert. Replicating the mini STS hub and spoke model and running the laboratory 24/7 can create opportunities to integrate testing for other diseases such as HPV and HCV.

ARV PHARMACODYNAMICS AND PHARMACOKINETICS

PEA0083

DOSE ADJUSTMENT OF DORAVIRINE MITIGATES THE PHARMACOKINETIC INTERACTION WITH THE MODERATE CYP3A INDUCER, RIFABUTIN

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BACKGROUND: Doravirine (PIFELTRO™), is a novel non-nucleoside reverse transcriptase inhibitor for the treatment of HIV type 1 (HIV-1). Doravirine is primarily metabolized by oxidation via CYP3A4. A previous clinical trial demonstrated that coadministration of the clinical dose of doravirine (100 mg once-daily (QD)) with multiple dose (MD) rifabutin, a moderate CYP3A4 inducer, resulted in decreased doravirine exposure. Non-parametric superposition supported adjusting the doravirine dose to 100 mg doravirine twice-daily (BID) during rifabutin coadministration to achieve exposures similar to the clinical dose without rifabutin co-administration; thus, this study was conducted to confirm the adequacy of this dose adjustment.

METHODS: This was an open-label, 2-period, fixed-sequence study in healthy adult participants. In Period 1 (P1), 100 mg doravirine QD was administered for 5 days. In Period 2 (P2), following at least a 72-hour washout, 300 mg rifabutin was administered QD for 16 days and coadministered with 100 mg doravirine BID on Days 10- 14. Blood samples to measure doravirine concentrations were collected through 72 hours post dose on Day 5 in P1 and Day 14 in P2.

RESULTS: Sixteen participants (10 female and 6 male) were enrolled. Following coadministration with rifabutin, pharmacokinetics of 100 mg doravirine BID was similar to 100 mg doravirine QD alone; The geometric mean ratios (90% confidence intervals) [doravirine BID + rifabutin/doravirine QD] for Cmax, AUC0-24, and Ctrough were 0.97 (0.87, 1.08), 1.03 (0.94, 1.14), and 0.98 (0.88, 1.10), respectively. There were no serious adverse experiences (AEs) and most AEs were mild in intensity. No AEs were reported following doravirine administration in P1. The most common AEs (number of participants) were rash (5), pruritus (5) headache (4), nausea (3), chills (3), feeling hot (3). Two participants discontinued the study due to multiple AEs in P2 including: headache, feeling hot, chills, pyrexia, nausea, vomiting, asthenia, pallor, tachycardia, hypotension and myalgia. These participants also experienced decreased lymphocyte and neutrophil counts. All AEs resolved by the end of study.

CONCLUSIONS: Coadministration of 100 mg doravirine BID and rifabutin was generally well tolerated. Adjusting the dose of doravirine to 100 mg BID when doravirine is coadministered with rifabutin mitigates the induction of doravirine metabolism by rifabutin.

PEA0084

EFFECTS OF INSTI AND OTHER ARV COMBINATIONS ON FOLATE DISTRIBUTION VIA FOLATE TRANSPORTERS: IMPLICATIONS FOR NEURAL TUBE DEFECTS

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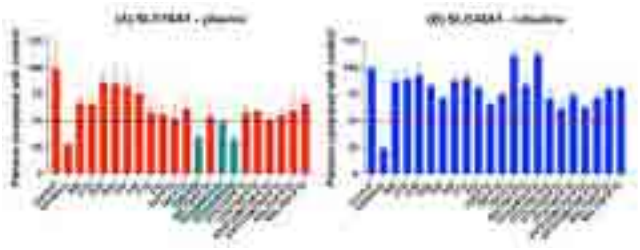
BACKGROUND: Updated results from the Tsepamo cohort found the incidence of neural tube defects (NTD) among newborns born to mothers using dolutegravir (DTG) dropped from 0.94% to 0.30%, still higher than the general population rate (0.10%). DTG has been postulated to inhibit folate (FOL) transport via the FOL receptor or transporters. Some in vitro studies revealed that DTG at clinical concentrations slightly inhibited both FOL-receptor and FOL-transporters without statistical significance. Studies to date have only looked at DTG and other integrase inhibitors (INSTIs) alone in cell models. We investigated the inhibitory effect of combination ART that includes INSTIs on FOL transporters.

METHODS: FOL transporter (SLC19A1 and SLC46A1)-overexpressing cells were established by transfecting cDNA plasmids into HEK293 cells. Cells were seeded and grown until confluent. The effects of individual antiretrovirals (ARVs) and ART combinations on FOL transporters were evaluated at pH 7.4 at maximum drug plasma concentrations using 10nM methotrexate (MTX, with [3H]-MTX) and at pH 5.5 (intestinal condition) using 20nM FOL (with [3H]-FOL) at maximum doses of ARVs and ART combinations. Uptake studies were performed, and radiochemical activity measured.

RESULTS:



[Figure 1. Effects of INSTI and ART combinations on FOL transporter (A) SLC19A1 (plasma, pH 7.4) and (B) SLC46A (pH 5.5)]

SLC19A1 was the major FOL transporter in plasma, with activity >3-fold that of SLC46A1. No single INSTI significantly inhibited MTX uptake via SLC19A1; however, combinations of TDF/FTC, DTG/ABC/3TC, and DTG/TDF/3TC inhibited >50% of SLC19A1 activity (Fig. 1A). SLC46A1 was a major FOL transporter at pH 5.5 with activity >24-fold higher than SLC19A1. No single INSTI and none of the ART combinations significantly inhibited (>50%) FOL uptake via SLC46A (Fig. 1B).

CONCLUSIONS: No single INSTI significantly inhibited FOL transporters in cell models. However, commonly used INSTI-containing ART combinations caused significant decreases in SLC19A1 activity in plasma, which serves as a mechanism by which FOL transfers to the developing fetus. These findings emphasize the need for preconception FOL fortification for women on INSTI-based ART combinations.

PEA0085

TARGETING TIPRANAVIR TO MESENTERIC LYMPH NODES (MLNS) FOR IMPROVED TREATMENT OF HIV/AIDS

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BACKGROUND: Tipranavir (TPV) is an HIV protease inhibitor efficiently suppressing drug resistant strains of the virus. However, TPV has limited bioavailability following oral administration if not boosted with co-administered ritonavir. It has been reported that the bioavailability of TPV is increased when the drug is taken with a high-fat meal. Intestinal lymphatic transport is one of the absorption pathways of lipophilic molecules when they are co-administered with lipids. Gut-associated lymphoid tissues (GALTs), including mesenteric lymph nodes, is one of the most important HIV reservoirs. Delivering antiretroviral agents to GALTs via intestinal lymphatic transport can lead to high levels of antiretroviral drugs in this reservoir.

METHODS: The intestinal lymphatic transport potential of TPV was assessed by our previously reported in silico and in vitro methodologies. The chylomicron association assay was initiated by incubating TPV with chylomicron-like emulsion at 37 °C for 1 hour. Chylomicrons were then isolated by density gradient ultracentrifugation and TPV concentration was determined by means of HPLC. Male Sprague Dawley rats were used in pharmacokinetic and biodistribution studies. Blood samples were collected at predetermined time points following intravenous and oral administration. Mesenteric lymph nodes (MLNs), lymph fluid and additional viral reservoir tissues were collected at plasma t_{max} and t_{max-1} hour following oral administration and analyzed for TPV.

RESULTS: In silico model predicted CMs association of 57.2% for TPV and in vitro association model demonstrated 31.7 ± 4.7% (mean ± SD, n=22) of CMs association. The absolute oral bioavailability of TPV following oral administration in lipid-based formulation (57.3%) was higher compared to lipid-free formulation (38.9%). Finally, following oral administration of TPV in lipid-based formulation, at plasma t_{max} the concentration of TPV in MLNs, lymph fluid and plasma were 3119 ng/g, 8129 ng/mL, and 1866 ng/mL, respectively, suggesting very efficient targeting of TPV to GALTs viral reservoir.

CONCLUSIONS: Oral administration of TPV in lipid-based formulation to rats resulted in substantial intestinal lymphatic transport with high concentration of the drug in GALTs, an important viral reservoir. This could be a promising direction in optimization of treatment of HIV/AIDS with TPV and other antiretroviral drugs.

PEA0086

USE OF TRADITIONAL MEDICINES AND EFFECT OF CLAY-BASED REMEDIES IN PREGNANT HIV-POSITIVE WOMEN

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BACKGROUND: In Africa, traditional medicines (TM) are commonly used during pregnancy. DolPHIN-2 (NCT03249181) evaluated dolutegravir (DTG) vs efavirenz regimens in 268 HIV+ pregnant women in Uganda and South-Africa during third trimester. Use of TM was recorded and managed to avoid drug interactions. In addition, use of a clay-based TM ('Mumbwa') was evaluated for potential to reduce DTG absorption through cationic binding. Mumbwa is a carrier system frequently containing other herbal remedies.

METHODS: We used the WHO definition of TM. Where a potential drug interaction was identified, participants were counselled appropriately. Samples of Mumbwa were procured from street vendors across Kampala, and their elemental content evaluated using energy dispersive X-ray fluorescence.

To assess the potential for Mumbwa to reduce the absorption of DTG, male Balb C mice (average weight 22.5g) were administered 150mg/kg DTG in water (n=42) or in a Mumbwa slurry (n=42) via oral gavage. Groups of 6 mice from each dosing regimen were serially sacrificed at 0, 0.5, 1, 2, 4, 8- and 24-hours post-dose and plasma collected for measurement of DTG concentrations by LC-MS.

RESULTS: At screening, TM was used during pregnancy in 34.32% (92/268) of mothers (65.5% (91/139) in Kampala and 0.8% (1/129) in Cape Town). Following the introduction of ART, this figure fell to 8.44% (15.6% (19/122) in Kampala and 0.9% (1/115) in Cape Town) of evaluable mothers. TM was mostly used to enhance general well-being of the pregnant women (32/92), treat pregnancy-related symptoms such as nausea, vomiting, and pica (24/92), make the unborn baby healthier (22/92), or prevent obstructed labor (14/92).

The most common TM was Mumbwa (used in 75% of 92), which was found to contain 8.4-13.9% aluminum, 4-6% iron and traces of Mg++, Ca++, and Zn++. In mice, coadministration of Mumbwa resulted in a reduction in the AUC0-24 (↓21%, p=0.0271) and C24 (↓53%, p=0.0028) of DTG.

CONCLUSIONS: TM use during pregnancy was common in Kampala. Concomitant administration of Mumbwa was associated with reduced DTG exposure in mice and should be avoided in pregnant women receiving DTG.

PEA0087

PHARMACOKINETICS AND SAFETY OF LONG-ACTING TENOFOVIR ALAFENAMIDE IMPLANTS IN MACAQUES FOR HIV PREVENTION

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BACKGROUND: To fulfill the promise of ending the global HIV epidemic in the absence of an effective vaccine, sustained release of antiretrovirals for months to years is needed. We assessed the pharmacokinetic release profile and biocompatibility of polycaprolactone (PCL) biodegradable implants containing tenofovir alafenamide (TAF) in rhesus macaques.

METHODS: TAF or placebo implants were administered subcutaneously in the arm using a trocar. Three macaques were enrolled in one of 3 dosage groups (Table). Drug release and local skin reactions were monitored once-weekly for 8-20 weeks. We measured tenofovir (TFV) in plasma (LOD=10ng/ml) and TFV diphosphate (TFV-DP) in PBMCs and rectal/vaginal tissues. Local toxicity (erythema/swelling) was documented using Draize scale (0-4) and H&E staining following implant removal.

RESULTS: TFV was undetectable in plasma. Median TFV-DP in PBMCs in the LD, MD and HD groups were high and sustained during the entire study (378.5, 868.5, and 1,527 fmols/10^6 cells, respectively). TFV-DP was detected in rectal tissues (4 [BLOQ-10], 8.5 [BLOQ-19], and 32 [10-104] fmols/mg of tissue for LD, MD and HD groups, respectively). TFV-DP in vaginal tissues was mostly undetectable.

Local skin reactions were none (grade 0) in 33.3% (LD), 21.2% (MD) and 46.9% (HD) of observations. Mild reactions (grade 1-2) were seen in 61.9% (LD), 69.7% (MD), and 37.5% (HD) of observations. Moderate to severe reactions (grade 3-4) occurred once in the LD group after documented implant breakage and in 9.1% and 3.1% of observations in the MD and HD groups, respectively. H&E staining in the LD and MD group revealed moderate to marked deep dermal inflammation. No local reactions were noted with placebo implants.

Implant dosage group	Total expected TAF release rate	# of TAF implants/ animal	# of Rhesus Macaques	Duration in situ (weeks)	Median TFV-DP in PBMCs (fmol/10^6 cells) [range]	Local reactivity/ observations (grades 0-4)
Low dose (LD)	**0.16** mg/day	1	3	8	378.5 [87.3-1,678]	Grade 0: 7/21 Grade 1-2: 13/21 Grade 3-4: 1/21
Mid dose (MD)	**0.35** mg/day	1	3	11	868.5 [205.6-1,669]	Grade 0: 7/33 Grade 1-2: 23/33 Grade 3-4: 3/33
High dose (HD)	**0.7** mg/day (0.35 mg/day x 2)	2	3	16 (on-going	1,527 [394.9-3,710]	Grade 0: 45/96 Grade 1-2: 36/96 Grade 3-4: 3/96

[Table]

CONCLUSIONS: Our TAF implants delivered high and sustained TFV-DP levels in PBMCs for more than 3 months, exceeding those from oral TAF (>10-50x above known correlates of PrEP protection by TDF/FTC). Local toxicity was noted in some animals after prolonged use. Our results support further pre-clinical evaluation of these implants in SHIV challenge models for long-lasting protection and minimal toxicity.

NEUROPATHOGENESIS

PEA0088

PREDICTORS OF SENSORY NEUROPATHY AND NEUROPATHIC SYMPTOM WORSENING AFTER 12 YEARS IN AGING PEOPLE WITH HIV

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BACKGROUND: Little is known about the long-term evolution of distal sensory polyneuropathy (DSP) and distal neuropathic pain (DNP) in older people with HIV (PWH). Whether those without DNP will go on to develop it is unknown. We evaluated these issues in the CHARTER Aging cohort, which enrolled individuals soon after the roll-out of combination antiretroviral therapies and brought them back 12 years later.

METHODS: Participants at 6 U.S. centers underwent standardized clinical and laboratory evaluations at baseline and 12 years. Evaluations included examination for signs (bilateral distal vibration, sharp and touch loss) and symptoms (pain, numbness, paresthesias). DNP severity was rated on a standardized scale. Additional assessments measured instrumental activities of daily living (IADLs), quality of life and employment. Factors potentially associated with DSP and DNP progression included HIV disease severity and treatment indicators, demographics and co-morbidities. Odds ratios were calculated for DSP and DNP at follow-up.

RESULTS: Of 262 participants, 22.5% were women and 58.0% were non-white. Mean baseline age was 43.6 (± 8.03) years and median (interquartile range) nadir and current CD4 were 175 (IQR 30, 280) and 454 (284, 620). DSP prevalence increased from 25.9% at baseline to 43.5% at 12 years; 21.1% had incident DSP. Of 183/262 individuals without pain at baseline, 45 (24.9%) had incident DNP. Of 81 with DNP at baseline, 23 (28.4%) worsened, and 14 improved. Individuals who were employed at baseline were much less likely to have incident DNP at 12 years than those who were unemployed (OR 0.166 [95% CI 0.0561, 0.489]). Higher baseline BMI was associated with incident DNP (OR 1.06 [1.00, 1.12] per unit increase). Participants with DNP at follow-up had significantly worse physical and mental health at follow-up than those without, and were more likely to have become dependent in IADLs.

CONCLUSIONS: HIV DSP and DNP increased in prevalence and severity over 12 years. The burden of these complications remains high, with many long-term survivors experiencing pain and disability. Protective factors for incident DNP included being employed and having lower BMI at baseline. Understanding the risk factors for incident and worsening DSP and DNP will inform the development of preventative strategies.

HOST CELLULAR FACTORS AND LATENCY

PED0771

TRANSLATION AND VALIDATION OF THE HIV STIGMA SCALE TO MOSHI, TANZANIA

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BACKGROUND: Enacted, anticipated and internalized HIV stigma are informed by individual and community-level stigmatizing attitudes that impede all steps of the HIV care continuum. While much research has been conducted to understand HIV stigmatizing attitudes from the perspective of people living with HIV, little psychometric evidence exists on scales that evaluate stigmatizing attitudes in the general population. Furthermore, HIV stigma has been shown to vary by cultural context, pointing to the need for measures validation in various regions and across languages.

METHODS: A scale to measure HIV stigmatizing attitudes in Tanzania was developed from a modification of the HIV stigma scale (HSS) by Visser et al. Items were added to the original scale based on the team's formative qualitative research and other stigma instruments. The resulting 18-item scale was translated into Swahili and back translated into English by the team's native Swahili speakers. The scale was pilot tested and further modified for cultural context and ease of understanding. From April to November 2019, 1008 women and 489 male partners were enrolled in an HIV stigma reduction study at two antenatal care clinics in Moshi, Tanzania. The validity and reliability of the HSS scale were analyzed using rigorous statistical methods for scale validation.

RESULTS: The translated version of the HSS scale was found to have acceptable domain coherence. Reliability was strong (Cronbach's alpha = 0.92). Exploratory and confirmatory factor analysis of one, two, and three factor models were conducted, and the two-factor model showed ample results, pointing to subscales of blame/moral judgement and isolation/social distancing. HSS scores were externally validated with the anticipated HIV stigma scale scores and were moderately positively correlated ($r = 0.43$, $n = 1497$, $p < 0.001$).

CONCLUSIONS: Given the role that HIV stigma plays as a barrier to HIV care engagement, the development of tools to adequately evaluate HIV stigmatizing attitudes is critical for public health research. This study presents one of the only Swahili adaptations and validations of the HSS instrument. The tool had acceptable psychometric properties, suggesting it can be used to measure stigma in a Tanzanian setting and is adaptable to other locales.

TRACK B

ACUTE AND EARLY INFECTION

PEB0088

THE FEASIBILITY AND CHALLENGES OF DIAGNOSING AND TREATING ACUTE HIV INFECTION IN A RESOURCE LIMITED HIGH HIV INCIDENCE SETTING IN ESWATINI

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BACKGROUND: Diagnosing and treating acute HIV infection (AHI) is challenging in resource-poor settings, limiting HIV epidemic control. We evaluated the feasibility of diagnosing and treating AHI in a high HIV incidence setting in Eswatini.

METHODS: Patients were prospectively screened for and diagnosed with AHI using Xpert HIV-1 viral load (VL) quantification in one secondary care outpatient department in Shiselweni (Eswatini), between March and October 2019. Patients were eligible for VL testing if they

1) were HIV-negative as per routinely used rapid-diagnostic-tests (RDT) (Alere Determine™, Unigold™) and had conditions suggestive of AHI (fever/ sore throat/ symptoms of sexual transmitted infection (STI)), or;

2) had an inconclusive RDT test result, or;

3) were referred from the pre- and post-exposure prophylaxis programme as a presumptive AHI case.

AHI was confirmed if at least two VL measurements were between 40 to 9,999 copies/mL, or one VL measurement ≥10,000 copies/mL.

We used descriptive statistics and Kaplan-Meier estimates to describe the AHI care continuum. Generalized linear models determined predictors of highly infectious cases of AHI, defined as patients with VLs >10,000 copies/mL.

RESULTS: Of 530 patients screened for AHI, 22 (4.2%) had AHI with a median VL of 53,100 (IQR: 4,980-903,000) copies/mL. Seven (1.3%) had two VL results between 40-9,999 copies/mL and 15 (2.8%) had one VL ≥10,000 copies/mL. Predictors of highly infectious AHI were an inconclusive RDT test result (aRR 12.74; 95% CI: 3.81-42.65), diagnosed STI (aRR 2.87; 1.22-6.72), oral ulcer (aRR 9.15; 4.21-19.87) and patient self-reported fatigue (aRR 4.14; 1.53-11.26). Of all AHI cases (n=22), 14 (63.6%) initiated ART at a median of 1.5 (IQR 0-4) days since diagnosis of AHI, with 5 (35.7%) on the same day as diagnosis.

Overall ART retention was 78.6% (95% CI: 47.3%-92.5%) and 71.4% (40.6%-88.2%) at 14 and 180 days after treatment start. Of patients due for VL testing and available VL measurements, 7/10 (70.0%), 8/9 (88.9%) and 6/6 (100%) had a suppressed VL at 2 weeks, 2 and 3 months after ART initiation.

CONCLUSIONS: AHI screening can contribute to timely HIV diagnosis with potential public health benefits. Despite rapid VL suppression, ART initiation and retention remained suboptimal.

PEB0089

RAPID INITIATION OF DARUNAVIR/COBICISTAT/ EMTRICITABINE/TENOFOVIR ALAFENAMIDE (D/C/F/TAF) IN ACUTE AND EARLY HUMAN IMMUNODEFICIENCY VIRUS (HIV)–1 INFECTION: A DIAMOND SUBGROUP ANALYSIS

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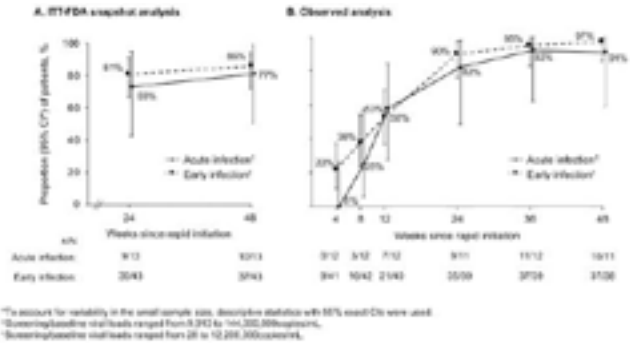
BACKGROUND: Patients with acute or early HIV-1 infection tend to have high viral loads. Treatment is associated with virologic benefits and reduced transmission risk, but adherence may be challenging.

METHODS: DIAMOND (ClinicalTrials.gov: NCT03227861), a phase 3, prospective study, assessed the efficacy/safety of D/C/F/TAF 800/150/200/10mg in rapid initiation. Adults were enrolled ≤14 days after diagnosis and started D/C/F/TAF prior to screening/baseline laboratory result availability. In this analysis, virologic response (HIV-1 RNA <50copies/mL) was evaluated at Week 48 by intent-to-treat FDA snapshot and observed analysis (excluding patients with missing data) in subgroups of patients with acute (HIV-1 antibody negative and HIV-1 RNA positive/p24 positive) or early (HIV-1 antibody positive and suspected infection ≤6 months before screening/baseline) infection.

RESULTS: Among 109 patients, 13 had acute and 43 had early HIV-1 infection. At screening/baseline, 6 (46%) acute and 9 (21%) early infection patients had HIV-1 RNA ≥100,000copies/mL; 12 (92%) acute and 40 (93%) early infection patients had CD4+ cell count ≥200cells/μL. At Week 48, high rates of virologic response were demonstrated with both FDA snapshot and the observed analysis (Figure). No patients discontinued due to baseline resistance or lack of efficacy, and none developed protocol-defined virologic failure. Across both subgroups, mean (SD) cumulative adherence (pill count) through Week 48 was 95% (12%). Over 48 weeks, 7 (54%) acute and 22 (51%) early infection patients had any D/C/F/TAF-related adverse event (AE). D/C/F/TAF-related AEs for acute and early infection patients, respectively, were: grade 3-4 AE, 0 and 2 (5%); AE leading to discontinuation, 0 and 1 (2%); serious AE, none.



[Figure. Virologic response (HIV-1 RNA <50 copies/mL) with D/C/F/TAF rapid initiation over time in patients with acute or early HIV-1 infection.]

CONCLUSIONS: These data support that high rates of suppression during acute/early infection can be achieved with rapid initiation of D/C/F/TAF, including in patients with high baseline viral loads. No treatment-emergent resistance mutations were observed, adherence was high, and D/C/F/TAF was safe and well tolerated.

IMPACT OF CO-FACTORS (E.G., VIRAL CLADE, TROPISM, GENETIC FACTORS) ON DISEASE PROGRESSION

PEB0090

EVALUATION OF VIRAL SUPPRESSION ONE YEAR AFTER GENOTYPING TEST TO GUIDE SALVAGE THERAPY AMONG ADULT PATIENTS INFECTED WITH HIV-1 B OR HIV-1 F SUBTYPE AT POLYMERASE REGION

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BACKGROUND: The impact of subtypes on antiretroviral response is controversial. Subtype F is rare in most of the world but is an important minor variant in most South America and in areas of Europe, with some studies suggesting a worse antiretroviral response.

METHODS: We evaluated the virological response at one year (52 weeks) after genotyping (Sanger sequencing, BigDye, Applied) from retrotranscribed plasma RNA to guide ARV therapy modification in adult patients with virological failure. Stanford db, used for mutations (NRTI, NNRTI, PI) and GSS, were sent to clinical service. NCBI and Rega for subtyping. All subtype F cases (2014-2017) and randomly selected subtype B control cases (1:3) from the same period were anonymized for analysis. Cases failing a first- line regimen were tested in logistic regression. Adjusted analysis was performed for variables with p< 0.2 at unadjusted analysis (Stata10). Pearson-Chi, Kruskal-Wallis or Mann-Whitney were used as appropriate.

RESULTS: Table 1 shows some demographic and laboratory variables at enrollment of the 507 patients according to HIV -1 subtype.

	All N = 507	Subtype B N = 341 (67%)	Subtype F N= 166 (33%)	p
Male Sex	289 (57%)	208 (72%)	81 (28%)	0.009
Age (years)	44 (37 - 51)	44 (37 - 52)	44 (38 - 51)	0.7864
CD4+ T count (cells/mm^3)	284 (155 - 479)	294 (145 - 480)	253 (160 - 466)	0.5878
HIV RNA (log_{10})	3.88 (3.07 - 4.66)	3.79 (3.04 - 4.63)	4.01 (3.12 - 4.76)	0.1934

[Table 1.]

The proportion of cases with TCD4>500 was similar at enrollment (F=21.1% vs B=23.3%, p=0.6), but lower at W52 outcome (F=19.4% vs B=30.1%, p=0.017). Viral suppression (<200cp/mL) was also lower for F=55% vs B=66%, p=0.022. (For supression at <40, F=42% vs B=54%, p=0.012). From 507 patients, 132 (26%) were at first-line failure. Higher number of regimens was associated to lower suppression at W52 (p=0.007). Logistic analysis for cases failing first-line in table 2.

References	Unadjusted Odds Ratio	P	95%CI	Adjusted Odds Ratio	P	95%CI
CD4+T count >500 cells/mm^3	2.95	0.042	1.04 - 8.36	3.05	0.044	1.03 - 9.00
Male sex	2.29	0.045	1.02 - 5.16	2.32	0.055	0.98 - 5.47
Subtype B	3.04	0.008	1.33 - 6.92	2.79	0.018	1.19 - 6.56
Only variables with p<0.2 at unadjusted analyses are shown. Older age, viremia at enrollment, number of mutations to NRTI, NNRTI and NNRTI classes and GSS to drug used in the genotype guided therapy did not reach the p=0.2 cutoff.						

[Table 2: Logistic regression of demographic and laboratory variables and W52 suppression (<200 c/mL) in patients failing a first-line regimen.]

CONCLUSIONS: Although limited by potential confounders, the study adds to literature suggestions that ART response of individuals living with HIV-1 subtype F may be worse than those with HIV-1 B. As shown in previous studies, subtype F is more common among women in Brazil.

MORBIDITY, MORTALITY AND LIFE EXPECTANCY IN CLINICAL RESEARCH

PEB0091

TRENDS IN CLINICAL FOLLOW-UP BETWEEN 2008-2018 AMONG PEOPLE LIVING WITH HIV IN THE TREAT ASIA AND AUSTRALIAN HIV OBSERVATIONAL DATABASES (TAHOD AND AHOD)

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BACKGROUND: To reduce the financial burden on people living with HIV (PLHIV) and health care services, the World Health Organization recommends less frequent clinical visits for PLHIV on stable antiretroviral therapy (ART). This study aimed to assess frequency of follow-up visits and survival outcomes among PLHIV in Asia and Australasia.

METHODS: PLHIV who have been on ART for at least one year enrolled in TAHOD or AHOD between 2008-2018 were included. Follow-up visits were defined as a combination of recorded clinic visit, and laboratory testing dates. Visit rates during this period were analysed using repeated measure Poisson regression. Survival was analysed using competing risk regression.

RESULTS: There were 7705 PLHIV (70% male) included from TAHOD, and 3269 (91% male) from AHOD. The overall visit rate during 2008-2018 was 4.41 per 1 person-years (/PYS) in TAHOD, and 3.72/PYS in AHOD. Adjusting for statistically significant risk factors, there was no trend observed in TAHOD visit rates across calendar years. However, AHOD showed a decreasing trend in visit rates in later years (2010-2012: IRR=0.81, 95% CI 0.79-0.83; 2013-2015: IRR=0.71, 95% CI 0.70-0.73; and 2016-2018: IRR=0.71, 95% CI 0.69-0.72) compared to 2008-2009, p-trend <0.001. In TAHOD, females had higher visit rates compared to males (IRR=1.07, 95% CI 1.05-1.10). The mortality rate was 0.53/100PYS in TAHOD and 0.72/100PYS in AHOD. Calendar year was not associated with survival in either cohort. Compared to those with 2 visits in the previous 12 months, those with ≥4 visits had poorer survival, while those with ≤1 visit had no significant differences in mortality: TAHOD: ≤1 visit: SHR=1.30, 95% 0.70-2.39; ≥4 visits: SHR=2.06, 95% CI 1.30-3.27; AHOD: ≤1 visit: SHR=0.96, 95% CI 0.54-1.73; ≥4 visits: SHR = 1.80, 95% CI 1.13-2.86. Sex was not associated with mortality.

CONCLUSIONS: Visit rates in TAHOD have remained steady over the past 10 years, while rates have declined in AHOD. Survival was not affected by having fewer visits. However, those with more frequent follow-up visits were at increased risk of mortality, which was possibly due to poorer health as a cause of the visits.

PEB0092

CAUSES AND INCIDENCE OF HOSPITALIZATION IN PATIENTS ENROLLED IN THE ICONA COHORT

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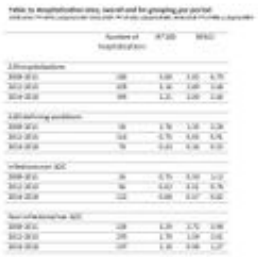
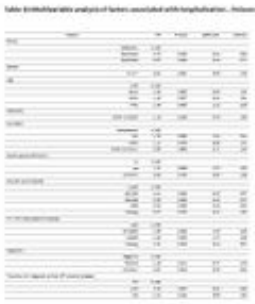
BACKGROUND: Data on the rates of hospitalizations in the more recent HAART era are useful for both healthcare planning and the development of strategies to improve health status of persons living with HIV (PLWHIV). We aimed to describe the change in the incidence of hospitalization between 2008 and 2018, and the reasons for hospitalization among patients who started antiretroviral therapy (cART) from 2008 onwards.

METHODS: We included participants in the ICONA cohort in cART from 2008. The study differentiated hospitalizations in: AIDS defining conditions (ADC), infections non-ADC and non-infections/non-ADC. Hospitalization rates reported per 100 person-years (PY). Comparisons of rates across time assessed using Poisson regression. Poisson multivariable model evaluated risk factors for hospitalizations, including both demographic and clinical characteristics.

RESULTS:





9705 PLWHIV were included. During 36167 PY there were 1058 hospitalizations in 748 (7.7%) subjects (2.9/100 PY): 12.4% IDU, 36.5% MSM, 43.6% heterosexuals, 74.6% males, 42.3% smokers, 16.6% coinfected with HCV and 6.8% with HBV. At hospitalization 34.9% had HIVRNA>50 copies mL, 25.8% CD4<200/mmc. Causes of hospitalization were: 23.3% ADC, 22.7% infections non-ADC, 54.1% non-infections/non-ADC (11.1% cancers; 8.8% gastrointestinal-liver; 6.2% cardiovascular; 4.6% renal-genitourinary; 4.5% psychiatric; 3.9% pulmonary; 14.9% other). Over the study period, IR decreased significantly (from 5.8, in 2008-2011 to 2.2 in 2016-2018). Whereas hospitalization rates for ADC and for non-infections/non-ADC also showed a decreasing trend, the infections non-ADC remained stable throughout the period (Table 1a). Female, age>50 years, IDU, familiarity for cardiovascular disease, HIV-RNA>50, CD4 <200, longer time from HIV diagnosis to first cART were independently associated with a higher hospitalization risk; age, nationality, HCV coinfection were not. Results of multivariate analysis in Table 1b.

CONCLUSIONS: Chronic degenerative diseases are the main cause of morbidity leading to hospitalization in PLWHIV after cART start since 2008.

PEB0093

A COMPARISON OF MORTALITY IN PATIENTS WITH AGGRESSIVE AIDS-RELATED LYMPHOMA TREATED WITH AND WITHOUT RITUXIMAB

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BACKGROUND: In 2018, non-Hodgkin lymphomas (NHL) contributed 2.8% to the total global cancer incidence. In Zimbabwe, NHL contributed 6.8% to cancer incidence, and the majority these cases were attributable to a large, ageing HIV+ population. Rituximab revolutionised the treatment of B-cell NHL. Treatment options for AIDS-related lymphomas (ARLs) in Zimbabwe include chemotherapy +/- rituximab. Currently, the effectiveness of rituximab in the treatment of ARLs in resource limited settings is unknown. This study sought to determine mortality of patients with ARL treated with chemotherapy +/- rituximab.

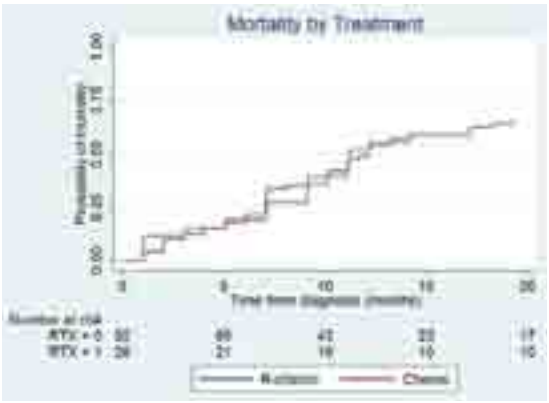
METHODS: A retrospective review of records of adult HIV+ patients treated for high-grade NHL with chemotherapy +/- rituximab between 2015-2017 was conducted. Mortality and disease progression/relapse at 18 months were determined. Mortality functions were estimated using Kaplan-Meier methodology. Risk factors and treatment effects were assessed with Log-rank tests and Cox regression.

RESULTS: One hundred and twenty-four eligible medical records were identified. This was a cohort of black Africans with a median age of 42 (IQR: 20-56) and a 57% male gender distribution. Baseline clinical characteristics are shown in table 1:

Variable	All (N=124)	R-Chemo (n=27)	Chemo (n=97)	P
Ann Arbor clinical Stage, n (%) I/II III/IV	 14 (11.8) 105 (88.2)	 2 (7.7) 24 (92.3)	 12 (12.9) 81 (87.1)	 0.466
Time on cART, n (%) <6 months ≥ 6 months	 46 (37.1) 78 (62.9)	 7 (25.9) 20 (74.1)	 39 (40.2) 58 (59.8)	 0.174
CD4+ cells/mm3, n (%) <100 ≥100	 32 (25.8) 92 (74.2)	 8 (29.6) 19 (70.4)	 24 (24.7) 73 (75.3)	 0.608

[Table 1: Baseline characteristics]

Progressive/refractory disease was diagnosed in 51.6% of the cohort. Rituximab was not associated 18-month mortality, hazard ratio (HR) 1.35 (95% CI: 0.68-2.70). On multivariate analysis, risk factors for 18-month mortality were male gender (HR 1.90, p=0.02), age≥ 40 years (HR 2.38, p=0.005), <3 treatment cycles (HR 2.04, p=0.02), low socioeconomic status (HR 2.06, p=0.03).



[Figure 1: Kaplan-Meier mortality functions by treatment]

CONCLUSIONS: Rituximab did not reduce mortality in Zimbabwean patients diagnosed with ARL. Immune dyregulation may have ameliorated rituximab activity in this cohort. Socio-demographic characteristics and number of treatment cycles predicted mortality. Results suggest that health disparities exist in the population.

PEB0094

EVALUATION OF LOW LEVEL VIREMIA IN A MULTINATIONAL STUDY AND ASSOCIATIONS WITH CLINICAL OUTCOMES, IMMUNOLOGIC OUTCOMES AND MICRONUTRIENTS

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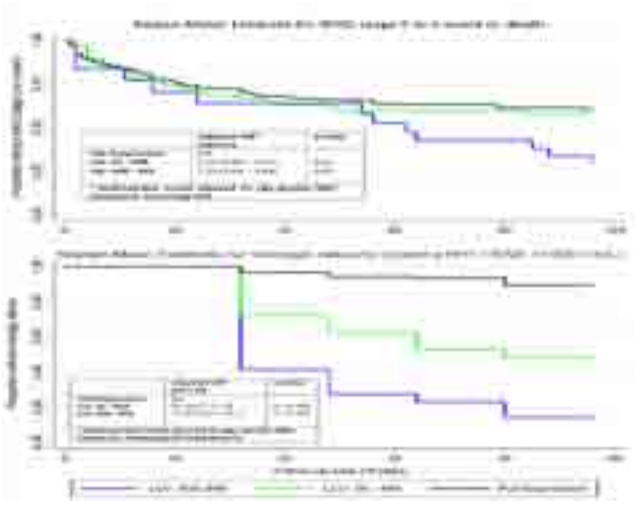
BACKGROUND: Few studies have investigated the outcomes of low-level viremia (LLV) in resource-limited settings. PEARLS (ACTG A5175) was a randomized clinical trial of the efficacy of three antiretroviral regimens in low-, middle- and high-income countries in Africa, Asia, North and South America. Using a highly sensitive assay to measure plasma HIV-1 RNA (VL) in stored specimens from a subset of PEARLS participants, we investigated the significance of LLV after initiation of ART.

METHODS: Plasma and data from 251 individuals previously selected for a case-cohort study of immunologic and micronutrient outcomes in PEARLS were analyzed. VL was measured by Aptima Quant HIV-1 every 3 months after ART initiation. Participants were categorized by VL ≥16 weeks after ART: LLV (consecutive 30-499 or 500-999 c/mL; N=56 and 21, respectively); Never suppressed (NS, ≥1000 c/mL after 16 weeks; N=8); Full suppression (FS, <30 c/mL; N=166). Cox regression models estimated hazards for primary endpoint of WHO stage 3/4 event or death (WHO endpoint) and secondary endpoint of subsequent virologic rebound (VR).

RESULTS:



[Figure]

LLV was associated with the following baseline characteristics: country (P<0.001), HIV subtype (P=0.003), race/ethnicity (P=0.04), randomized study treatment (P=0.01), higher entry viral load (P<0.001), lower serum albumin (P=0.03), lower hemoglobin (P=0.04), lower platelets (P=0.03), higher CXCL-10 (P<0.001), higher TNFα (P=0.003) and higher levels of lutein (p=0.03). In multivariate analyses, participants with LLV 500-999 c/mL had increased hazards of subsequent WHO endpoint (aHR 1.94; 95% CI 1.04-3.46). LLV at both 30-499 and 500-999 c/mL had increased hazards of subsequent VR (aHR 8.4; 95% CI 4.0-17.4; and aHR 31.6, 95% CI 14.5-69.1, respectively).

CONCLUSIONS: Across diverse multinational settings, LLV at 16 weeks or later after ART initiation was associated with having a subsequent WHO stage 3/4 or death and virologic rebound. These findings reinforce the importance of frequent VL monitoring in these settings early post-ART initiation.

PEB0095

TIME TO ART INITIATION FROM HIV DIAGNOSIS AND SURVIVAL TO FATAL AND NON-FATAL SEVERE EVENTS: AN ANALYSIS OF THE HIV ATLANTA VETERANS AFFAIRS COHORT STUDY, 2005-2019

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BACKGROUND: Studies have shown benefits in viral load suppression and mortality for people living with HIV who initiate antiretroviral treatment (ART) immediately after diagnosis, but the impact of early treatment on multiple causes of morbidity and mortality have not been explored.

This analysis aimed to compare time to death and other severe non-fatal events between veterans who initiated ART within 60 days of HIV diagnosis (early) and intermediate (61-365 days) or late (>365 days) initiation.

METHODS: Using data from the HIV Atlanta Veterans Affairs Cohort Study (HAVACS) and Clinical Case Registry, we identified all treatment-naive veterans who initiated ART at the Atlanta Veterans Affairs Medical Center between January 2005 and May 2018; veterans missing key dates such as HIV diagnosis or ART initiation date were excluded from the analysis. Using Cox proportional hazards models, we calculated the unadjusted and Veterans Aging Cohort Study (VACS) index-adjusted hazard ratios (aHR) for the primary composite outcome [death, AIDS-defining diagnosis, malignancy, severe renal or liver disease, atherosclerotic cardiovascular disease (ASCVD), or invasive infection] and all-cause mortality during the study period (January 2005 to May 2019).

RESULTS: In total, 520 veterans (2991.8 person-years) were included in this analysis with 159 total events and 65 deaths. Unadjusted models for the composite outcome and all-cause mortality were not statistically significant. Compared to veterans with early initiation, late initiation was associated with an increased adjusted hazard of the composite outcome [aHR 1.27; 95% confidence interval (CI), 0.76-2.12 and aHR 1.81; 95% CI, 1.15-2.87 for intermediate and late initiation, respectively). Both intermediate and late initiation increased the adjusted hazards of all-cause mortality (aHR 2.49; 95% CI, 1.05-5.94 and aHR 2.81; 95% CI, 1.24-6.33, respectively).

CONCLUSIONS: Independent of baseline characteristics, early ART initiation is associated both with improved overall survival and a reduction in morbidity across a range of severe conditions. These findings highlight the importance of rapid diagnosis and linkage to care. Adopting strategies to streamline treatment initiation soon after diagnosis may lead to improved morbidity and mortality, closing the survival gap between people with and without HIV.

PEB0096

RISK OF HOSPITALISATION ACCORDING TO DEMOGRAPHIC, SOCIOECONOMIC, MENTAL HEALTH AND LIFESTYLE FACTORS AND CAUSES FOR ADMISSION IN PEOPLE LIVING WITH HIV IN THE UK

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BACKGROUND: Hospitalisation is a major marker for AIDS and non-AIDS morbidity in people with HIV (PLHIV). However, little is known about the rate, causes and factors associated with hospitalisations in PLHIV in the UK in the recent ART era.

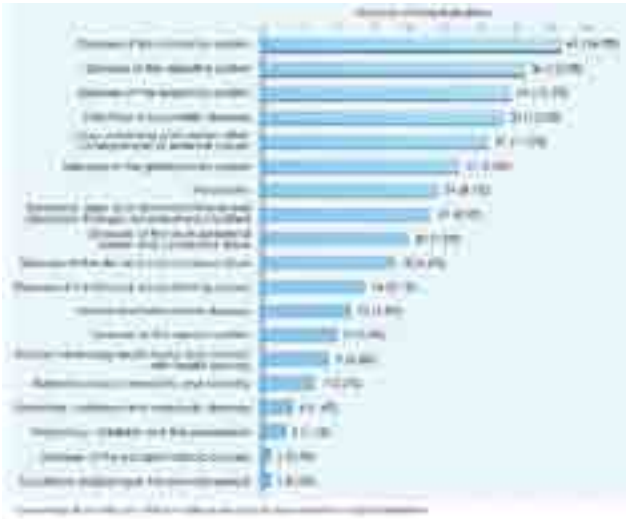
METHODS: In a sub-study of the ASTRA questionnaire study, 798 individuals recruited at a London, UK, site who consented to routine clinical data linkage were included. A medical record review identified occurrence and ICD-10 classified causes of all hospital admissions from questionnaire completion (2011-2012; baseline) until 1 June 2018.

We used Prentice-Williams-Peterson gap time models to calculate hazard ratios (HR) of repeated all-cause hospitalisation according to baseline clinical, demographic, socioeconomic, mental health and lifestyle factors.

RESULTS: 274 hospitalisations occurred (153 had ≥1 hospitalisation): an overall rate of 6.2/100 person-years. 80% of hospitalisations were emergencies. The re-admission rate was 64/100 person-years. Factors predicting hospitalisation included: older age, being a woman or heterosexual man with ethnicity other than Black African, financial hardship, no stable partner, having children, low CD4, ART non-adherence, injection drug use and depressive symptoms (table). The most common causes of hospitalisation were circulatory, digestive and respiratory diseases, infectious diseases and injury, poisoning and other consequences of external causes (figure).

Demographic group (vs. MSM)	Unadjusted HR (95% CI)	p-value	Adjusted HR (95% CI) (adjusted for age; demographic group; years since diagnosis)	p-value
Black African heterosexual men	1.2 (0.7, 1.9)	0.0081	1.2 (0.7, 2.0)	0.0071
Other heterosexual men	1.8 (1.3, 2.7)		1.9 (1.3, 2.8)	
Black African women	0.8 (0.6, 1.3)		0.9 (0.6, 1.4)	
Other women	1.4 (1.0, 2.1)		1.5 (1.0, 2.3)	
Age (vs. <=35)				
36-50	1.0 (0.7, 1.5)	0.0097	0.8 (0.6, 1.3)	0.0047
51-60	1.1 (0.7, 1.8)		0.9 (0.6, 1.5)	
>60	1.8 (1.1, 2.8)		1.6 (1.0, 2.7)	
Money for basic needs? (vs. always)				
Mostly	1.2 (0.9, 1.6)	0.0409	1.2 (0.9, 1.7)	0.0415
Sometimes	1.4 (1.0, 2.0)		1.4 (1.0, 1.9)	
No	1.7 (1.2, 2.6)		1.8 (1.2, 2.8)	
No stable partner	1.4 (1.0, 1.8)	0.0256	1.4 (1.1, 1.8)	0.0170
Has children	1.5 (1.1, 2.0)	0.0038	1.5 (1.1, 2.1)	0.0171
Years since HIV diagnosis (vs. <5)				
5-10	0.8 (0.5, 1.3)	0.0594	0.9 (0.6, 1.3)	0.0852
10-20	1.0 (0.7, 1.4)		1.1 (0.8, 1.6)	
>20	1.4 (1.0, 2.0)		1.5 (1.0, 2.2)	
CD4 count (cells/µl) (vs. >800)				
500-800	1.1 (0.7, 1.5)	<0.0001	1.1 (0.8, 1.5)	0.0010
350-499	1.5 (1.0, 2.2)		1.5 (1.1, 2.3)	
200-349	2.0 (1.3, 3.0)		1.8 (1.2, 2.8)	
<=199	2.1 (1.5, 3.1)		2.2 (1.4, 3.3)	
Ever missed >=2 days ART at a time (vs. no / don't know)				
Yes, once	1.7 (1.1, 2.7)	0.0002	1.9 (1.2, 3.1)	0.0006
Yes, 2-3 times	1.7 (1.2, 2.6)		1.7 (1.1, 2.5)	
Yes, >3 times	2.2 (1.5, 3.3)		2.0 (1.3, 3.0)	
Drug use in past 3 months (vs. no)				
Non-injection drug use	0.9 (0.7, 1.2)	0.0051	1.0 (0.7, 1.3)	0.0032
Injection drug use	1.8 (1.2, 2.7)		2.1 (1.3, 3.4)	
PHQ-9 depression based on score (vs. none/minimal)				
Mild	1.3 (0.9, 1.9)	0.0070	1.3 (0.9, 1.9)	0.0048
Moderate	1.6 (1.1, 2.3)		1.7 (1.2, 2.4)	
Severe	1.8 (1.3, 2.6)		1.9 (1.3, 2.8)	

[Table]



[Figure. ICD-10 classified causes of hospitalisation]*

CONCLUSIONS: Socioeconomic hardship, poor mental health and adverse lifestyle factors are important predictors of hospitalisation in people with HIV. The causes of hospitalisation are wide-ranging with no single cause dominating. Better understanding of causal mechanisms is needed to inform possible interventions. Given the high costs of hospitalisation such interventions could be cost-effective.

PEB0097

COHORT STUDY ON HIV/AIDS-RELATED MORTALITY FOR KEY POPULATIONS MANAGED UNDER PROGRAMMATIC CONDITIONS IN PAPUA NEW GUINEA: 2008 - 2019

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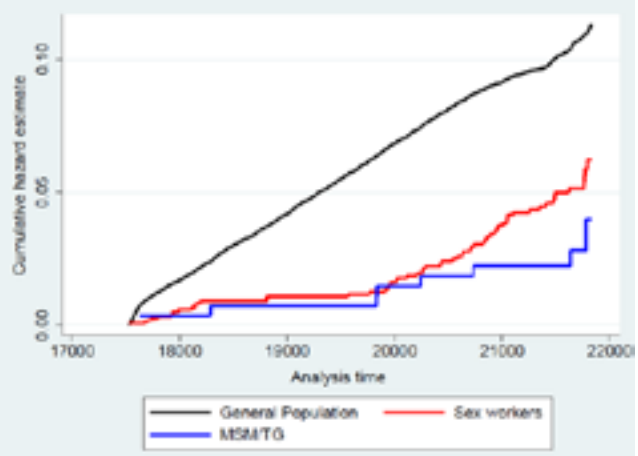
BACKGROUND: Since roll-out of the ART program in Papua New Guinea (PNG) deaths among people living with HIV (PLHIV) have declined. However, there lacks empirical evidence on differences in mortality across subpopulations. Our aim was to compare HIV-mortality between key populations (KPs) and the general population (GPs).

METHODS: We conducted a retrospective cohort study using routine cased-based program data. Anonymised electronic data from the national server with all patients enrolled on ART in 26 health facilities across the country between January 2008 and September 2019 was included. We excluded incomplete or erroneous records. Survival analysis using Cox regression was conducted to determine hazard ratios and mortality rates.

RESULTS: A total of 46,851 patients were followed-up for 973,141,441 person years. Of these, 1.57% were sex workers (SWs), 0.31% men-who-have-sex with men and/or transgender (MSM/TGs) and 98.1% general population (GPs). Throughout the follow-up period 3,919 deaths were reported with the majority of them occurring among the GPs. Surprisingly, mortality rates for SWs and MSM/TGs at 0.22 (95% CI 0.17 – 0.29) and 0.13 (95% CI 0.07 – 0.29) where significantly lower than that of GPs. Similarly, the KPs groups had statistically significant lower hazard ratios than the GPs (see figure 1). Although both point estimates of mortality rates and hazard ratios for MSM/TGs were lower than that of SWs, it was not statistically significant.



[Figure 1: Nelson-Aalen cumulative hazard estimates for key populations]

CONCLUSIONS: In this cohort, KPs had significantly lower HIV/AIDS-related mortality compared to the general population. KPs may be at high risk for HIV transmission however, GPs are the biggest sub-population of PLHIV who also have a much higher mortality. Resource allocation to bring the epidemic under control should thus leave no-one behind. We recommend that another study be carried out to understand factors associated with mortality so that appropriate solutions can be crafted.

PEB0098

FACTORS ASSOCIATED WITH HIGH MORTALITY AND LOSS TO FOLLOW-UP AMONG "CHALLENGING" PATIENTS IN ARGENTINA RE-ENGAGING IN HIV CARE

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BACKGROUND: Re-engaging "challenging" HIV-infected patients – those not retained in care – is a critical component of national HIV programs to achieve the 90-90-90 goals. Argentina guarantees comprehensive HIV care services, including free ART. Yet, dropout occurs at every stage of the care continuum.

METHODS: The COPA2 study (NCT02846350) is a cluster-randomized clinical trial to test the effectiveness of physician-delivered Motivational Interviewing (MI) to improve retention and viral suppression among "challenging" patients in Argentina. From November 2016 to March 2018, 360 individuals were enrolled in 7 clinics (3 intervention, 4 standard of care). Demographic, psychosocial, and clinical information was collected at baseline. Participants were asked to return for follow-up visits at 6, 12, 18 and 24 months. This analysis looked at baseline factors associated with death, loss to follow-up, or new AIDS events during the first 18 months.

RESULTS: 353 individuals were included in analyses. The average age was 39 years old, 78.5% were white, 51.3% were cisgender women (48.7% cisgender men), and 55.2% were currently employed. The average monthly household income was $278 USD, and 46% completed high-school education. 51% were randomized to MI and 69.7% were seen at public clinics. Over the first 18 months, 16 (4.5%) died, 97 (27.5%) were lost to follow-up and 33 (9.3%) developed a new AIDS event. Death rate was constant along the period and multivariate analysis could not find baseline factors significantly associated to death. Regarding retention, those with drug abuse at baseline were 3 times more likely to be lost at 18-months, while those who changed ART regimens at enrollment were 44% less likely. Only baseline viral load (VL) was associated with new AIDS events: for every one log10 increase, participants were 2.3 times more likely to experience a new AIDS event.

CONCLUSIONS: This study highlights the high mortality and loss to follow-up among challenging patients. Drug abuse and higher VL predicted loss to follow-up and new AIDS events, respectively, while changing ART regimen was associated with better retention. Rapid ART change and comprehensive interventions, including harm reduction, might have an impact in reducing adverse outcomes in individuals previously disengaged from care.

Funding: R01MH110242, P30AI073961

HIV TESTING AND RETESTING (E.G., POINT-OF-CARE DIAGNOSTICS)

PEB0099

ASSESSMENT OF HIV TESTING RECOMMENDATIONS IN GREEK SPECIALTY GUIDELINES: A MISSED OPPORTUNITY FOR RECOMMENDING TESTING

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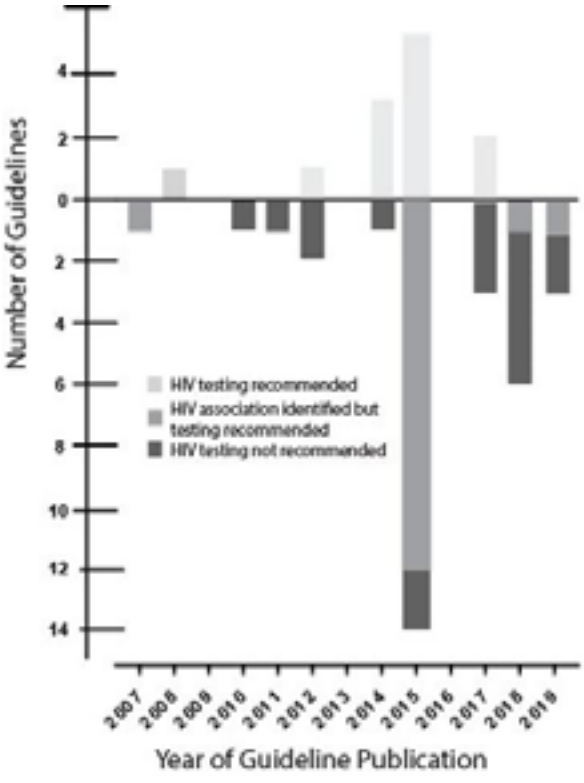
BACKGROUND: European guidelines recommend HIV testing for patients presenting with indicator conditions (ICs) including AIDS-defining conditions (ADCs). The extent to which non-HIV specialty guidelines recommend HIV testing in these conditions remains unknown. Our aim was to review specialty guidelines in Greece and ascertain if HIV was discussed and testing recommended

METHODS: European HIV testing guidelines were reviewed to produce a list of 25 ADCs and 48 ICs. Greek guidelines for these conditions were identified from searches of the websites of specialist societies, the National Public Health Organization / Ministry of Health website, and from Google searches

RESULTS: We identified guidelines for 11/25 (44%) ADCs and 30/48 (63%) ICs. Fourteen out of 25 key ADCs and 18 of ICs had no Greek guidelines available. In total, 47 guidelines were reviewed (range 1–6 per condition); 11 (23%) for ADCs and 36 (77%) for ICs. Association with HIV was discussed in 7/11 (64%) ADC and 8/36 IC guidelines (22%), whereas HIV testing was appropriately recommended in 2/11 ADC (18%) and 10/36 IC guidelines (28%). Significant differences were found for the distribution of recommendation to test in both types of condition (ADCs or ICs), with ICs having higher percentage of non-recommendation (50%, p<0.05).No association was observed between source of guideline or year of publication and recommendation to test (p=0.54 and p=0.07, respectively).



[Figure]

	Number of guidelines identified n (% of total)	GR guidelines where HIV testing is recommended n (%)	GR guidelines where association with HIV reported but not advise testing n (%)	GR guidelines where HIV is not mentioned n (%)
All guidelines	47 (100)	12 (26)	15 (32)	20 (42)
AIDS-defining conditions (ADC)	11 (23)	2 (18)	7 (64)	2 (18)
Indicator conditions (IC)	36 (77)	10 (28)	8 (22)	18 (50)
Source of guidelines				
Specialty society guidelines	41 (87)	11 (27)	14 (34)	16 (39)
National Public Health Organization / Ministry of Health	6 (13)	1 (17)	1 (17)	4 (66)

[Table 1. Recommendation for HIV testing and reporting of association with HIV, stratified by type of guideline]

CONCLUSIONS: The majority of guidelines for ICs and ADs do not recommend testing. Clinicians managing ICs may be unaware of recommendations produced by HIV societies or the prevalence of undiagnosed HIV infection among these patients

PEB0100

EVALUATION OF THE USE OF HIV ORAQUICK AMONG MALNOURISHED CHILDREN BELOW 5 YEARS IN UGANDA

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BACKGROUND: Blood is the most commonly used specimen to test for HIV in the past 30 years, use of saliva as an alternative specimen for HIV testing has been explored.

Most tests on the use of saliva have been carried out on adults and have yielded positive results however such studies have not been explored in children.

Studies in adults have also seen advantages of OraQuick method such as ease of specimen collection and high degree of acceptability. This would make oral fluid testing a good alternative for HIV screening in infants where its challenging to perform a venepuncture especially in the malnourished population.

METHODS: We conducted a clinical trial to evaluate the effect of Modified F75 among malnourished children with severe diarrhoea attending Mulago National Hospital for a period of 18 months. A total of 400 children were enrolled, ART naïve children between 18-56 months were tested for HIV using OraQuick test and blood based tests according to the Uganda testing algorithm. Statistical analyses were done using STATA Version 14.

RESULTS: The prevalence of HIV among the study population was 23%, the HIV oral fluid was accurate with sensitivity of 100%, specificity of 100% (95% CI), Positive and Negative predictive values at 100%. Phlebotomists and ward nurses preferred HIV OraQuick because it was easy to collect the sample and non-painful to the participants (93%, n=45).

CONCLUSIONS: The HIV OraQuick test has high specificity and sensitivity and acceptable method by phlebotomists and nurses on paediatric wards. This method is required to be added to National HIV testing Algorithm with ability to increase access to HIV testing especially in malnourished and anaemic populations.

PEB0101

EVALUATION OF CD4 T-CELLS ON THE BD FACSLYRIC, BD FACSPRESTO AND BD FACSCOUNT SYSTEMS

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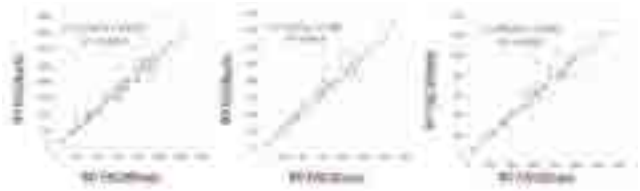
BACKGROUND: CD3+CD4+ count remains one of the most important indicators in HIV/AIDS staging and patient management. BD developed a new clinical flow cytometer, the BD FACSLyric™ *, featuring streamlined workflow and standardization to help maximize cross-lab compatibility and data quality. The BD FACSPresto™ is a portable CD4 counter.The BD FACSCount™ has been used for CD4 counting worldwide for over a decade. In this study, we compare CD4 absolute count and CD4% on the BD FACSLyric, BD FACSPresto, and BD FACSCount.

METHODS: De-identified remnant HIV+ blood specimens(n = 77) were enrolled in the study. Each specimen was stained using the BD Tritest™* CD3FITC/CD4PE/CD45PerCP in BD Trucount™ tubes, the BD FACSPresto Cartridge (CD4PE-Cy5/CD3APC/CD45RAAPC/CD14PE), and the BD FACSCount reagent (CD4PE/CD3PE-Cy5 and CD8PE/CD3PE-Cy5).The stained samples were simultaneously acquired on the three instruments. Results of CD4 count and CD4% were analyzed using linear regression. A two-by-two contingency table was used to assess agreement about CD4 cutoff at 200 cells/μL.

RESULTS: Linear regression results are shown in Figures 1 and 2.On each of the three instruments, seven samples presented CD4 count below 200 cells/μL, while 70 samples were above.



[Figure 1. Comparison of CD4 absolute count (cells/ μL]

[Figure 2. Comparison of CD4%]

CONCLUSIONS: The BD FACSLyric, BD FACSPresto and BD FACSCount are designed to meet the needs of CD4 testing in central laboratories with high sample throughput, small testing laboratories or testing applications that need portable CD4 counters. Using 77 remnant HIV+ samples, we demonstrated consistent results in CD4 T-cell absolute count and CD4% on three instruments.

*The BD Tritest CD3/CD4/CD45 on the BD FACSLyric is not available for sale in the USA.

PEB0102

EXPLORING THE CONTRIBUTION OF INDEX TESTING IN HIV CASE-FINDING IN EGPAF-MACRO SUPPORTED DISTRICTS IN MALAWI: THE CASE OF THYOLO, BLANTYRE, ZOMBA, MWANZA AND CHIRADZULU

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BACKGROUND: Elizabeth Glazer Paediatric AIDS Foundation (EGPAF) with support from Centres for Disease Control and Prevention (CDC) has sub granted Malawi AIDS Counseling and Resource Organisation (MACRO) to assist in HIV case finding in the districts of Thyolo, Chiradzulu, Blantyre, Zomba, and Mwanza.

HIV active and passive Index testing has been rarely used to improve HIV case-finding in sub-Saharan Africa because of concerns regarding privacy protection and possibly high costs. In Malawi, Active Index testing has been intensified since 2018 and this is now being widely introduced to the remaining districts where the prevalence of HIV is high based on the lessons learnt from the other districts.

METHODS: We estimate the contribution of identifying an undiagnosed HIV infection through index testing compared to client-initiated voluntary Counseling and testing (VCT) and provider-initiated testing and counselling (PITC). We used data from 1st Quarter of 2019 Country Operation Plan (COP 19) to inform these calculations so that we ascertain the contributions that index testing has done in HIV case finding.

RESULTS: In the 5 implementing districts, the probability of clients offered HIV index testing and accepting ranged from 78% to 100% giving the average index testing acceptance rate of 85% across the districts. HIV prevalence ranged from 8% to 47% among the partners who were tested with the average HIV prevalence for all the districts standing at 13%.

The average HIV positive contribution of PITC and VCT was 70% against 30% in Index testing across the districts. Mwanza registered a higher contribution from Index testing with 36% and the lowest was Chiradzulu with 28% contribution.

CONCLUSIONS: Intensified active and passive index testing contributes greatly to HIV case finding and complements client-initiated VCT and PITC in a large number of populations affected by generalized epidemics of varying magnitudes.

PEB0103

TEST PERFORMANCE OF THE NEW VERSION OF SERODIA AGGLUTINATION TEST IN HIV-1 INFECTED THAI PATIENTS

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BACKGROUND: Sensitive rapid test (RT) for HIV is still desperately needed, especially in community-based testing. Serodia HIV-1/2 agglutination test (Fujirebio Inc., Japan) is a reliable RT test available in the market for quite some time until recently the company has replaced it with a newer version, Serodia-HIV1/2 MIX which uses recombinant HIV antigens instead of viral lysate like in the older version. In this study, we compared the newer version with the older version of which the Thai Red Cross Anonymous Clinic had used for over a decade.

METHODS: A total of 140 plasma samples (50 HIV-negative, 50 established HIV infections and 40 acute HIV infection (AHI)) were included in the study. Established HIV infection was defined by positive screening with Architect HIV Ag/Ab Combo test, confirmed by Alere Determine HIV-1/2 and Serodia HIV-1/2 tests (the old version). HIV-negative was defined by negative screening test. AHI was defined by positive screening test, HIV-RNA positive, but both confirmatory tests were negative. All specimens were simultaneously tested by Serodia-HIV1/2 MIX (the new version) and Serodia HIV-1/2 (the old version). Results were read by 3 technicians. Any discrepancies were re-tested to confirm the results. Statistical differences between 2 test kits were calculated by Kappa statistic.

RESULTS: Of the 50 HIV-negative samples, Serodia HIV-1/2 gave negative results in all samples but Serodia-HIV1/2 MIX showed indeterminate results in 2. Of the 50 samples with established infections, Serodia HIV-1/2 correctly diagnosed all but Serodia-HIV1/2 MIX showed indeterminate results in 6. Of the 40 AHI samples, Serodia HIV-1/2 couldn't detect any but Serodia-HIV1/2 MIX could diagnose 3 samples but again showed 1 indeterminate result. Substantial agreement was found between 2 Serodia test kits (k=0.73(0.61-0.80),p-values<0.001).

Sample Type	Serodia-HIV1/2 MIX (new version)			Serodia HIV-1/2 (old version)		
	Non-Reactive	Reactive	Indeterminate	Non-Reactive	Reactive	Indeterminate
HIV-Negative	48	0	2	50	0	0
Established HIV Infection	0	44	6	0	50	0
AHI	36	3	1	40	0	0
Total	84	47	9	90	50	0

[Table 1 Comparison of Serodia-HIV1/2 MIX (new version) with Serodia HIV-1/2 (old version)]

CONCLUSIONS: Although both Serodia test kits had concordant results, the new version, Serodia-HIV1/2 MIX was slightly more sensitive since it could detect 3/40(7.5%) of antibody-negative AHI. However, the newer version had many indeterminate test results which required additional work as semi-quantitative assay.

PEB0104

RANDOMIZED COMPARISON OF THE PREFERENCE AND USABILITY OF TWO HIV SELF-TESTING KITS AMONG AUSTRALIAN GAY AND BISEXUAL MEN

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BACKGROUND: HIV self-testing is acceptable and increases uptake of testing, however in many high-income settings, only one test has received regulatory approval. To our best knowledge, there is no randomized real-world preference and usability study of HIVST among gay, bisexual and other men who have sex with men (GBM) living in a high-income country.

METHODS: We invited GBM age >18 years from two sexual health clinics (Melbourne, Sydney) and advertisements via a gay dating app (Grindr). Participants used two self-test kits in random order(one oral, one finger-prick test) and completed a questionnaire regarding their testing experience. A study nurse observed the participant during self-testing to note any deviations from kit instructions.

RESULTS: A total of 170 GBM with mean age 36.9±11.5 participated, 46% born in Australia and New Zealand, and 36% from South America or South-East Asia. Most (77%) had completed tertiary education and 9% had never tested or tested for HIV more than one year ago. In the last 6 months, 31% reported >10 sexual partners and 57% group sex.

In total, 58% preferred the oral HIVST, with ease of use being the top reason for preference (32%). The top reason for the participants who preferred the finger-prick HIVST was perceived greater accuracy of a blood-specimen (28%).

Regarding the oral HIVST kit, 159 (94%) read the written instructions only, 1 (1%) viewed the video only, and 9 (5%) used both. Overall, 24% had difficulty in placing the buffer solution in the stand, 14% had difficulty in swabbing the mouth properly, and 10% did not read the result in the correct timeframe.

Regarding the finger-prick HIVST kit, 160 (94%) read the written instructions only, 1 (1%) viewed the video only and 7 (4%) used both. Overall, 9% had difficulties lancing the finger, 41% had difficulties filling the device test channel, and 9% did not read the result in the correct timeframe.

CONCLUSIONS: Both oral and finger-prick HIVST kits should be made available to optimize uptake of HIVST. Errors that might affect test accuracy were relatively common in an educated group of men using HIVST. Further refinements of the instructions and kit design might improve usability.

PEB0105

DOES ART CONTRIBUTE TO FALSE-NEGATIVE RESULTS IN ROUTINE PMTCT TESTING? EVIDENCE FROM NATIONAL HIV SURVEILLANCE IN ZIMBABWE

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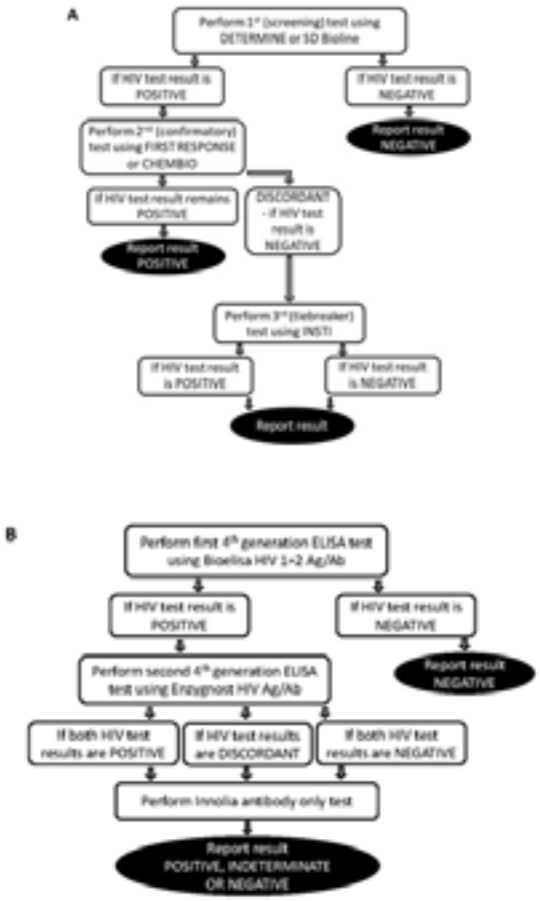
BACKGROUND: People with a previous HIV-positive test result already on ART may be retested in antenatal care because they don't disclose their status or it cannot be confirmed in clinic records. ART may reduce the sensitivity of antibody-based HIV rapid diagnostic tests (RDTs) leading to false-negative results, discontinuation of treatment, and bias in HIV estimates using PMTCT programme data. We investigate levels of false-negative antibody test results in PLHIV on ART in Zimbabwe.

METHODS: The study was conducted in the 2017 national HIV surveillance using data from pregnant women and male partners extracted from PMTCT programme records and quality assurance testing at central laboratories. Figure 1 shows the HIV testing algorithms used in PMTCT (RDTs) (A) and for quality assurance (4th-generation antibody/antigen ELISA and INNO-LIA antibody tests) (B). Following national guidelines, individuals reporting ART, confirmed in clinic records, were classified as 'known-positives'. A GeneXpert pro-viral DNA test (with high sensitivity [PPA=98.2%] and low limit-of-detection [531 cp/mL]) was used as a gold standard to measure the fractions of false-negative results produced by RDT, ELISA and INNO-LIA tests in genuine HIV-positive 'known-positive' individuals on ART.



[Figure 1.]

RESULTS: HIV-negative results were obtained from the laboratory-test algorithm for 5.3% (95%CI=4.3%-6.4%; 92/1744) of PMTCT 'known-positive' pregnant women – 47 cases were negative in initial ELISA tests; 45 cases were HIV-positive in ELISA tests and HIV-negative in confirmatory INNO-LIA tests. No cases were found for 'known-positive' men tested at a different laboratory (N=173). HIV-negative Determine and Chembio RDT results occurred in 0.9% (95%CI=0.5%-1.5%; 16/1744) and 0.3% (95%CI=0.1%-0.7%; 5/1744) of PMTCT 'known positive' cases confirmed using the pro-viral DNA test. Based on the pro-viral DNA test results, 3.5% (95%CI=2.7%-4.4%; 68/1921) of people on ART are HIV-negative in this population.

CONCLUSIONS: RDTs using antibody detection can produce false-negative results in PLHIV on ART but these errors may have been exaggerated. Further research is needed.

PEB0106

LAUNCHING OF A CAPILLARY BLOOD-BASED HIV SELF-TESTING IN A MULTICULTURAL ENVIRONMENT IN CAMEROON

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BACKGROUND: At a time when knowledge of HIV status among people living with HIV lags far behind in Western and Central Africa, HIV self-testing (HIVST) is a new approach that should be incorporated into implementation strategies, particularly for use among populations not reached by existing testing options. On 15 May 2019, HIVST was launched in Cameroon, in a remote rural health district of the Center region named Ngog Mapubi. Our aim was to evaluate socio-demographic factors and behavioural factors associated with acceptability of supervised HIV self-testing among the local population including students.

METHODS: Inclusion criteria were age (≥15 years), and to have willingness to provide verbal consent. Participants were trained on the instructions for use of the CE-IVD marked capillary blood-based Exacto® HIV Self-test (Biosynex, Strasbourg, France) using typical pictures showing the principal steps of self-testing. The testing procedure was also translated into the native Bassa language. The questionnaire was writing on the basis of the different approaches and access to HIVST proposed by WHO. Administrative and ethical approval were obtained.

RESULTS: A total of 322 participants fulfilled the inclusion criteria including 39.4% males (n = 127) and 60.6 % females (n= 195). More than three quarter (78.3%) of participants were single. The mean age was 22 ± 4 years; the majority (71.4%; n = 230) were young students (age ≤ 24 years). It is noteworthy that more than three quarter (77.3%; n = 249) never received HIV counselling and testing in the past. Furthermore, 25% of the study population could only understand the HIVST procedure in the native Bassa language. The acceptability of the test was 99% and 98.13 % of the study population could perform the test.

CONCLUSIONS: HIV self-testing circumvents many of the logistical and stigma-related barriers associated with traditional testing modalities conducted at fixed locations during specific times, and it allows learning one's status to be simpler, more private and convenient. The anonymity offered by self-testing and its high acceptability offers great promise for increasing knowledge of HIV status and improving the efficiency of testing services by reducing burdens on health facilities and health care workers.

PEB0107

EVALUATION OF AN EMERGENCY DEPARTMENT-BASED OPT-OUT HIV SCREENING PROGRAM IN SOUTH FLORIDA

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BACKGROUND: Undiagnosed HIV infection remains a significant public health challenge. Miami and Fort Lauderdale are the geographic area with the highest incidence of HIV infections. As part of the strategy by our community hospital to tackle the epidemic, an opt-out testing site at the busiest emergency department (ED) in this area was implemented. This study aimed to determine testing acceptance, yield and its potential impact on follow-up care.
METHODS: All ED patients aged 16 years or older were approached for a 4th generation HIV testing using an opt-out approach in Memorial Regional Hospital, Hollywood, Florida. Data were extracted from HIV testing program records and administrative hospital databases from July 2018 through June 2019 to obtain the number of ED visits and HIV tests. Acceptance of testing and linkage to care were analyzed.
RESULTS: Over the 12-month study period, there were 96,016 ED patient visits, of whom 54,932 (57.2%) were screened and 22,067 (40.2%) accepted testing for HIV. 121 (0.5%) of these patients had a positive test result. Of these, 38 (31.4%) were newly diagnosed with HIV and 83 (68.6%) had a known diagnosis that was not previously disclosed (P < 0.001). The mean age for patients with HIV was 43 years with 64% male and 86% racial and ethnic minorities. 51.3% of patients with previous HIV diagnoses who were not engaged in HIV care were successfully relinked to care after testing, and engagement in care increased from 53% pre-testing to 77.1% post-testing (P = 0.001). Of the newly diagnosed patients, 84.2% were linked to HIV care.
CONCLUSIONS: Opt-out HIV testing can be successfully implemented in a community hospital ED setting, and was able to identify many new infected patients and link them to care, and also improves re-engagement in care in patients previously diagnosed HIV.

PEB0108

INTEGRATION OF SCREENING RISK BEHAVIOR AND SYMPTOMS SUGGESTIVE OF HIV INFECTION INTO NATIONAL HIV TESTING SERVICES IN MOZAMBIQUE, 2019

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BACKGROUND: With the introduction of Test and Start strategy and the commitment to achieve the 90-90-90 goals set by the WHO, In April 2018, Mozambique has begun to implement the DSD Guidelines. The first module of the national DSD mention about Differentiated HIV Prevention, Screening, and Linkage Approaches, included the implementation in national health system three screening risk behavior and symptoms suggestive of HIV algorithms, to ensure HIV testing for adults, adolescents and children which are really suggestive of being infected with HIV. This approach avoids massive HIV testing by ensuring that testing providers implement focused HTS.
METHODS: In March 2019, Mozambique started to implement the screening risk behavior and symptoms suggestive of HIV algorithms in specific services such as Emergency consultations, Outpatient and External consultations, to ensure HIV testing eligibility for adults, adolescents and children at all public HTS facilities in Mozambique (N = 1,634). HTS providers were trained using a DSD prevention package to ensure focused identification of people living of HIV.
RESULTS: We analyzed HTS routine program data from April to December 2019. Of 2,709,331 persons receiving HIV counseling and testing during this time, 126,001 were tested in Emergency consultations, 1,146989 were tested in Outpatient consultations and 146,229 were testes in External consultations. The proportion testing positive was highest in Emergency consultations (8%), Outpatient consultations with 6% and External consultations with 5% people tested positive.
CONCLUSIONS: Mozambique is one of the high HIV prevalence countries which implements screening risk behavior and symptoms suggestive of HIV algorithms, to ensure the eligibility for HTS of people who are truly at risk of being infected with HIV at national health facilities. Data confirms that the implementation of this approach in the HTS services allows the identification of people living with HIV. The use of screening algorithms also allows the HTS providers to not test for HIV all clients, ensuring quality of testing, psychosocial support, linkages and retention.

PEB0109

DECENTRALIZED EID AND VL TESTING IN SENEGAL: RESULTS FROM THE POINT-OF-CARE PILOT

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BACKGROUND: In 2018, only 49% of HIV exposed infants (HEI) in Senegal received an Early Infant Diagnosis (EID) and 23% of people living with HIV (PLHIV) on treatment received a Viral Load (VL) test. Point-of-Care (POC) devices, GeneXpert (Cepheid) and m-PIMA (Abbott), were piloted in decentralized health settings in Senegal to improve access to testing, result return to patients, clinical decision making, and to reduce testing turnaround time.
METHODS: A retrospective pre-post study was carried out at 8 GeneXpert and m-PIMA sites. The study population consisted of HEI aged 6 weeks or older, and PLHIV on treatment for 6 months or longer. Data was obtained from health facility registers and were collected using SurveyCTO. A comparison was carried out during the same three-month period in 2018 (pre-POC intervention) and in 2019 (post-POC intervention).
RESULTS: Only 34% of EID tests and 68% of VL tests requested were actually processed in 2018 pre-POC intervention. This rate was over 90% post-POC intervention. At the GeneXpert sites in 2018, no EID or VL data was available due to poor access. Post-GeneXpert introduction in 2019, 32 EID and 422 VL tests were carried out during the intervention period with 0% of the EID results being positive for HIV and 71.1% of the VL results suppressed (VL< 1000cpm). The median (IQR) turnaround time for EID and VL tests were 0 (0-0) and 0 (0-1) days respectively. At the m-PIMA sites in 2018, 12 EID and 107 VL tests were performed with an 8.3% positivity rate for EID and 67.3% of VL results suppressed. Post-m-PIMA introduction in 2019, 54 EID and 392 VL tests were performed; 3.7% of the EID tests were positive and

84.4% of the VL tests were suppressed. The median (IQR) turnaround time for EID tests decreased from 106 (89-200) in 2018 to 0 (0-0) days in 2019, and for VL tests from 97 (76 -98) in 2018 to 1 (0-9) days in 2019.
CONCLUSIONS: The use of POC at the decentralized level improves access and turnaround time for EID and VL testing with the potential for better clinical management of patients

PEB0110

USING POINT-OF-CARE TESTING OPERATED BY NON-TECHNICAL STAFF TO IMPROVE HEALTHCARE PROVISION TO INFANTS EXPOSED TO HIV IN MOZAMBIQUE

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BACKGROUND: The early infant diagnosis (EID) testing volumes remain high despite having five reference laboratories that test EID samples in Mozambique. Timely availability of results is a major hindrance to early ART initiation of infected children and a leading cause of loss to follow up. Alternative diagnostic approaches to the use of the conventional systems could be game changers in reducing Turn Around Time between sample collection and results availability thus improving treatment initiation rates in areas with limited resources for conventional EID testing.
METHODS: A prospective cluster-randomized trial was conducted at 16 primary health care clinics (PHC) in Mozambique's two provinces of Maputo and Sofala between September 2015 and December 2016. Eight intervention PHCs implemented the Abbott HIV-1/2 Detect point-of-care (POC) EID test conducted by nurses using whole blood collected from infants aged 1 – 18 months. Eight control sites collected Dried Blood Spots for testing at reference laboratories. We conducted nurses' focus group sessions with 40 nurses from the intervention health facilities to get their views on how point of care testing impacted their work and healthcare provision for infants. Feedback was reviewed to determine impact of POC EID testing.
RESULTS: Operators found POC testing simple to use while giving valuable diagnostic results that are essential for patient treatment and care. POC EID was easily adopted into the nurses' routine work with proper scheduling of consultations even at high volume health facilities. The use of POC at the Consultation for Children at Risk (CCR) enabled the adoption of the One Stop model as children would be tested, diagnosed and initiated on therapy in one visit. Nurses appreciated that mothers did not require multiple visits to follow up infants' results and this in turn reduced redundant consultations where mothers would be following up on results that would not be available.
CONCLUSIONS: Point-of-care testing is essential to improving timely healthcare provision for HIV exposed infants and improves healthcare providers' services in Mozambique. Incorporating non-laboratory based diagnostic approaches enables timely diagnosis of HIV exposed infants in Mozambique. POC EID boosted nurses' morale as they had diagnostic capacity and not relied on the laboratory.

VIRAL LOAD AND CD4 MONITORING

PEB0111

FACTORS ASSOCIATED WITH HIGH-LEVEL VIREMIA IN SOUTH AFRICAN ADULTS ON ANTIRETROVIRAL THERAPY: A RECURRENT EVENTS ANALYSIS FROM AN 8-YEAR PROSPECTIVE COHORT STUDY

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BACKGROUND: Cross-sectional surveys are commonly used in monitoring the UNAIDS 90-90-90 targets. However, robust data from low- and middle-income settings on patients' ability to sustain virological suppression is crucial to monitor the last 90 in the UNAIDS targets. The aim of this study was to assess the long-term rates of high-level viremia (>1000 copies/ml) and identify predictors of these events.
METHODS: We analyzed data for previously ART naïve adults with TB and HIV, who were initially enrolled in the Starting Antiretrovirals at Three Points in TB treatment (SAPIT) trial from June 2005 to July 2008 in South Africa. Upon SAPIT completion, participants were subsequently enrolled in TB Recurrence upon Treatment with HAART (TRuTH) cohort from October 2009 to April 2014. Viral load monitoring was done at enrolment, six monthly and when clinically indicated. In time to event analyses, follow-up started at the date of the first viral suppression. Noteworthy, participants were retained after switching to second-line ART. We used Prentice-Williams-Peterson total time model, allowing for recurring events, to identify predictors of high-level viremia.
RESULTS: We analyzed data for 369 participants (54.7% women) with an average of 6 years on ART (range: 2-8). Of these, 19.0% (n=70; 206 events) presented with at least one measurement of high-level viremia, which occurred in a median (IQR) of 2.0 (1.0-3.4) years post initial viral suppression. The incidence rate of high-level viremia post viral suppression was 5.3/100 person-years (p-y) (95% CI: 3.4-8.3) and 3.1/100 p-y (1.2-8.3) in the first and sixth year, respectively. Older participants (aHR: 0.74; 95% CI: 0.62-0.88) and those with high CD4 count overt time (aHR: 0.60; 95% CI: 0.48-0.76) had lower hazards of high-level viremia. However, viral load measurements taken when participants were on second-line ART (aHR: 5.75; 95% CI: 3.31-10.00) were associated with an increased hazard of high-level viremia.
CONCLUSIONS: Almost three-quarters of participants maintained viral suppression throughout the eight year follow-up, suggesting overall high levels of sustained viral suppression. However, younger participants and those who have been switched to second-line ART were more likely to present with high-level viremia indicating the need for intensified adherence, resistance testing and the correction of the regimen.

PEB0112

VIROLOGIC OUTCOMES AMONG PATIENTS ON FIRST-LINE ANTIRETROVIRAL THERAPY (ART) FOLLOWING TRANSITION TO DOLUTEGRAVIR IN A TERTIARY HIV CLINIC IN UGANDA

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BACKGROUND: Uganda adopted dolutegravir (DTG) as a first-line ART for HIV patients in 2018 replacing non-nucleoside reverse transcriptase inhibitors (NNRTIs). Only virologically suppressed (viral load <1000 copies/ml) individuals were eligible for switch to DTG-based ART. We sought to compare the virologic outcomes of patients on first-line ART during the transitioning to DTG in Uganda.
METHODS: This study was conducted at the Infectious Diseases Institute (Kampala, Uganda) a PEPFAR funded center of excellence for HIV care and treatment. We included electronically collected data for all patients who attended the clinic between January, 2018 and October, 2019. Descriptive statistics were used to compare virologic outcomes among patients on first-line ART regimens and multivariate logistic regression to assess factors associated with a detectable Viral Load (VL) using R version 3:6:1. A detectable VL was defined as ≥75 copies/ml the clinic standard, different from ≥1000copies/ml for Ministry of Health.
RESULTS: We included 6,971 patients in the study, majority female 4,358 (62.5%) with median age of 44 years (IQR: 36 – 51). The ART status during the study period was; 3,216/6,971 (46.1%) still on NNRTIs, 3447/6971 (49.5%) transitioned from NNRTIs to DTG, and 308/6,971 (4.4%) ART naive initiated on DTG based regimen. VL results were available for 6,623/6971(95.0%) patients. 309/6623 (4.7%) had a detectable VL; 150/3081 (4.9%) still on NNRTIs, 17/182 (9.3%) newly initiated on DTG and 142/3360 (4.2%) transitioned from NNRTIs to DTG. At the multivariable level adjusting for age, sex, ART status and duration on ART; males had increased odds of a detectable VL (aOR 1.72, 95% CI; 1.32 – 2.3) compared to females and the odds for patients that were transitioned to DTG were not different from those who stayed on NNRTIs (aOR 1.34, 95% CI; 0.75 – 2.38). Those started on DTG had reduced odds of a detectable VL (aOR 0.73, 95% CI; 0.56-0.97) compared to patients who stayed on NNRTIs.
CONCLUSIONS: A large proportion of patients achieved virologic suppression in our clinic population. Virologic outcomes among individuals transitioned to DTG were similar to those that remained on NNRTIs. Being female and initiating ART with DTG-based regimen was associated with reduced risk of a detectable VL.

PEB0113

NEED FOR IMPROVED DEMAND CREATION AND ACCELERATED VIRAL LOAD TESTING COVERAGE TO MEET UNAIDS HIV TREATMENT TARGETS

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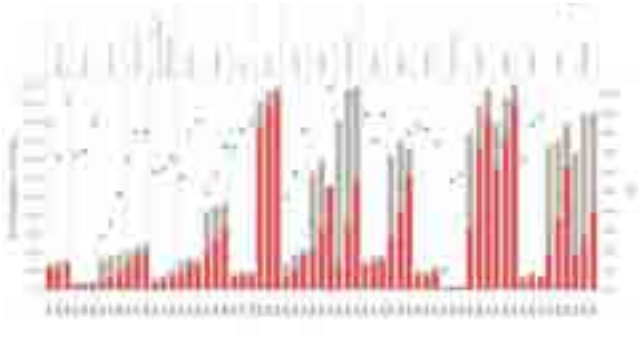
BACKGROUND: A suppressed HIV viral load (VL) indicates effective antiretroviral therapy (ART) and represents the UNAIDS 3rd HIV treatment target. Measuring the VL of all patients on ART and acting upon these results remains a challenge in many countries. Low testing demand, issues with sample transport, laboratory testing, and utilization of test results are all factors impacting the viral load testing coverage in PEPFAR countries.
METHODS: PEPFAR collaborates with countries to improve demand for VL testing. A first viral load for PLHIV is assessed at six months after initiating ART. Site level VL testing coverage and gaps data from 21 countries between FY2017 and 2019 were compared using a nested Welch Two-Sample T-test to determine differences between eligible PLHIV receiving VL testing (testing coverage) and those who did not (testing gaps).
RESULTS:



[Figure 1. Significant decrease in viral load testing gaps between FY17 - 19]

There was significant improvement (P<0.05) between FY17 and FY19 in number of PLHIV with VL test documented in medical records in 17 countries (Figure 1). Four of the 21 countries (Burundi, Democratic Republic of Congo, Namibia, Vietnam) show no significant change over the years in number of PLHIV who received a VL test.
CONCLUSIONS: Meeting VL testing targets among PLHIV on ART continues to be a challenge in some countries and is critical to determine viral suppression. There is need for more demand creation activities such as treatment literacy training and promoting awareness and education of VL testing and utilization of results for patient management to increase testing.

PEB0114

IMPROVING DOCUMENTED VIRAL LOAD SUPPRESSION RESULTS AMONG PEOPLE LIVING WITH HIV IN URBAN LUSAKA

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BACKGROUND: Timely, accurate viral load (VL) results is critical for patient outcomes and HIV epidemic control. However, results are often lost, delayed, or never documented due to poor recording and reporting systems. We used a quality improvement (QI) model to:
(a) increase documentation of VL results in 16 high-volume facilities in Lusaka Province, Zambia, and
(b) increase the documented VL suppression (<1,000 copies/mL) rate in people living with HIV (PLHIV) receiving antiretroviral therapy (January 2019–September 2019).

DESCRIPTION: We selected the highest volume facilities that would have the highest impact on overall provincial performance. Plan-Do-Study-Act (PDSA) cycle methodology was used to review and monitor changes throughout the project while implementing change ideas. We trained 160 healthcare staff and site leaders in QI. QI teams presented their performance and shared best practices at joint quarterly learning sessions. We built capacity of VL champions through on-the-job mentorship and regular granular review and management of site performance with key stakeholders.

LESSONS LEARNED: Lusaka province improved the documented VL suppression results from 84,050 (29.4% of 285,632 PLHIV) at baseline to 171,494 (60%_ of 285,632 PLHIV) at the end of the project. Lessons learned included: educating patient literacy about the importance of routine VL monitoring; identifying at least one VL champion (triage nurses) per facility to ensure that the VL cascade is effectively monitored and managed; introducing viremia clinics on specific days to better manage unsuppressed clients; and documenting VL results in the electronic health record system (smart care) upon receipt from the central laboratory.

	PVLHIV VL Target: A	Total Documented VL Result: B	Achievement (%): B/A	Suppression rate (%): C/B	Documented Suppressed VL result: C	Documented VLS rate: (C/A)
Oct-Dec 2018	285,632	96,610	34%	87%	84,050	29.4%
Jul-Sep 2019	285,632	187,595	66%	91%	171,494	60%

[Table 1: Documented Viral Load Results in Lusaka from Baseline to Endline - DATA source: DATIM, CDC ZAMBIA]

CONCLUSIONS/NEXT STEPS: The improved VL suppression results achieved is an important step towards HIV epidemic control. Our recommendation is to scale up this VL QI project to other provinces for the greatest impact in Zambia.

PEB0115

EFFECTIVENESS OF ENHANCED ADHERENCE COUNSELING AT ACHIEVING VIRAL SUPPRESSION AMONG VIRALLY UNSUPPRESSED HIV POSITIVE CLIENTS IN NASARAWA STATE, NIGERIA

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BACKGROUND: World Health Organisation (WHO) currently recommends periodic assessment of viral loads (at least once a year) in all PLHIV on ART and to achieve viral load suppression in those with high plasma viral loads (≥1000 copies/ml) by addressing the common reasons for it. Thus, WHO recommends that, if the viral load is high, enhanced adherence counseling (EAC) should be carried out, followed by a second/repeated viral load test after 3 months. This study was to access the effectiveness of the EAC at achieving viral suppression among the initial virally unsuppressed clients.

METHODS: Retrospective cohort study using routinely collected Programme data of PLHIV who were on ART. 89 participants aged 18-50 years were disproportionately selected for the study using systematic random sampling. The study was conducted in one general hospital and 5 Primary Healthcare Centres (PHC) across Nasarawa State, Nigeria from January to November 2019. The facilities uses a fixed-dose combination once daily pill of Tenofovir + Lamuvidine + Efavirenze (TDF +3TC+EFV) or Tenofovir + Lamuvidine + Dolutegravir (TDF+3TC+DTG) as the preferred first line ART regimen among adult PLHIV of which all those used for the study were on first line regimen.

RESULTS: 60 (67.4%) of the participants were female with mean average age of 32.3 and unsuppressed viral load result of 52346.33copies/ml. 29 (32.6%) of the participants were male with mean average age of 36 and unsuppressed viral load result of 86329.59copies/ml. Following the 3-months EAC, the mean average viral load result for the female participants was 161.33copies/ml while that of male was 183.68copies/ml showing effectiveness of the EAC as a tool for achieving viral suppression among the participants. During EAC, most clients reported lack of adequate information on ART during time of enrollment as leading cause for poor adherence on ART.

CONCLUSIONS: EAC was seen to be a very effective strategy to ensure viral suppression among virally unsuppressed clients. Adequate counseling was seen to be very crucial especially at time of ART initiation and enrollment to enhance adherence. Healthcare workers especially in PHC should have periodic training to be more effective in conducting EAC.

RESISTANCE TO ART

PEB0116

INCREASED HIV-1 PRETREATMENT DRUG RESISTANCE WITH CONSISTENT CLADE HOMOGENEITY AMONG ART-NAIVE HIV-1 INFECTED INDIVIDUALS IN ETHIOPIA

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BACKGROUND: The development of pretreatment drug resistance (PDR) is becoming an obstacle to the success of antiretroviral therapy (ART). Besides, data from developing settings including Ethiopia is still limited. Therefore, this study was aimed to assess HIV-1 genetic diversity and PDR mutations among ART-naive recently diagnosed HIV-1 infected individuals in Addis Ababa, Ethiopia.

METHODS: An institutional based cross-sectional study was conducted from June to December 2018 in Addis Ababa among ART-naive recently diagnosed individuals. Partial HIV-1 pol region covering the complete protease (PR) and partial reverse transcriptase (RT) regions of 51 samples were amplified and sequenced using an in-house assay. Drug resistance mutations were examined using calibrated population resistance (CPR) tool version 6.0 from the Stanford HIV drug resistance database and the International Antiviral Society-USA (IAS-USA) 2019 mutation list.

RESULTS: According to both algorithms used, 9.8% (5/51) of analyzed samples had at least one PDR Mutation. PDR mutations to Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) were the most frequently detected mutation (7.8% and 9.8%, according to the CPR tool and IAS-USA algorithm, respectively). The most frequently observed NNRTIs-associated mutations by both algorithms were K103N (2%), Y188L (2%), K101E (2%), and V106A (2%) while E138A (2%) was observed according to IAS-USA only. Y115F and M184V (mutations that confer resistance to NRTIs) dual mutations were detected according to both criteria in a single study participant (2%). Similarly, PDR mutation to protease inhibitors was found to be low (G73S; 2%) but according to the CPR tool only. With regard to HIV-1 genetic diversity, phylogenetic analysis showed that 98% (50/51) of the study participants were infected with HIV-1 subtype C virus while one individual (2%) was infected with HIV-1 subtype A1 virus.

CONCLUSIONS: This study showed an increased level of PDR and persistence HIV-1C clade homogeneity after 15 years of the rollout of ART and 3 decades of HIV-1C circulation in Ethiopia, respectively. Therefore, we recommend routine baseline genotypic drug resistance testing for all newly diagnosed HIV infected patients before initiating treatment. This will aid the selection of appropriate therapy in achieving 90% of patients having an undetectable viral load in consonance with the UN target.

PEB0117

HIGH DRUG RESISTANCE LEVELS COMPROMISE THE CONTROL OF HIV IN PAEDIATRIC AND ADOLESCENT POPULATION IN KINSHASA, DEMOCRATIC REPUBLIC OF CONGO

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BACKGROUND: The lack of HIV viral load and resistance monitoring in sub-Saharan Africa leads to uncontrolled circulation of HIV strains with drug resistance mutations (DRM) and compromises antiretroviral therapy (ART) efficacy. This study describes DRM prevalence and the predicted antiretroviral susceptibility in HIV-infected children and adolescents from Kinshasa (Democratic Republic of Congo, DRC).

METHODS: Between 2016 and 2019, dried blood spots (DBS) from 71 HIV-infected children/adolescents under clinical follow-up in two pediatric units from Kinshasa, were collected to amplification and sequencing of protease, retrotranscriptase and integrase at HIV-1 pol. DRM and predicted susceptibility to antiretrovirals were provided by Stanford-HIVdb-Program-v8.8.

RESULTS: The median [IQR] age at DBS collection was 14 [11-16.3] years. HIV-1 sequences were recovered from 55 (77.5%) patients. Of those, 54 (98.2%) were on ART, all had experience to nucleoside retrotranscriptase inhibitors (NRTI) and to non-NRTI (NNRTI), and 7.4% were protease inhibitors (PI) experienced. None was integrase inhibitor (INI) experienced. Despite ART, 89.1% presented >1,000cp/ml, reflecting potential virological failure according to WHO. Most patients (60.4%) carried viruses with DRM to NRTI, mainly M184V (45.8%) and K70R/N (14.6%). DRM to NNRTI were present in 72.9% participants, with high prevalence of K103N/H/S (31.3%), Y181C (25%) and G190A (25%). The most frequent DRM to PI were M46I (8.3%) and I54V (5.6%). Accessory-DRM to INI were present in 15% subjects. We observed reduced predicted susceptibility in 75% patients for nevirapine or efavirenz, 52.1% for emtricitabine or lamivudine, 50% for rilpivirine, and 12.5% with potential INIs resistance, despite the absence of INI exposure. HIV-infected children and adolescents carried viruses with DRM to one (12.7%), two (43.6%), three (10.9%) or four (1.8%) antiretroviral families.

CONCLUSIONS: The high DRM prevalence observed in HIV-infected children and adolescents could compromise 90-90-90 UNAIDS objectives in DRC. Moreover, we have found resistance to IP and INI in treated-patients without previous experience to these drugs, limiting the ARV efficacy to future treatments. The routine access to resistance monitoring is necessary for the best election of rescue ART in this vulnerable population, and to control resistant HIV spreading in the country.

PEB0118

SIGNIFICANCE OF ARCHIVED HIV RESISTANT ASSOCIATED MUTATIONS IN THE ERA OF TWO DRUG ART THERAPY

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BACKGROUND: A large population exists of older, highly ART-experienced long term survivors with complex virologic and ART histories for whom a simplified regimen is desired. Due to virologic suppression, intracellular (IC) DNA sequencing was performed as an aid to ART modification. We examined the occurrence of the NRTI mutation M184V/I and Integrase Strand Inhibitor (INSTI) resistance associated mutations (RAMS), since starting or switching INSTIs was a consideration.

METHODS: IC DNA genotype records of HIV+ patients (pts) seen from 11/2015-3/2019 were reviewed. Demographics, laboratory data, and ART history were obtained via EMR. NGS genotyping on DNA extracted from PBMCs for reverse transcriptase, protease, and integrase inhibitors was done with ion semiconductor technology. Thresholds for RAMS were ≥10% for majority and 1-10% for minority HIV variants. HIV Stanford Database was utilized for interpretation. Chi squared and ANOVA non-parametric hypothesis testing were performed to assess statistical significance at the $p<0.05$ level.

RESULTS: IC DNA genotypes were performed for 55 patients. Plasma viral load was < 20 and < 200 copies mL in 87% and 96% of pts. 58% were on INSTIs at the time of sampling. Pts were sorted by the presence or absences of M184V/I. Pts with M184V/I mutations were older (55 vs 47) (p=0.03), had lower CD4 counts (p=0.01), and had a longer duration of ART (p=0.03). M184V/I was detected at a frequency of >10% in 53% of pts; 25% also had major and 28% had accessory INSTI RAMS. In 54%, there was evidence of hyper-mutated HIV. In those without M184V/I, 0.07% had major and 27% had accessory INSTI RAMS, which were detected at a frequency <10% in both groups. M184V/I was significantly associated with the presence of major INSTI RAMS (p= 0.008).

CONCLUSIONS: IC DNA sequencing revealed INSTI RAMS in a significant proportion of pts. Those with M184V/I defined a population of older and very highly ART-experienced pts, who were more likely to have major and multiple INSTI RAMS. Although the clinical significance of archived mutations has not been defined, this data suggest that INSTI-based simplification strategies should be approached with caution in ART-experienced pts.

PEB0119

LOW LEVEL VIREMIA IN NAÏVE AND EXPERIENCED HIV+ PATIENTS BEGINNING DIFFERENT INTEGRASE STRAND-TRANSFER INHIBITOR-BASED REGIMEN

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BACKGROUND: Low level viremia (LLV) and residual viremia are common features in clinical setting during ART; however, it is unclear what is its clinical and prognostic value. A possible association of LLV with ARV regimen and/or adherence remains unclear.
Our primary aim was to study the effects of different INSTI-based ART regimens (RAL vs EVG/c vs DTG) on the risk of LLV.

METHODS: This is a longitudinal retrospective study. We collected and analyzed data (pVL, CD4, CD8, CD4/CD8) at five different timepoints (before treatment, at 4, 16, 48 and 96 weeks) from patients who started cART with an INSTI (RAL, EVG/c, DTG) either as part of a 3DR or a 2DR during the period 01/01/2009-10/31/2018.
Chi-square test and, t-student test and analysis of variance were used to determine any statistically significant difference between treatments. A p value < 0.05 was considered significant. Confidence interval (CI) was 95%.

RESULTS: We collected data from 365 patients, 128 naïve patients (35.1%) and 237 experienced ones (64.9%).
Overall, no difference was found with the different treatments (RAL vs EVG/c vs DTG) in terms of time to target-not-detected (TND) (p=0.4999). There was no statistically significant difference between the different INSTIs (RAL vs EVG/c vs DTG) in terms of prevalence of 20-50 cps/mL blips (p=0.3466) or median time to the 1st 20-50 cps/mL blip (p=0.3735) or median time to 1st >50 cps/mL blip (p=0.0661). However, individuals treated with EVG/c showed blips more frequently than individuals treated with RAL (p=0.0141).
Baseline pVL either below or above 100,000 cps/mL influences time to TND in naïve patients (p=0.0314), but not in experienced ones (p=0.5794).
Forty-four experienced patients (12.0%) showed an LLV at the baseline, 4 (9.1%) had to stop the RAL-based treatment because of viral failure, and 3 patients (6.8%), on a DTG-based treatment, never reached TND during the period of follow-up.

CONCLUSIONS: Overall, 15.9% of the experienced individuals showing an LLV in our population did not reach TND under treatment with an INSTI. Although LLV long-term interpretation is still controversial, the data presented should raise the attention of clinicians using INSTIs more frequently, for it can point out an underlying resistance.

PEB0120

CROSS-SUBTYPE DETECTION OF HIV-1 DRUG RESISTANCE USING A ONE-HOUR OLA-SIMPLE ASSAY

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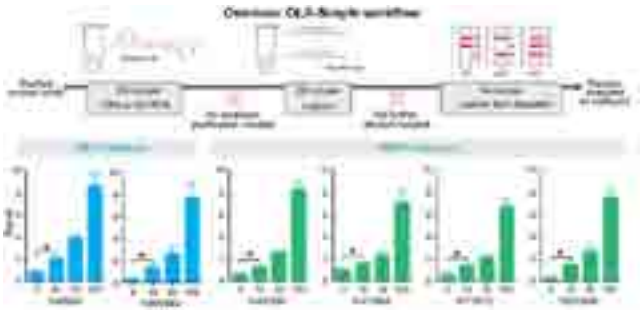
BACKGROUND: To develop a rapid HIV drug resistance (**DR**) test, we investigated recombinase polymerase amplification (**RPA**) as a faster alternative to PCR. We coupled the RPA assay with the simplified oligonucleotide ligation assay (**OLA-Simple**) that detects point-mutations using lyophilized reagents for easy assay setup and lateral flow tests for visual readout.

METHODS: We developed ***(i)*** novel RPA and reverse-transcription RPA (**RT-RPA**) assays that amplify 531bp DNA/RNA spanning HIV-1 mutations associated with resistance to nucleoside reverse transcriptase inhibitors (TDF/3TC) and non-nucleoside reverse transcriptase inhibitors (EFV/NVP), and ***(ii)*** a streamlined workflow that integrates RPA and OLA-Simple, eliminating post-amplification purification. RPA primers were designed to match majority sequences from >3,500 HIV-1 Group M sequences. The RPA assay was evaluated on 76 sequences derived from plasma and dried blood spots which included HIV subtypes A, B, C, D, and AE. RPA-amplified products were subjected to ligation reactions with codon-specific probes and visualized as bands on lateral flow strips. The band signals were analyzed using in-house software. Test results were classified as wild-type, mutant, or indeterminate, and compared to sensitive assays (MiSeq or plate-based oligonucleotide ligation assay).

RESULTS: The RPA and RT-RPA amplified 20 copies of HIV-1 DNA/RNA to levels detectable by gel electrophoresis in 20 minutes at 39°C. RPA amplified 100% (76/76) of sequences. This RPA assay coupled with the 40-minute OLA-Simple differentiated 10% mutant from wild-type HIV DNA standards. This HIV DR test showed 99.0±0.6% concordance across subtypes with 98.6±0.8% sensitivity and 100% specificity as compared to sensitive assays.

CONCLUSIONS: Excluding nucleic acid extraction, this HIVDR assay requires 1-hour wait-time and 10-minute hands-on time for rehydration of reagents and lateral flow detection. This rapid and inexpensive (~$10 reagents/specimen) assay has the potential to improve the treatment paradigm in low-resource settings by enabling guided treatment selection within the timeframe of a patient visit.



*[Figure 1: Workflow and analytical sensitivity of one-hour OLA-Simple assay. Standards containing 0%, 10%, 20% or 100% mutant in wild-type HIV underwent recombinase polymerase amplification, ligation and lateral flow tests. Signal of the mutant bands (meant ±SE) on lateral flow tests (n=4) were plotted. *indicates significant difference of p<0.01 (t-test).]*

PEB0121

HIGH RATES OF NNRTI AND NRTI RESISTANCE IN CHILDREN AND ADOLESCENTS IN HAITI: IMPACT ON FUTURE TREATMENT OPTIONS

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BACKGROUND: Children and adolescents living with HIV face tremendous adherence challenges. ART resistance in these years can impact future treatment options for that vulnerable group. We assessed drug resistance in children and adolescents ≤23 years of age at GHESKIO in Port-au-Prince, Haiti.

METHODS: From October 2018 to July 2019, we conducted HIV genotyping for 159 children and adolescents (see Table): 68 patients were ≤15 years (median age 9 [IQR: 6.75, 13]) and 91 (median age 19; (IQR: 18, 21) were 16-23 years of age. Resistance was defined by the Stanford HIV Drug Resistance Database score: >=15 at least low-level resistance.

RESULTS:

At Least Low-Level Resistance (Score of ³15 by Stanford HIV Drug Resistance Database)												
Children ≤ 15 years (n = 68)	**EFV**	**DOR**	**RPV**	**ETR**	**Any NRTI**	**TDF**	**AZT**	**ABC**	**3TC/ FTC**	**TDF & 3TC**	**Any PI**	**DTG**
PDR (n=9)	44.4%	22.2%	11.1%	0%	33.3%	0%	0%	33.3%	33.3%	0%	0%	0%
First-Line NNRT Failure (n=35)	91.4%	62.9%	65.7%	54.3%	74.3%	11.4%	11.4%	74.3%	74.3%	11.4%	0%	0%
Second-Line Failure (n=24)	75.0%	41.7%	58.3%	45.8%	54.2%	16.7%	29.2%	54.2%	50.0%	12.5%	4.2%	0%
Adolescents 16-23 years (n=91)	**EFV**	**DOR**	**RPV**	**ETR**	**Any NRTI**	**TDF**	**AZT**	**ABC**	**3TC/ FTC**	**TDF & 3TC**	**Any PI**	0%
PDR (n=38)	26.3%	13.2%	13.2%	7.9%	7.9%	2.6%	2.6%	7.9%	7.9%	2.6%	0%	0%
First-Line NNRTI Failure (n=18)	66.7%	27.8%	33.3%	22.2%	11.1%	5.6%	0%	11.1%	11.1%	5.6%	11.1%	0%
Second-Line Failure (n=35)	71.4%	51.4%	42.9%	28.6%	37.1%	14.3%	17.1%	34.3%	31.4%	11.4%	8.6%	0%

[Table 1. Proportion of Patients with Genotypic Resistance, by Age Group, by Treatment Regimen, and Drug]

Among ART-naive patients, 44.4% of <=15 years, and 26.3% of 16-23 years had at least low-level resistance to EFV. Among patients failing first-line NNRTI, 91.4% of <=15 years and 66.7% of 16-23 years had at least low-level resistance to EFV. The rates of resistance to rilpivirine (RPV) and Doravirine (DOR) in this cohort were 65.7% and 62.9% in <=15 year olds, and 33.3% and 27.8% in 16-23 years. Abacavir (ABC) resistance was detected in 33.3%, 74.3% and 54.2% of ART-naive, failing 1st and 2nd line ART respectively in the younger group while Tenofovir (TDF) resistance was 14.3% in older adolescents.

CONCLUSIONS: High rates of EFV resistance in children and adolescents are concerning for all countries with long history of NNRTIs use. While HIV guidelines now recommend PI-based regimens for children <20 kg and DTG-based ART for those >20kg, many children worldwide remain on suboptimal NNRTI-based regimens due to international production delays of PIs and unavailability of pediatric DTG.

Furthermore, cross resistance with RPV jeopardizes future treatment options with long acting injectables during adolescence, when it may be most needed. High ABC resistance, the recommended first line NRTI backbone in children, may contribute to weak regimens and suboptimal viral suppression in children globally.

PEB0122

IBALIZUMAB SHOWS IN VITRO ACTIVITY AGAINST GROUP A AND GROUP B HIV-2 CLINICAL ISOLATES

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BACKGROUND: In addition to being naturally resistant to NNRTI and enfuvirtide, HIV-2 easily selects drug-resistance associated mutations to protease, NRTI and integrase inhibitors at time of virological failure, leading to multi-drug resistant (MDR) viruses. Ibalizumab (IBA) is a long-acting humanized monoclonal antibody that blocks entry of virus into the host cell. It is approved by the FDA and the EMA for treatment-experienced persons infected with MDR HIV-1. No data were available on the activity of IBA against HIV-2 isolates.

METHODS: Isolates from 6 HIV-2-infected persons (4 group B, 2 group A), the ROD HIV-2 group A reference strain and the BRU HIV-1 reference strain were assessed for IBA phenotypic susceptibility. We adapted a PBMC phenotypic assay. Briefly, PHA-activated PBMC were incubated with increasing concentrations of IBA for 1h, prior to infection. Two hours post-infection, cells were washed and then resuspended in complete RPMI media containing IBA. At day 4 post-infection, HIV-2 replication was assessed on cell supernatant using a qRT-PCR (Biocentric-HIV-2). Phenotypic susceptibility was assessed through 50% inhibitory concentrations (IC_{50}) and Maximum-Percent-Inhibition (MPI). All HIV-2 isolates were previously obtained by co-cultivation of PHA-activated PBMC pool obtained from healthy blood donors.

RESULTS: IBA inhibited viral replication for all seven HIV-2 isolates, with IC_{50} ranging from 0.002 to 0.18µg/mL, and for the HIV-1 reference strain (IC_{50}=0.06µg/mL). MPI was below 80%, between 80 and 90%, and >90% for 2, 1 and 4 strains, respectively. The 2 isolates with the lowest MPI (74 and 77%) also had the highest IC_{50} (0.18 and 0.09µg/mL, respectively).

HIV Isolate	IC_{50} (µg/mL)	Maximum Percent Inhibition (%)
BRU (HIV-1)	0.06	97
ROD (HIV-2)	0.01	97
Isolate#1	0.18	74
Isolate#2	0.02	91
Isolate#3	0.008	99
Isolate#4	0.014	99
Isolate#5	0.09	77
Isolate#6	0.002	83

CONCLUSIONS: These data demonstrate for the first time that IBA is active *in vitro* against both HIV-2 epidemic groups, with similar IC_{50} and MPI to those observed for HIV-1. IBA could be included in therapies for HIV-2-infected-persons displaying MDR viruses, a more frequently observed situation in HIV-2 than in HIV-1. Clinical studies of IBA-based regimens in HIV-2-infected-patients are warranted.

DIAGNOSTICS OF CO-INFECTIONS AND CO-MORBIDITIES

PEB0123

COMPARISON OF 3 IMMUNODIAGNOSTIC TESTS FOR LATENT TUBERCULOSIS INFECTION AMONG THAI PRISONERS

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BACKGROUND: Currently, there is no gold standard immunodiagnostic test to detect latent tuberculosis infection (LTBI). Prisoners are at risk of acquiring and spreading tuberculosis infection. We compared the performance of 3 LTBI immunodiagnostic tests: Tuberculin skin test (TST), QuantiFERON-TB Gold Plus (QFT Plus) and CD25/CD134 (OX40) assay among prisoners from a high TB prevalence country.

METHODS: A cross-sectional study to determine LTBI by TST among 1032 male prisoners in Thailand was performed from August 2018 to November 2019. All prisoners were screened for active TB by symptoms and chest x-ray. For this sub-study: the 3 LTBI assays were performed on the first 97 sequential prisoners. A trained nurse administered the TST. The QFT Plus was performed on whole blood. OX40 assay was performed on cryopreserved cells and co-expression of activation markers, CD25 and CD134, was measured after stimulation with ESAT-6 and CFP-10 antigens. TST positive was defined as an induration > 10 mm. Sensitivity and specificity of each test was determined using a composite diagnosis (defined as any positive test result) as comparator or using latent class analysis assuming an imperfect gold standard.

RESULTS: A total of 97 prisoners were analyzed. 32% (31/97), 62.9%(61/97) and 84.5% (82/97) of the prisoners were positive for LTBI by TST, QFT Plus and OX40, respectively. The performance of TST, QFT Plus and OX40 is shown in the tables 1 and 2 respectively. Agreement between QFT Plus and OX40 assay is 76.3%.

	TST	IGRA	OX40
Sensitivity	36.9 (26.6-48.1)	72.6 (61.8-81.8)	97.6 (91.7-99.7)
Specificity	100 (75.3-100)	100 (75.3-100)	100 (75.3-100)
PPV	100 (88.8-100)	100 (94.1-100)	100 (95.6-100)
NPV	19.7 (10.9-31.3)	36.1 (20.8-53.8)	86.7 (59.5-98.3)

[Table 1. Composite diagnoses (defined as any positive test) as comparator]

	TST	IGRA	OX40
Sensitivity	45.5 (33.1-58.2)	90.9 (81.3-96.6)	100 (94.6-100)
Specificity	93.3 (68.1-99.8)	93.3 (68.1-99.8)	100 (78.2-100)
PPV	96.8 (83.3-99.9)	98.4 (91.2-100)	100 (94.6-100)
NPV	28 (16.2-42.5)	70 (45.7-88.1)	100 (78.2-100)

[Table 2. A latent class analysis assuming an imperfect gold standard]

CONCLUSIONS: The prevalence of LTBI among prisoners in Thailand was 32%, 62.9% and 84.5% by TST, QFT Plus and OX40, respectively. The estimated sensitivities of the in vitro assays were higher than TST. OX40 assay should be further developed for LTBI diagnosis.

PEB0124

DIAGNOSTIC PERFORMANCE OF MULTIPLEXED PLATFORM AND POINT-OF-CARE RAPID TESTS FOR HIV AND SEXUALLY-TRANSMITTED BLOOD-BORNE INFECTIONS: A SYSTEMATIC REVIEW

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BACKGROUND: Multiplexed testing of HIV and associated sexually transmitted infections (STIs) by rapid point-of-care (POC) tests and platform devices offers a convenient, alternative screening and diagnostics option to screen/test/treat for multiple STIs in fewer patient visits. Data on their real-world diagnostic performance has not yet been synthesized. We conducted a systematic review to fill this gap.

METHODS: For the period 2009-2019, two independent reviewers searched two databases (Pubmed and Embase), retrieved 3911 citations and abstracted data. A lack of complete stratified data by pathogens/devices obviated pooling/meta-analyses, a narrative review was thus performed. Sensitivities and specificities were compared and evaluated against lab reference standards.

RESULTS: Across 23 countries, 31 observational studies were conducted in N=26,537 at-risk populations (men who have sex with men, transgender, injection drug users, female sex workers, Aboriginal communities, pregnant women). Overall, 22 studies evaluated platform devices and 9 evaluated POC tests. Pathogens screened by POC tests were HIV, hepatitis B and C, and *Treponema pallidum*. Platforms assessed *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium*, *Mycoplasma hominis*, *Trichomonas vaginalis*, *Ureaplasma urealyticum*, *Treponema pallidum*, herpes simplex virus and human papillomavirus. Overall, platform tests yielded both a higher specificity and sensitivity, while POC tests yielded a higher sensitivity. Both technologies were comparable on turnaround time to result. On th following page Table 1 presents data on Platform Devices and POC Devices.

CONCLUSIONS: Diagnostic performance varied by pathogens, subpopulations, disease prevalence, incidence, type of technology (POC/platform) and reference standards deployed for each setting. We conclude that due to their high specificity, platform tests are suited for confirmatory testing while POC tests remain suited for initial screening because of their portability and ease of use.

Device	Type of Test	Study Number [S]: [N=Sample Size] Sensitivity [Sn] (95% CI wherever applicable)/ Specificity [Sp] (95% CI wherever applicable) by Sexually-Transmitted Infection										
		Chlamydia trachomatis	*Neisseria gonorrhoeae*	*Mycoplasma genitalium*	*Mycoplasma hominis*	*Trichomonas vaginalis*	*Ureaplasma urealyticum*	HSV-2	HIV	HCV	HBsAg	*Treponema pallidum*
AURORA Flow	Platform	S1: N=863 Sn=100.0% (92.4-100.0%) Sp=99.8% (99.0-99.9%)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bio-Rad Dx CT/ NG/MG	Platform	S1: N=212 Sn=100.0% (85.7-100.0%) Sp=99.5% (97.1-99.9%) S2: N=955 Sn=92.7% Sp=99.9%	S2: N=955 Sn=90.9% Sp=100.0%	S1: N=212 Sn=100.0% (51.0-100.0%) Sp=99.5% (97.3-99.9%)	-----	-----	-----	-----	-----	-----	-----	-----
Seeplex PCR	Platform	S1: N=897 Sn=96.8% (92.5-100.0%) Sp=99.4% (98.9-99.9%)	S1: N=897 Sn=100.0% (100.0-100.0%) Sp=99.7% (99.3-100.0%)	S1: N=897 Sn=91.7% (80.7-100.0%) Sp=99.8% (99.5-100.0%)	S1: N=897 Sn=100.0% (100.0-100.0%) Sp=98.9% (98.2-99.6%)	S1: N=897 Sn=100.0% (100.0-100.0%) Sp=100.0% (100.0-100.0%)	S1: N=897 Sn=100.0% (100.0-100.0%) Sp=99.4% (98.9-99.9%)	-----	-----	-----	-----	-----
Siemens VERSANT kPCR	Platform	S1: N=292 Sn=96.4% Sp=100.0%	S1: N=267 Sn=100.0% Sp=100.0%	-----	-----	-----	-----	-----	-----	-----	-----	-----
GeneXpert CT/NG	Platform	S1: N=383 Sn=98.6% Sp=98.7% S2: N=247 Sn=100.0% Sp=97.1% S3: N=198 Sn=100.0% (75.9-100.0%) Sp=99.5% (96.5-100.0%)	S1: N=382 Sn=97.8% Sp=99.6% S2: N=247 Sn=100.0% Sp=98.5% S3: N=198 100.0% (96.5-100.0%) Sp=100.0% (97.5-100.0%)	-----	-----	-----	-----	-----	-----	-----	-----	-----
STDFinder	Platform	S1: N=242 Sn=100.0% Sp=100.0%	S1: N=242 Sn=100.0% Sp= 100.0%	S1: N=242 Sn=100.0% Sp=100.0%	-----	S1: N=242 Sn=100.0% Sp=90.3%	-----	S1: N=242 Sn=100.0% Sp=96.2%	-----	-----	-----	-----
SD Bioline HIV/Syphilis Duo	Point-of-Care	-----	-----	-----	-----	-----	-----	-----	S1: N=10,000 Sn=100.0% (83.2-100.0%) Sp=100.0% (100.0-100.0%) S2: N=442 Sn=100.0% (63.1-100.0%) Sp=100.0% (99.2-100.0%) S3: N=415 Sn=99.1% (94.8-100.0%) Sp=99.4% (97.7-99.9%) S4: N=220 Sn=100.0% (75.9-100.0%) Sp=99.5% (75.9-100.0%)	-----	-----	S1: N=10,000 Sn=95.5% (84.9-98.7%) Sp=98.9% (99.8-99.9%) S2: N=442 Sn=86.4% (65.1-97.1%) Sp=100.0% (99.1-100.0%) S3: N=415 Sn=89.2% (83.5-93.5%) Sp=98.8% (96.5-99.8%) S4: N=220 Sn=100.0% (79.1-100.0%) Sp=100.0% (97.7-100.0%)
Triplex HIV/HCV/ HBsAg	Point-of-Care	-----	-----	-----	-----	-----	-----	-----	S1: N=1,206 Sn=100.0% Sp=100.0%	S1: N=1,206 Sn=100.0% Sp=100.0%	S1: N=1,206 Sn=100.0% Sp=100.0%	-----

[PEB0124 Table 1: Diagnostic Accuracy of Platform and Point-of-Care Devices with Sensitivities and Specificities >99% (in at Least One Study)]

PEB0125

INDIRECT OPHTHALMOSCOPY AS A SCREENING TOOL FOR THE DIAGNOSIS OF OPPORTUNISTIC INFECTIONS IN HOSPITALIZED PATIENTS WITH ADVANCED HIV DISEASE IN MAPUTO, MOZAMBIQUE

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BACKGROUND: Patients with advanced HIV Disease (AHD) in resource limited settings have a high risk of mortality attributable to opportunistic infections (OIs)
Retinal examination using indirect ophthalmoscope can diagnose a number of OIs, including cytomegalovirus and tuberculosis.
Médecins sans Frontières (MSF) in collaboration with the Ministry of Health, supports care for AHD in the emergency room of the General Hospital of Jose Macamo (HGJM) in Maputo. In March, 2019, MSF included indirect ophthalmoscopy in a screening package for patients with AHD . Here we present findings of indirect ophthalmoscopy performed between March and December, 2019.
METHODS: Patients admitted to emergency room of HGJM were eligible for screening if they had CD4 count below 100 cells/µl. Ophthalmoscopy was performed by trained non-ophthalmologist medical doctors using indirect ophthalmoscopy on fully dilated pupils. We analysed routinely collected clinical data,using a standarized form and entered it into an Access database.
The results were interpreted according to the abnormal findings.
RESULTS: Between March and December, 2019, 241 (32%) patients of 746 eligible patients were screened with indirect ophthalmoscopy. The median age was 38 years (IQR=30-42), 135 (56%) were women, 188 (78%) reported ART experience, 148 (79%) were on ART at time of admission. Among them, 89 (37%) presented an abnormal ophthalmoscopy: 48 (54%) had cotton wool spots, 14 (16%) presented signs of cytomegalovirus retinitis and 14(16%) papilledema. In smaller proportion, 6 (7%) patients presented signs of choroidal tuberculosis, 4(4%) non-specific lesions and finally 3(3%) patients with signs of syphilitic retinitis.
Patients with a pathological exam were referred for specific care following to the screening results.
CONCLUSIONS: A high proportion of abnormal exams were found among patients with CD4<100 presenting to the emergency room of HGJM. Indirect ophthalmoscopy is a non-invasive point of care test, that was successfully performed by general practitioners. Integration into routine care and better access to this screening tool could facilitate critically important early diagnosis of OIs.

BIOMARKERS FOR THE PREDICTION OF MORBIDITY AND MORTALITY

PEB0126

MITOCHONDRIAL DNA "COMMON DELETION" IS INVERSELY ASSOCIATED WITH NEUROINFLAMMATION AND NEURODEGENERATION IN PEOPLE WITH HIV

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BACKGROUND: Accumulation of damage and loss of integrity in mitochondrial genomes contribute to physiologic aging in humans. HIV infection is also associated with premature aging and inflammation. However, limited reliable markers for aging currently exist. The mitochondrial DNA (mtDNA) common deletion (mtCD) is a 4977-bp deletion associated with aging, degenerative neurological conditions and malignancy, but is not well characterized in people with HIV (PWH). We examined how the relative proportion of mtCD to mtDNA correlates with markers of aging, inflammation, comorbidity, and neurodegeneration among PWH.
METHODS: We examined the relationships between demographic and the clinical measures and mtCD, measured from buccal swabs, in PWH on antiretroviral therapy (ART) in the Translational Methamphetamine AIDS Research Center cohort.
RESULTS: Eighty-two subjects (median age, 48.5 years; 15% female; 45% white) were included. Quantile regression analysis demonstrated that the relative proportion of mtCD to mtDNA per subject was inversely proportional to 8-Oxo-2'-deoxyguanosine (8-oxodG), neurofilament light chain (NFL) and tau protein (TAU) in the cerebrospinal fluid (CSF) of subjects (Table 1). Given the role of reactive oxygen species and aging in the pathogenesis of neurodegenerative conditions, multivariate regression was performed adjusting for age. In this model, 8-oxodG was directly proportional to NFL and TAU levels, and independent of mtCD.

Variable	P-Value (Significance considered at values < 0.05)
Age	0.35
Immune Recovery (current CD4 count minus all-time CD4 nadir)	0.37
C-reactive Protein	0.65
CSF 8oxodG	**0.015**
CSF NFL	**0.013**
CSF TAU	**0.013**
CSF Aβ42	0.44
Framingham Cardiovascular Disease Risk Score	0.30
HDL Cholesterol	0.97

[Table 1.]

CONCLUSIONS: Lower relative proportions of mtCD significantly correlated with higher CSF 8-oxodG levels in PWH. Higher 8-oxodG levels in turn significantly correlated with greater levels of TAU and NFL in the CSF – influenced by increasing age. We hypothesize that the inverse relationship between mtCD and 8-oxodG relates to altered fission and fusion from inflammation and direct toxicity from

HIV and ART, resulting in greater clearance of damaged mitochondria when oxidative stress is present. Future research to improve mitochondrial function and quality may serve as a gateway to interventions that minimize the inflammatory and neurodegenerative consequences of chronic HIV infection.

PEB0127

URINARY EXOSOME-DERIVED MICRO-RNAS AS BIOMARKERS FOR TENOFOVIR DISOPROXIL FUMARATE-ASSOCIATED (TDF) RENAL TOXICITY IN HIV-1-INFECTED PATIENTS

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BACKGROUND: Tenofovir disoproxil fumarate (TDF) could led to tubular renal toxicity, but its severity and outcome is controversial and specific biomarkers are still required. The aim of this study was to identify differences in urinary exosome-derived micro-RNA (miR) expression profiles according to TDF toxicity.

METHODS: Urine samples were cross-sectionally collected from 70 virologically suppressed HIV-1-infected patients (61 of them on TDF). In all cases, different tubular parameters and urinary low-weight molecular proteins (LWMP, beta-2-microglobulin, retinol-binding protein, urinary cystatin C) were analyzed. Tubular dysfunction was defined as the presence of at least 2 tubular abnormalities. Urine exosomes were precipitated and a pre-selected panel of miRs were isolated and quantified using miR-specific real-time qPCR.

RESULTS: Overall, median time on TDF was 65 months (38-82.6), and mean eGFR was 90.9 ml/min/1.73m2 (50.1-122; 6% of patients with CKD). A number of miRs, including miR-let-7d, miR-203a, miR-127, miR-23a, and miR-29a correlated with time on TDF therapy, with statistical significance. At evaluation, miR-let-7d, miR-423 were found to have increased expression in patients with tubular dysfunction (proteinuria, phosphaturia, uricosuria, glycosuria). Of note, miR-15b were upregulated in urinary exosomes of patients with decreased eGFR with statistical significance (p=0.028). In an evaluation performed after 9 months (IQ 4-13), and similar to proteinuria and phosphaturia, miR-let-7d predict tubular dysfunction (AUC 0.733), and miR-15b identified those with subsequent eGFR decrease (AUC 0.633).

CONCLUSIONS: The expression profile of miRs was altered in urinary exosomes from patients with TDF-associated toxicity. We identified exosome-derived miRs in urine that could be used as non-invasive biomarkers for the detection of renal toxicity associated with TDF.

TUBERCULOSIS: PREVENTION, DIAGNOSIS, TREATMENT

PEB0128

THE TUBERCULOSIS CARE CASCADE IN ZAMBIA: IDENTIFYING THE GAPS IN ORDER TO IMPROVE OUTCOMES

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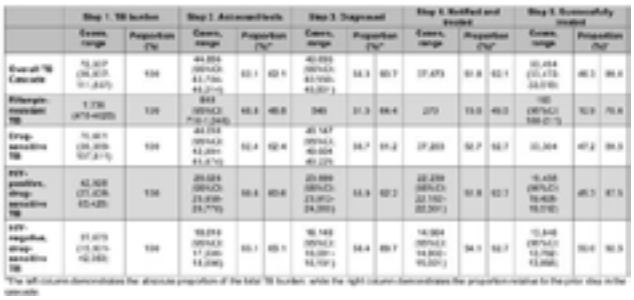
BACKGROUND: Tuberculosis (TB) remains a leading cause of morbidity and mortality among individuals in Zambia, especially people living with HIV (PWH). To accelerate progress towards improved TB outcomes, we undertook a care cascade analysis to enumerate the largest gaps and align TB programme improvement measures with areas of greatest need.

METHODS: We derived national-level estimates for each step of the TB care cascade in Zambia in 2017: 1) total TB burden, 2) number who accessed TB testing, 3) number diagnosed with TB, 4) number notified and started on TB treatment, 5) number completing TB treatment. We characterized the overall cascade as well as disaggregated by drug-susceptibility results and HIV-status. Estimates were informed by WHO incidence estimates, nationally aggregated laboratory and notification registers, and individual-level programme data from four provinces.

RESULTS: In 2017, the total burden of TB in Zambia was estimated to be 72,337 (range, 39,837-111,837). Of these, 44,886 (62.1%) accessed TB testing, 40,693 (overall proportion - 56.3%, relative proportion – 90.7%) were diagnosed with TB, 37,473 (51.8%, 92.1%) were started on TB treatment and 33,494 (46.3%, 89.4%) completed TB treatment. PWH tended to have worse outcomes throughout the cascade and were less likely than HIV-negative individuals to successfully complete TB treatment (45.3 vs. 50.0%; Table 1). Among those with rifampicin-resistant TB, there was substantial attrition at each step of the cascade and only 10.9% of all patients were estimated to have successfully completed treatment (Table 1).



[Table 1. Overview of the tuberculosis care cascade in Zambia in 2017 according to tuberculosis type]

CONCLUSIONS: Losses throughout the cascade, especially not accessing TB testing, results in a large proportion of individuals with TB in Zambia who are not successfully completing treatment. Ongoing systems-strengthening is required throughout the TB care continuum, however, implementation of active case finding strategies coupled with a continued focus on PWH and those with rifampicin-resistance are urgently needed to improve TB-related outcomes in Zambia.

PEB0129

ENHANCING TB DIAGNOSIS IN HIV+ PATIENTS IN KENYA: PRELIMINARY RESULTS OF IDEA-TB STUDY IN A COHORT FROM DREAM PROGRAM

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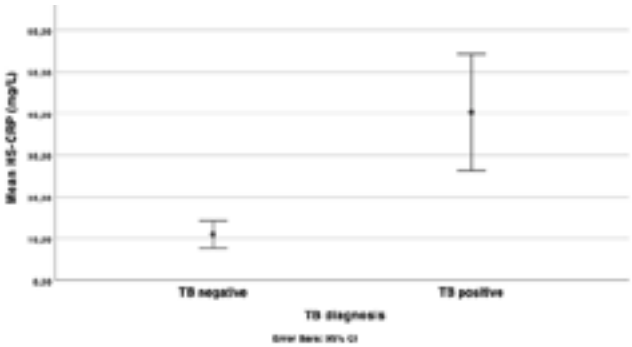
BACKGROUND: TB has still a high prevalence and mortality worldwide, also representing the leading cause of death in HIV+ people. In Kenya, in 2018, 32.000 people died due to TB, and 40.000 HIV+ patients were diagnosed with TB in the same year. In 2016 only 63,4% of people with TB worldwide were diagnosed; the individuation of TB among HIV+ patients is particularly challenging. The objective of the present study is to improve TB diagnosis among HIV+ patients. HS-CRR, LF-LAM test, 4SS and Gene Xpert will be evaluated in order to define diagnostic algorithms for TB in HIV+ patients.

METHODS: IDEA (Innovative Diagnostic Enhancement Against) TB is a prospective study aimed to evaluate innovative diagnostic tools for TB in HIV+ patients. HIV+ consecutive adult patients attending the sites of the study (DREAM Centers in Meru/Nchiru, Chaaria, Nkubu) who were clinically suspected of having TB and referred for Gene Xpert were enrolled. Each participant was entered in the datasheet (demographic, anthropometric and clinical data) and tests were performed: urinary LF-LAM-test, serum HS-CRP and Gene Xpert on sputum.

RESULTS: In nine months (May-December 2019), 389 TB-suspected patients were enrolled. 62.5%(243/389) were female, the median age was 46(±12) years, 26.7%(104/389) patients were malnourished, and the median CD4 count was 417 [IQR 237-643]. TB was diagnosed on a total of 63(16.19%) patients (either LAM or Xpert positive test). Concordance between Xpert and LAM test was 85.3%. HS-CRP was significantly higher in TB patients (40.2 mg/L vs 11.0 mg/L, p<0,000) (Figure 1). The only predictor of TB diagnosis was plasmatic HS-CRP level higher than 10 mg/L (OR 4.01 [2.28-7.06]). No association between TB, CD4 count or BMI was observed.



[Figure. Difference in HS-CRP in TB positive and negative patients]

CONCLUSIONS: Diagnosing TB infection in HIV+ patient remains challenging, as concordance among different tests is suboptimal. HS-CRP could serve as an additional tool in TB diagnosis in HIV+ patients.

PEB0130

RADIOGRAPHERS' ROLE EXTENSION IN RWANDA: ULTRASONOGRAPHIC DETECTION OF ABDOMINAL TUBERCLOSIUS IN HIV/AIDS PATIENTS IN RURAL DISTRICT HOSPITALS

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BACKGROUND: The diagnosis of abdominal tuberculosis in HIV/AIDS patients is challenging especially in rural hospitals in developing countries where resources are limited and often there are no radiologists. The procedure requires radiographers to have good knowledge of ultrasonographic imaging. The objective of the program was to improve the detection of abdominal tuberculosis in HIV/AIDS patients in rural district hospitals of Rwanda through radiographers' role extension.

DESCRIPTION: In December of 2017 and 2018, a training on abdominal sonography has been offered to 1 radiographer in every district hospital in Rwanda by SMIR(Society of Medical Imaging and Radiation in Rwanda) on the support of University of Rwanda ,department of Medical Imaging Sciences. Every year 25 to 30 radiographers were trained in a 5days session. The methodology included the detection of main sonographic features of abdominal tuberculosis in HIV diseases by focusing on abdominal lymphadenopathy, abdominal solid organs nodules and ascites. In addition, the training included other common abdominal pathologies encountered in HIv patients but that are not always tuberculous. The trainings were jointly delivered by medical imaging lectures from University of Rwanda and Senior ultrasound practitioners from different referral hospitals in Rwanda.

LESSONS LEARNED: During 2019,a cross sectional study was carried out to evaluate the outcome of this training by SMIR through senior sonographers working in referral hospitals by comparing the referred sonographic diagnosis from a district hospital with the sonographic diagnosis in the referral hospital. In 207 cases received(83 done by non trained personnel and 144 done by trained radiographers),the capacity of detecting abdominal tuberculosis were significantly better in the trained radiographers than in non trained personnel.

CONCLUSIONS/NEXT STEPS: Extending the role of radiographers through specific training can improve the detection of HIV diseases especially abdominal tuberculosis in rural district hospitals where resources are limited.

PEB0131

ENHANCED TUBERCULOSIS SCREENING AND DIAGNOSIS FOR HOSPITALIZED INDIVIDUALS IN A HIGH HIV PREVALENCE SETTING IN KWAZULU-NATAL, SOUTH AFRICA: A BEFORE AND AFTER STUDY

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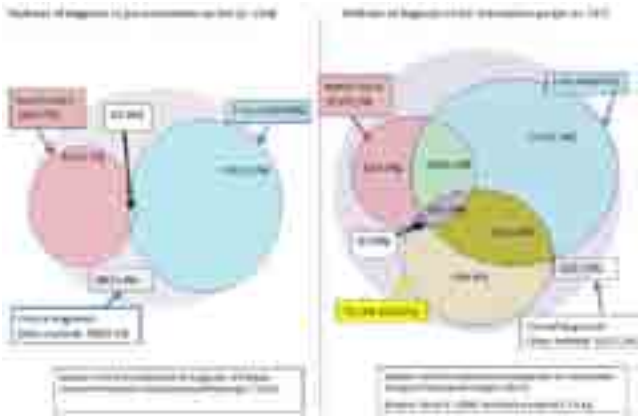
BACKGROUND: WHO estimated 10 million cases of tuberculosis (TB) globally in 2018 but only 7 million were reported, signifying a gap between incidence and detection. Diagnostic difficulties in HIV co-infected patients, who have more smear-negative and extra-pulmonary TB, contribute to this challenge and high mortality. King Cetshwayo District, KwaZulu-Natal, South Africa, in 2018 reported an HIV prevalence of 26.4% among those ≥15 years. This study describes the changes in TB diagnosis by implementing a systematic screening and enhanced diagnostic package for patients admitted to two hospitals in King Cetshwayo District.

METHODS: Patients aged ≥ 18 years admitted to Eshowe and Mbongolwane hospitals were provided systematic screening and enhanced diagnostic packages for HIV, diabetes, and TB during the intervention period as shown in the table. A comparison of TB diagnosis and in-hospital mortality was made with the pre-intervention period.

	Pre-intervention period (March 2018 to November 2019)	Intervention period (March 2019 to November 2019)
Diabetes screening and diagnosis	Random blood sugar (RBS) by glucometer clinically prompted	Systematic screening by RBS by glucometer and confirmation by fasting blood sugar or with HbA1c
HIV screening and diagnosis	HIV testing clinically prompted	HIV testing provided for all admitted patients
TB screening and diagnosis	Symptom-based screening not systematically done	Systematic symptom screening after TB education by community health workers
	Xpert MTB/RIF Ultra if a clinical presumption of TB	Xpert MTB/RIF Ultra provided for HIV positive, diabetic patients regardless of symptoms and for HIV negative with symptoms Culture for presumptive TB but negative GeneXpert
	No use of urine Determine TB- lipoarabinomannan (TB-LAM)	Systematic urine TB-LAM for HIV positive patients regardless of symptoms or CD4 count
	Chest X-ray (CXR) done for presumptive TB patients and interpreted by medical officers	CXR was systematically done for all HIV positive, diabetics regardless of symptoms and in HIV negative patients with TB symptoms. CXR interpreted by expert radiologists via telemedicine when medical officers needed further advice

[Table]

RESULTS: Of 3269 patients enrolled in the pre-intervention period, the median age was 50 years (interquartile range (IQR): 32-67) and 1852(56.7%) were females. Of 2315 patients enrolled during the intervention period, the median age was 53 years (IQR: 34-68) and 1476(63.7%) were females. TB diagnosis was higher in the intervention period (347(15.0%) vs. 259(7.9%)) showing an increase of 89.9% (p<0.001). Among those diagnosed with TB, 72.3%(170/235) in pre-intervention and 73.3%(251/342) in the intervention, had HIV co-infection. TB related in-hospital mortality was lower in the intervention period (13.3% vs 15.4%; p =0.316).



[Figure. Comparison of methods of diagnosis and time from admission to diagnosis between the pre-intervention and the intervention groups]

CONCLUSIONS: Systematic screening for HIV, TB and enhanced TB diagnostic package for hospitalized patients significantly improved TB case detection and shortened time to TB diagnosis. This should be part of routine hospital care in a high TB and HIV burden settings.

PEB0132

SYSTEMATIC LATERAL FLOW URINE LIPOARABINOMANNAN ASSAY (LF-LAM) FOR DIAGNOSIS OF TUBERCULOSIS AMONG HIV POSITIVE HOSPITALIZED PATIENTS IN KWAZULU-NATAL, SOUTH AFRICA

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[1]Médecins Sans Frontières (MSF), Eshowe, South Africa, [2]Médecins Sans Frontières (MSF), Cape Town, Cape Town, South Africa, [3]Department of Health, Empangeni, South Africa, [4]Harvard Medical School, Department of Global Health & Social Medicine, Boston, United States

BACKGROUND: Diagnosis of tuberculosis in people with HIV is challenging. The lateral flow urine lipoarabinomannan assay (LF-LAM) (Alere, Abbott Laboratories, Illinois, USA) is useful for diagnosis of TB but there is limited evidence on its use for systematic screening of hospitalized patients with HIV.

This study describes the systematic TB screening with LF-LAM among HIV positive patients admitted to two hospitals in KwaZulu-Natal, South Africa.

METHODS: From March 2019 to December 2019 patients aged >18 years admitted with medical and psychiatric conditions to Eshowe and Mbongolwane hospitals were systematically assessed for HIV and TB. HIV-positive patients were systematically tested with GeneXpert, Chest X-ray (CXR) and urine LF-LAM. Patients with a positive LF-LAM but geneXpert/culture negative/test not done and CXR not

suggestive of TB were classified as "potentially missed". Patients with a positive LF-LAM and a CXR suggestive of TB were classified as "LF-LAM-assisted".

RESULTS: Of 913 HIV-positive patients, 549(60.1%) were female, median age with interquartile range (IQR) of 40(34-51) years. Median CD4 count was 382(IQR: 140-625) cells/μL and 618 (67.7%) had at least one TB symptom. Among these, 266(29.13%) were diagnosed with TB and 265(99.6%) were started on TB treatment.

Methods	Test done	Test positive or suggestive of TB(CXR) n(%)	Test not done	Total
GeneXpert	371	63(17.0)	542	913
GeneXpert/culture	373	66(17.7)	540	913
LF-LAM	828	139(16.8)	85	913
CXR	577	171(30.0)	336	913
From the total diagnosed with TB, 39 were diagnosed based on clinical or other methods. Among LF-LAM positive patients, 7/139(5.0%) were not considered to have TB by the treating physicians.				

[Table 1: The proportion of TB diagnosis by methods of diagnosis.]

Among geneXpert/culture negative patients, 20/306 (6.5%) were potentially missed and 35/307 (11.4%) were LF-LAM assisted. From patients unable to produce a specimen for geneXpert/culture testing, 18/540 (3.3%) were potentially missed and 23/540 (4.3%) were LF-LAM assisted.Among geneXpert/culture positive patients, LF-LAM was positive in 27/36 (75%) patients with CD4<200 cells/μL & 9/19 (47.4%) of patients with CD4≥200 cells/μL. The sensitivity and specificity of LF-LAM compared to geneXpert/culture positive patient with CD4 count >200 cells/μL was 50% (95%CI:27.2%-72.8%) and 81.4 % (95%CI:74.8%-86.9%) respectively. In patients with CD4 count < 200 cells/μL LF-LAM sensitivity was 74.3% (95%CI: 56.7%-87.5%) and specificity was 72.8% (95%CI: 61.8%-82.1%).

CONCLUSIONS: Urine LF-LAM improved TB diagnosis in HIV-positive hospitalized patients. It also contributes towards diagnosis among patients with CD4>200, however, the sensitivity was low.

PEB0133

WHAT IS THE PERFORMANCE OF TUBERCULOSIS MANAGEMENT AMONG PEOPLE LIVING WITH HIV IN HIV CARE AND TREATMENT SETTINGS IN TANZANIA?

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BACKGROUND: Comprehensive HIV care and treatment services entail routine screening for Tuberculosis (TB) symptoms and signs during every visit to HIV care and treatment clinic (CTC). Individuals with positive screening are further evaluated for TB disease whereas those who screen negative are evaluated for TB preventive therapy. TB management cascade among People Living with HIV (PLHIV) needs to be evaluated.

METHODS: We carried out a retrospective cohort analysis to evaluate the performance of the TB diagnosis cascade among PLHIV attending CTC between January 2012 and December 2016 in three regions of Tanzania: Dar es Salaam, Iringa and Njombe using descriptive epidemiology.

RESULTS: The cohort had 169,741 PLHIV who made 2,638,876 visits to CTC during the study period. We excluded 2,074 (0.80%) visits as these involved PLHIV enrolled in CTC with a prior TB disease diagnosis. Of the 2,636,802 visits, 2,524,494 (95.67%) had TB screening according to the national HIV guidelines, of which 88,028 (3.49%) had TB screening positive results. Of the 88,028 visits with a positive TB screening, 27,810 (31.59%) had no records for further TB diagnosis following positive TB screening. Of all visits with positive TB screening, 32,986 (37.50%) had TB disease diagnosis.

CONCLUSIONS: There was a high TB screening among CTC attendees, however, with one third of the visits with positive screening missing evidence for further TB diagnosis evaluation.

PEB0134

ISONIAZID ANTI-TUBERCULOSIS CHEMOPROPHYLAXIS IN HIV-INFECTED PATIENTS

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BACKGROUND: People living with HIV are at increased risk of developing active TB. WHO recommends a series of measures to reduce the burden of tuberculosis in these patients. In this work, we will cover the topic of preventive treatment of isoniazid tuberculosis (INH) through a prospective study. The aim of this study is to assess the efficacy and safety of isoniazid in prophylaxis against tuberculosis in patients with HIV infection.

METHODS: We present through this summary, the preliminary results of our prospective study started in January 2013 concerning anti-tuberculosis chemo prophylaxis by INH in HIV infected patients followed in the service of infectious diseases at the university hospital center Mohamed VI in Marrakech. Patients whose active tuberculosis was eliminated before the start of INH were retained.

RESULTS: Three hundred and sixteen patients currently receiving INH chemoprophylaxis. One hundred and sixty four patients (52%) were male with an average age of 38.2 years [14 - 69 years]. A history of tuberculosis was found in 42 patients (14.55%). When chemoprophylaxis started, the CD4 average was 496.2 cells / mm3. Compliance was good in 303 patients (96%). Adverse reactions to INH were noted in 72 cases (23%), mainly epigastralgia in 44 cases (14%). INH was discontinued in one patient due to hepatic cytolysis. After 6 years of follow-up, none of our patients had shown signs of active tuberculosis.

CONCLUSIONS: HIV infection is an important risk factor for tuberculosis, hence the importance of preventing it in this population through effective chemoprophylaxis.

PEB0135

DELAYS AND BARRIERS TO HEALTH-SEEKING AMONG NEWLY DIAGNOSED TUBERCULOSIS PATIENTS IN ZAMBIA

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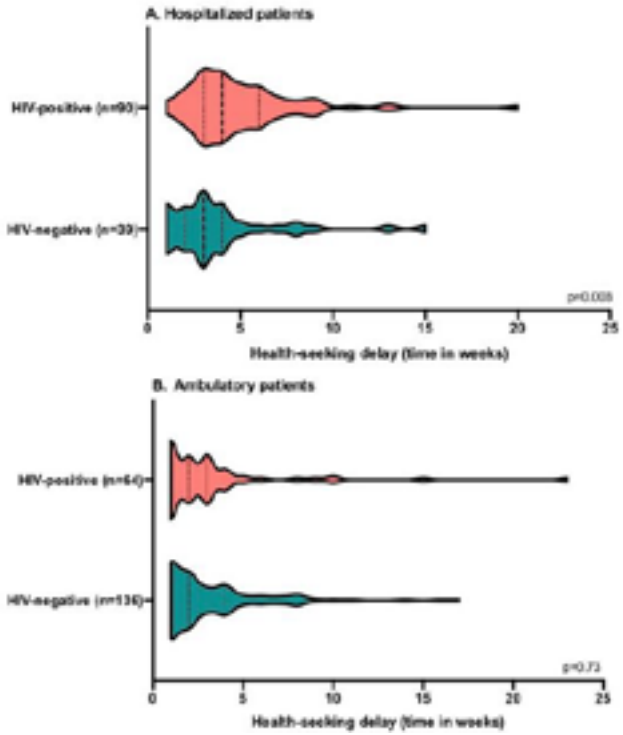
BACKGROUND: Delayed tuberculosis (TB) diagnoses are a key driver of ongoing TB-related mortality, especially among people living with HIV (PWH). We sought to characterize health-seeking behavior among TB patients and understand potential barriers to timely diagnosis.

METHODS: In an ongoing prospective, cross-sectional study, we enrolled consecutive adults with newly microbiologically-confirmed TB at two public health facilities in Lusaka, Zambia. All patients were administered a survey that assessed their experiences accessing TB services, including self-reported health-seeking delay (symptom onset to first provider visit), barriers to health-seeking and healthcare preferences. Health-seeking delays and barriers/preferences were compared by HIV-status using Wilcoxon and Chi-squared tests, respectively.

RESULTS: Of 340 patients enrolled (median age 33, 69.9% male), 69/211 (32.7%) outpatients versus 90/129 (69.8%) inpatients were PWH (p<0.001). Overall, the median health-seeking delay was 3 weeks (IQR, 2-5) and was longer among HIV-positive inpatients (Figure 1);



[Figure 1. Violin plots of self-reported health-seeking delay, according to HIV-status among a) hospitalized patients (n=129) and b) ambulatory patients (n=200) in Lusaka Zambia. Health-seeking delay is defined as the time in weeks from self-reported symptom onset to self-reported first provider visit. P-values represent Wilcoxon rank-sums comparing median values. The bolded central dash represents the median value, while the fine dashes represent the interquartile range.]

73/154 (47.4%) HIV-positive patients vs. 60/175 (34.3%) HIV-negative patients waited ≥4 weeks before seeking evaluation (p=0.016). Most patients (n=304;88.9%) initially presented to a public health facility – proximity to home was most important to HIV-negative patients, while PWH tended to choose a facility based on perceived measures of quality (Table 1). Most patients (n=182;53.5%) contemplated presenting earlier than they did – key reasons reported for delayed health-seeking were: symptoms were not initially felt to be serious (91.2%), TB symptoms were unknown (80.2%), and lack of time (47.8%) – these did not differ by HIV-status.

	Overall (n=340)	HIV-positive (n=159)	HIV-negative (n=181)	P-value
Close to home	209 (61.5)	85 (53.5)	124 (68.5)	0.004
Close to work	96 (28.2)	39 (24.5)	57 (31.5)	0.16
Short wait times	96 (28.2)	55 (34.6)	41 (22.7)	0.015
Services are inexpensive	133 (39.1)	73 (45.9)	60 (33.2)	0.016
Good quality service	169 (49.7)	95 (59.8)	74 (40.9)	0.001
Private/confidential	142 (41.8)	82 (51.6)	60 (33.2)	0.001
Providers are receptive	127 (37.4)	73 (45.9)	54 (29.8)	0.002
Familiar with the provider	102 (30.0)	53 (33.3)	49 (27.1)	0.21
My friends/colleagues go there	126 (37.1)	62 (39.0)	64 (35.4)	0.49

Chi-squared tests were used to calculate p-values comparing proportions.
*Of note, proportions in each column do not sum to 100% as a patient could name more than one factor that influenced where they initially sought care.

[Table 1. Factors reported for selection of first provider for evaluation of symptoms among newly diagnosed tuberculosis patients in Zambia, according to HIV-status (n=340)

CONCLUSIONS: Delays ≥4 weeks to TB presentation were common, especially among PWH, and factors influencing engagement in TB services differed substantially by HIV-status.

PEB0136

EFFECT OF TUBERCULOSIS INFECTION ON MORTALITY AMONG HIV-INFECTED PATIENTS IN NORTHERN TANZANIA

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BACKGROUND: Despite the decreasing burden of these two diseases they still make a significant contribution to mortality. TB is still a burden among HIV patients.

METHODS: Routine data over 6 years from Care and Treatment Centres in three regions of Northern Tanzania were analyzed, using Poisson regression with frailty model was used to analyze the data to determine mortality rates.

RESULTS: The overall mortality rates for PLHIV is 28.4 (95% CI 27.6-29.2), while for those who had not TB is 26.2 (95% CI 25.4-27.0), and for those with HIV/TB co-infection is 57.8 (95% CI 55.6-62.3). The mortality rates for HIV/TB patients has always been higher than for PLHIV with no TB over the six-year period. The following subgroups were significantly associated with mortality among PLHIV; age 35-44 years and age above 55 years, adjusted rate ratios (ARRs) of 1.30 (95%CI 1.05-1.61) and 1.88 (95% CI 1.50-2.37) respectively. Female sex ARR of 0.62 (95% CI 0.56-0.69), body weight 40-60kg and above 60kg with ARRs of 0.50 (95% CI 0.43-0.58) and 0.26 (95%CI 0.22-0.31) respectively. Those with HIV/TB co-infection had ARR of 1.4 (95% CI 1.24-1.67) and those with moderately and severely poor nutritional status had ARRs of 1.61 (95% CI 1.39-1.85) and 1.90 (95% CI 1.24-2.90) respectively. Among HIV/TB patients, interactions for mortality was observed between TB and the following independent variables; female sex ARR 0.63 (95%CI 0.53-0.75) , HIV stage 4 ARR 1.74 (95% CI 1.16-2.62) and having moderate nutritional status ARR 1.28 (95% CI 1.03-1.61).

CONCLUSIONS: The mortality rates for HIV/TB patients has always been higher than for PLHIV who have no TB over the six-year period. More efforts should be directed into improving nutritional status among HIV patients, as it has destructive interaction with TB for mortality. This will improve patients' body weight and CD4 counts which are protective against mortality. Also attention should be given to those who are in WHO HIV stage 3 or 4 and having TB co-infection.

PEB0137

TUBERCULOSIS AND CRYPTOCOCCAL CO-MORBIDITY AMONG PATIENTS WITH ADVANCED HIV DISEASE IN LESOTHO

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BACKGROUND: Tuberculosis (TB) and cryptococcal disease are frequent co-morbidities in patients with advanced HIV disease (AHD). We aimed to determine the prevalence of these co-morbidities among AHD patients in two district hospitals in Lesotho to inform programmatic interventions.

METHODS: We enrolled a cohort of newly diagnosed HIV-positive patients with AHD (aged ≥15 years) to receive World Health Organization–recommended AHD interventions (November 2018–May 2019) in Berea and Motebang hospitals. Patients were screened for TB with the 4-symptom screen at every visit with further evaluation of patients who screened positive. Patients with laboratory-confirmed TB (Xpert MTB/RIF) initiated anti-TB treatment. Isoniazid preventive therapy (IPT) was offered to patients without TB symptoms. Patients with CD4 ≤100 cells/μL (or per clinical judgment) were screened for serum Cryptococcal antigen (CrAg), followed by cerebrospinal fluid (CSF) CrAg, if serum CrAg positive. Patients were treated for cryptococcal meningitis or cryptococcemia. Data were abstracted from routine records and summarized as proportions.

RESULTS: Of 110 enrolled AHD patients, 56.9% were men, and the median age was 38 years. At baseline, 36 (32.7%) patients screened positive for TB symptoms; 66 (60.0%) screened negative, and 8 (7.3%) were receiving TB treatment. Of the 36 patients with TB symptoms, 17 were confirmed TB cases, resulting in a baseline TB prevalence of 22.7% (25/110). Fifty-six (84.8%) of 66 patients with negative symptom screen were started on IPT. Four patients developed TB symptoms during follow-up of whom three (75.0%) were confirmed TB cases and treated.

Of 70 (63.6%, n=110) patients with baseline CD4 results, 36 had CD4 ≤100 cells/μL, and 32 (88.9%) underwent serum CrAg screening. Of these, five patients had positive serum CrAg result and underwent CSF CrAg screening, and four had positive results; all five were treated for meningitis.

CONCLUSIONS: TB infection was common in our AHD patient cohort, and 1 in 8 patients with CD4≤100cells/mm3 had cryptococcal meningitis. AHD interventions for TB and cryptococcal disease should be prioritized.

PEB0138

SCREENING AND TREATMENT STRATEGIES FOR LATENT TUBERCULOSIS INFECTION IN NEWLY HIV DIAGNOSED PEOPLE LIVING IN LOW-ENDEMIC COUNTRY: A SIMULATION FOR ITALY

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BACKGROUND: People living with HIV are at increased risk for tuberculosis (TB), even in a low-incidence TB country. WHO recommends screening newly HIV diagnosed people (NHIVP) for Latent Tuberculosis Infection (LTBI) and providing preventive treatment (PT). Screening for LTBI in all NHIVP is currently recommended by Italian guidelines; however, its potential impact has not been evaluated. We aimed to estimate the effect of this intervention in a low-incidence TB country considering different strategies of LTBI screening and PT, based on CD4 cells count level and area of origin.

METHODS: Primary outcome was the absolute number of TB cases averted through PT. We simulated the incidence of TB in five year after HIV diagnosis, according to 4 LTBI screening strategies: screening all NHIVP (S1); screening all NHIVP with CD4 count<200 copies/ml (S2); screening foreign-born NHIVP with CD4 count<200 cells/ml (S3); screening all foreign-born (S4). The model was based on compartments linked to each other by probabilities of transition. The definitions and values of the model parameters were derived from literature review. We run the simulation on a cohort of NHIVP distributed by level of CD4 count and country of birth as newly diagnosed cases reported in Italy over the past 5 years (from the Italian Surveillance System). We assumed 90% of NHIVP started antiretroviral therapy immediately upon HIV diagnosis.

RESULTS: The cohort consisted of 17,218 NHIVP, 71% Italians and 29% foreign-born persons of whom 23% from a high-burden country. Thirty-six percent both of Italian and low-TB-burden country born, had CD4 count<200 copies/ml versus 40% of high-TB-burden country born. Without LTBI screening/PT, 118 TB cases are expected over a 5-years period with an Event Rate (ER) of 1.42 per 1,000 person-years. Under S1 strategy 73 cases are expected (ER=0.88, a Relative Risk Reduction (RRR)=38.1%), 104 cases with S2 (ER=1.25, RRR=11.9%), 107 cases with S3, (ER=1.30, RRR=9.3%), and 84 cases with S4 (ER=1.01, RRR=28.8 %).

CONCLUSIONS: Screening and treatment of LTBI would have a moderate impact if implemented for all NHIVP (S1) or limited to foreign-born persons (S4), while its impact would be minimal for other strategies. This simulation provide the basis for a cost-effectiveness analysis.

PEB0139

A COMPARATIVE ANALYSIS OF ADHERENCE AND COMPLETION RATES IN TB PREVENTIVE THERAPY (TPT) AMONG PEOPLE LIVING WITH HIV ON 3-MONTHS & 6-MONTHS MULTI-MONTHS ART DISPENSING

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BACKGROUND: Multi-month dispensing (MMD) of antiretroviral therapy (ART) can reduce the pressure on already overburdened health systems. As more programs transition patients to longer refill intervals, the impact of spaced client visits with medications as TB preventive Therapy (TPT) remains unknown. We sought to compare adherence to completion rates of TPT among patients on MMD at comprehensive HIV centers in Akwa Ibom State.

METHODS: A retrospective review of routinely collected program data for stable HIV infected patients on ART and TPT between March 2017 and October 2018 was done with data collected from initiation of TPT to 6 months after TPT initiation .Adherence was assessed as good (≥95%) or poor (<95%) while TPT completion was assessed as either completed or not at the end of 6 months. De-identified data extracted from client records were analyzed using SPSS ver. 20. Data was summarized using descriptive statistics and multivariable logistic regression was used to determine differences in adherence and completion rates between the MMD groups.

RESULTS: With total of 917 patients on MMD initiated on IPT, with a mean age of 39.3 years (SD: 11.6). Of these, 648 (70.7%) were females and the median duration on ART was 4 years (IQR: 2 years - 6 years). Majority of patients were on MMD6 (n = 642; 70.0%), while 275 (30.0%) were on MMD3. Adherence to TPT was 95.6% (n=263) among patients on MMD3 compared with 98.3% (n=631) among those on MMD6 (p=0.19). In addition, 95.6% (n=263) of patients on MMD3 completed TPT compared with 98.4% (n=631) among those on MMD-6 (p=0.011). In multivariable analysis, patients on MMD-3 similar odds of being adherent to TPT (aOR = 0.46 95% CI: 0.12-1.13, p=0.09) and completing TPT (aOR = 0.49, 95% CI: 0.20-1.19, p=0.12) compared with patients on MMD-6, adjusted for age, sex and duration on ART.

CONCLUSIONS: Overall, adherence to TPT and TPT completion rates were good in both MMD models. We also found that TPT adherence and completion rates were comparable both MMD-3 and MMD-6. MMD-6. However, client centered care approaches should be considered in implementing differentiated models of care for clients also receiving TB Preventive therapy.

PEB0140

HIGH PREVALENCE OF VENOUS THROMBOEMBOLIC DISEASE AMONG HIV PATIENTS CO-INFECTED WITH DRUG-RESISTANT TB IN LESOTHO

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BACKGROUND: Venous thromboembolism (VTE) is an important medical condition that can be triggered by conditions causing systemic inflammation, including HIV and tuberculosis. Case series have reported on the occurrence of VTE among TB patients but none have examined VTE among drug-resistant (DR) TB exclusively. We describe the prevalence of VTE among DR TB patients in Lesotho with high rates of HIV co-infection.

METHODS: A retrospective cohort study of VTE among DR TB patients enrolled into an observational cohort was conducted. Participants enrolled between October 2015-June 2018 were included. The study database and pharmacy records were searched for adverse events and anticoagulant prescriptions to identify VTE cases. Manual file review was performed to confirm VTE diagnosis. Univariate analyses were conducted for relevant covariates.

RESULTS:

Variable	VTE (N=17, 8%)	No VTE (N=194, 92%)
Median age (years)	41	43
Female	10 (59%)	67 (35%)
HIV positive	16 (94%)	154 (79%)
Baseline CD4 (cells/mm^3)	187	202
Baseline VL (copies/ml)	419,718	328,424
Ever hospitalized*	16 (94%)	123 (63%)
Hospitalized before VTE	12 (71%)	--
Median time from TB treatment initiation to VTE diagnosis (days)	69	--
* p-value < 0.05		

[Table]

211 individuals were enrolled into the cohort and 17 (8%) developed VTE (Table 1). Most patients were HIV-positive (94% of VTE cases, 79% of those without VTE) with low baseline CD4 counts and high viral loads. Most patients were hospitalized prior to their VTE diagnosis (71%); the median time from TB treatment initiation to VTE diagnosis was 69 days. There were no significant differences in TB treatment outcomes between patients with and without VTE and the majority (69%) of patients had a favorable TB treatment outcome although mortality was high (23%).

CONCLUSIONS: VTE was a common co-morbidity among this DR TB cohort with high HIV co-infection. The true prevalence of VTE was likely higher due to underdiagnosis of asymptomatic VTE cases and pulmonary emboli. The early onset of VTE in most cases suggests an initial hypercoagulable state after start of TB and HIV treatment. Further study is needed to better understand the factors associated with VTE among HIV/DR TB co-infected patients in order to reduce occurrence of VTE in this population and mitigate the associated morbidity and mortality when VTE occurs.

PEB0141

DO PEOPLE LIVING WITH HIV/AIDS KNOW AND ADHERE TO ISONIAZID PREVENTIVE THERAPY?: FINDINGS FROM SELECTED FACILITIES IN SOUTH-EAST NIGERIA

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BACKGROUND: Isoniazid preventive therapy (IPT) is an important component of collaborative tuberculosis (TB) and human immunodeficiency virus (HIV) care aimed at reducing the burden of TB in People Living with HIV (PLHIV). The objective of this study was to assess the knowledge and adherence to isoniazid preventive therapy among PLHIV in selected facilities in South-East Nigeria

METHODS: A cross-sectional survey was carried out in 2019 in six of the eight public and private high patient load (>100 HIV patients) health facilities providing comprehensive HIV care in Ebonyi State, South-East Nigeria. Systematic random sampling using proportionate allocation was used to select 200 PLHIV on HIV care for at least 6 months in the selected facilities. Information was collected using interviewer-administered questionnaires and patient treatment cards. Adherence was assessed by self-reports as adherence grading was not done for any of the treatment cards assessed. Descriptive, bivariate and multivariate logistic regression analyses were conducted using SPSS version 20. Statistical tests were conducted at 5% level of significance.

RESULTS: Respondents were mostly females (females:147, 73.5%) with an overall mean age of 39.4±10.3 (females: 42.5±9.2, males: 38.4±10.5). Over half of them had ever received IPT (110, 55%) and been counseled on IPT (124, 62,0%). Few of the respondents (35, 17.5%) were on IPT during the study. Most respondents (120, 60%) had poor knowledge of IPT and this was higher in females (73.3% vs 26.7%, P=0.949). Only 22 (11%) and 82 (41.0%) knew the name of the drug used for IPT and the duration of IPT respectively. Marital status was the only predictor of IPT knowledge (AOR=1.96; 95% CI:1.03–3.74; P=0.041). Among those who were on IPT, the majority (32, 91.4%) reported good adherence in the 30 days preceding the survey. Only one patient (0.5%) had missed taking IPT in the 3 days preceding the survey.

CONCLUSIONS: There was poor knowledge of IPT among the respondents however self-reported adherence was high. We recommend intensification of general and personalized education of PLHIV on IPT by health workers. Routine adherence assessment and documentation should also be strengthened among health workers.

PEB0142

SENSITIVITY AND SPECIFICITY OF XPERT ULTRA AND PREDICTIVE VALUE OF SYMPTOMS OF TUBERCULOSIS IN PATIENTS NEWLY DIAGNOSED WITH HIV

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BACKGROUND: The WHO recommends excluding active tuberculosis (TB) before starting ART in patients with HIV. However, with the new recommendation for rapid ART, TB diagnostic testing must be completed quickly.

METHODS: In a sub-study of a larger randomized trial, we tested all patients with cough, fever, night sweats, or weight loss at HIV diagnosis with both spot and early morning Xpert Ultra and mycobacterial culture. We compared the sensitivity, specificity, and predictive power of each of the four symptoms, as well as weight loss in combination with low BMI. We also calculated the sensitivity and specificity of spot and early morning Xpert Ultra in patients with culture-positive TB.

RESULTS: 487 patients with cough, fever, night sweats, or weight loss were enrolled in this study, and 56 (11.5%) were diagnosed with culture-positive TB. Of these, 40 (71.4%) were Xpert Ultra positive on a spot specimen, 45 (80.4%) were positive on early morning specimen, and 49 (87.5%) were detected with either spot or early morning specimen. All patients with Xpert positive TB were also culture positive. See Table 1 for predictive values and sensitivity and specificity of each symptom.

CONCLUSIONS: Early morning Xpert Ultra is more sensitive than a spot specimen for detection of TB at HIV diagnosis. Sensitivity is highest if if Xpert Ultra is conducted on both spot and early morning specimens. Isolated weight loss had a low positive predictive value for TB, however, weight loss in combination with BMI < 18.5 had a positive predictive value greater than cough.

	Negative predictive value	Positive predictive value	Sensitivity	Specificity
Cough	93.4	26.5	73.1	65.1
Fever	93.4	26.5	73.1	65.1
Night sweats	88.9	34.8	35.8	88.5
Isolated weight loss	63.6	14.1	94.0	1.8
Weight loss with BMI < 18.5	89.9	30.7	46.2	82.1

[Table 1]

PEB0143

SURVIVAL OF TUBERCULOSIS/HIV CO-INFECTED PATIENTS BETWEEN 2009 AND 2013

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BACKGROUND: Tuberculosis is the infectious disease with the highest mortality rate in the world. The risk of death in individuals with tuberculosis increases in cases of HIV coinfection. The aim of this study was to analyze the survival time of cases of tuberculosis (TB)/HIV coinfection in Porto Alegre, Brazil.

METHODS: Retrospective cohort study conducted with patients with TB/HIV co-infection enrolled between 2009 and 2013. The survival analysis compared patients according to entry classification (new cases, relapses, re-entry after abandonment and transfer) and whether or not the treatment was directly observed (DOT). The statistical techniques used were Kaplan Meier survival curves and Cox regression models. The significance level adopted was 5%.

RESULTS: Of the 2,417 cases of coinfection, 25.8% died. Entry and hospitalization situation were risk factors, and the performance of DOT a protective factor. New cases had a 4.58 times greater risk of death (p = 0.032; 95% CI 1.14-18.4), relapse 4.51 (p = 0.035; 95% CI 1.11-18.4), and re-entry after abandonment a 4.54 times greater risk (p = 0.034; 95% CI 1.12-18.4) in relation to the transfer. The performance of DOT gave a protection rate of 41% for the death event (p<0.001; 95% CI 0.45-0.77). Cases that were hospitalized during follow-up were 4.06 times more likely to die than those who were not (p<0.001; 95% CI 3.28-5.04).

The overall cumulative probability of survival dropped to 79.6% in 12 months. Considering the comparison by entry status, the probability of survival at 12 months was 75.7% for new cases, 80.9% for recurring cases, 86.5% for re-entry after abandonment, and 94.7% for transferred cases (p<0.05). Patients receiving DOT were more likely to survive throughout the period (p <0.01).

CONCLUSIONS: The predictors of death were the type of entry and occurrence of hospitalization. There is a large drop in the probability of survival of co-infected patients over 84 months. This difference is greater in the first 12 months. New and relapsed cases are the groups that are least likely to survive and thus constitute priority groups. The study shows that performing DOT contributes to the likelihood of survival, especially in the first year

OPPORTUNISTIC INFECTIONS (EXCLUDING TB): BACTERIAL, NON-TB MYCOBACTERIAL, VIRAL AND PARASITIC INFECTIONS

PEB0144

THE FREQUENCY AND YIELD OF CRYPTOCOCCAL ANTIGEN SCREENING AMONG NEWLY DIAGNOSED AND ANTI-RETROVIRAL THERAPY EXPERIENCED HIV PATIENTS IN RURAL UGANDA

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BACKGROUND: The World Health Organisation recommends screening for the cryptococcal antigen (CrAg), a predictor of cryptococcal meningitis, among newly diagnosed HIV positive patients with a CD4 count of <100 cells/mm3. The frequency and yield of cryptococcal antigen screening among antiretroviral therapy (ART)-experienced HIV patients is not well established in programmatic settings. We compared the frequency and yield of CrAg screening among newly diagnosed HIV patients with CD4<100 cells/mm3 and ART-experienced patients with suspected virological failure (viral load >1000 copies/ml) attending rural public health facilities in Uganda.

METHODS: We analysed data from publicly available programmatic reports on CrAg screening from 107 health facilities in 8 rural districts in Uganda from January 2018 to July 2019. A serum CrAg is used as the screening test for cryptococcal disease in Uganda. We compared the frequency of screening and yield of CrAg positivity among newly diagnosed HIV patients with CD4<100 cells/mm3 and ART-experienced patients with suspected virological failure (viral load >1000 copies/ml) using Pearson's chi-square test.

RESULTS: Among the 15,417 newly diagnosed HIV patients during the period under study, 37.1% were offered a CD4 count measurement of which 16.4% (937/5,719) had a CD4 <100 cells/mm3. Also, of 71,860 ART experienced HIV patients, 10% were reported to have suspected virological failure. CrAg testing was performed among 891 (95.1%) and 830 (11.5%) (p<0.001) newly diagnosed HIV positive with CD4<100cells/mm3 and ART-experienced patients with suspected virological failure respectively. Similarly, CrAg positivity was reported to be 13.8% (123/891) and 10.5% (87/830) (p=0.035) among newly diagnosed HIV positive with CD4<100cells/mm3 and ART experienced with suspected virological failure respectively. CrAg positivity among newly diagnosed and ART experienced patients differed by district (p<0.001) and level of health facility (p<0.001).

CONCLUSIONS: There was a low frequency of screening and a high yield of CrAg positivity among ART-experienced HIV patients with suspected virological failure. The lack of guidelines for the screening of cryptococcal disease in this population contributes to the low screening rate and thus a large proportion of these patients with cryptococcal disease is missed. We recommend an evaluation of the cost effectiveness of screening ART-experienced HIV patients with suspected virological failure in programmatic settings.

PEB0145

CMV CO-INFECTION IN HIV ELITE CONTROLLERS: IMPORTANCE FOR DISEASE PROGRESSION AND INFLAMMATION

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BACKGROUND: We recently demonstrated that CMV co-infection was associated with a lower CD4/CD8 ratio, and high levels of gut damage, microbial translocation and inflammatory markers in people living with HIV (PLWH) under antiretroviral therapy (ART). Elite controllers (EC), a subgroup of PLWH, can maintain plasma HIV viremia below 50 copies/mL without antiretroviral therapy. However, EC present with increased risk of developing non-AIDS comorbidities due to persisting inflammation. Herein, we evaluated the link between CMV seropositivity, disease progression and microbial translocation among EC.

METHODS: Blood samples and clinical parameters were collected from 25 EC of the Canadian Slow progressor cohort. EC had viremia <50 copies/ml and were ART-naïve. We categorized EC regarding their expression of protective HLA alleles (B*27, B*57, B*58). CD4 and CD8 T-cell counts, CMV seropositivity were assessed clinically. Plasma levels of anti-CMV IgG, gut damage marker Intestinal fatty acid binding protein (I-FABP), microbial translocation markers lipopolysaccharide (LPS) and β-D-Glucan (BDG) were measured by ELISA.

RESULTS: Seventy-six percent of EC participants, followed for a median of 7 years, were CMV seropositive. CMV seropositive and seronegative EC presented with similar age, male/female ratio, CD4 and CD8 T-cell counts and CD4/CD8 ratio.

The median annual CD4 count variation tended to be different between CMV seropositive (-6.1 CD4 per year [IQR -35.1;13.3]) compared to seronegative EC (+14.1 [-3.7;54)], p=0.1). Anti-CMV IgG titer correlated inversely with annual CD4 count variation (r=-0.48, p=0.02) in EC participants. Moreover, compared to their seronegative counterpart, CMV seropositive EC had elevated plasma levels of I-FABP (p=0.03), LPS (p=0.003) and BDG (p=0.05).

Protective HLA allele were expressed by 50% of the EC. As expected, EC with protective HLA alleles had higher CD4 T-cell count compared to those without protective alleles (p=0.03). However, the expression of protective HLA alleles was not associated with differences in annual CD4 count variation nor inflammatory markers.

CONCLUSIONS: CMV co-infection, irrespectively of the expression of protective HLA alleles, was associated with CD4 decay, possibly linked with increased gut damage and inflammation. Therefore, co-infection with CMV emerges as an important contributor to disease progression and chronic inflammation in HIV elite controllers.

PEB0146

PATHOGENIC SPECTRUM AND CLINICAL CHARACTERISTICS OF PULMONARY FILAMENTOUS FUNGAL INFECTION IN AIDS PATIENTS IN GUANGDONG AREA

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BACKGROUND: Filamentous fungal infection is increasing in AIDS patient, however, its spectrum is unclear. This study aims to explore the pathogenic spectrum and clinical features of pulmonary filamentous fungal infection in AIDS patients in Guangdong, providing evidence for diagnosis improvement.

METHODS: We used the molecular biological method to identify 143 filamentous strains and then analyzed the clinical characteristics. All strains were obtained from the culture of bronchoalveolar lavage fluid (BALF) of 143 AIDS cases complicated with pneumonia in Guangzhou Eighth People's Hospital.

RESULTS: 110 males and 33 females were enrolled with an average age of 43.3±12.2 years. Of the 143 isolates, 56 were identified as Aspergillus spp. (39.2%), 37 were Talaromyces marneffei (TM) (25.9%), 22 were Penicilium spp. (15.4%), and 28 were other genera of filamentous fungi (19.6%). The top three species of Aspergillus spp. included Aspergillus fumigatus (24 strains), Aspergillus niger (9 strains), and Aspergillus flavus (7 strains).

The top three species of Penicilium spp. included Penicillium nucleatum (4 strains), Penicillium meleagrinum (3 strains), and Penicillium oxalicum (3 strains). The top three of other genera included Cladosporium (5 strains), Paecilomyces variabilis (5 strains), Schizophyllan, and Spodoptera (3 strains each). Of the 143 patients, 110 (76.9%) had fever. The main respiratory symptoms consisted of cough (73.4%), expectoration (58.0%), and anhelation (41.3%). The major abnormalities of chest CT manifested as diffuse infection (83.2%), pleural effusion (30.8%), thoracic lymphadenopathy (31.5%), and miliary lesions (8.4%).

The median CD4+ T lymphocyte count was 31.5 (0-63) cells/μl and 92.8% were below 50 cells/μl. The CD4+ cell counts of different genus infections were listed from the highest to the lowest as follows: Penicillium spp. (53.5 cells/μl), Aspergillus spp. (24.5 cells/μl), other genera (22 cells/μl), and TM (15 cells/μl) (P<0.05). The primary laboratory abnormalities included elevated erythrocyte sedimentation rate (55.2%), leukopenia (32.9%), leukocytosis (13.3%), anemia (58.7%), and thrombocytopenia (16.1%). After receiving antifungal therapy, 121 patients (84.6%) were cured or improved on discharge, and 22 cases (15.4%) were discharged due to deterioration or died.

CONCLUSIONS: The pathogenic spectrum of filamentous fungal infection in AIDS patients is diverse, but mainly consists of TM and Aspergillus fumigatus; The clinical manifestations lack specificity.

PEB0147

SEVERE ANAEMIA IS ASSOCIATED WITH LATENT TUBERCULOSIS AMONG PEOPLE LIVING WITH HIV

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BACKGROUND: Anaemia is associated with significant adverse health outcomes in people living with HIV (PLHIV) including poor survival, decreased quality of life, and accelerated disease progression to acquired immune deficiency syndrome (AIDS). We assessed prevalence and correlates of severe anaemia in PLHIV participating in a cross-sectional study on evaluation of World Health Organization (WHO) screening tool for tuberculosis (TB).

METHODS: We analyzed baseline data from adult PLHIV who were isoniazid preventive therapy (IPT)-naïve or had completed IPT at least 6 months before enrollment and were receiving HIV treatment in Ahero and Bondo County hospitals in Kenya. A structured questionnaire was used to determine frequency and correlates of anaemia. Blood samples were collected for HIV viral load (VL) and full haemogram, while sputum samples were collected for tuberculosis (TB). Tuberculin skin test (TST) was done to evaluate for latent TB infection (LTBI). We Used the WHO definition of severe anaemia (Hb <8.0g/dl), Correlates of severe anaemia in PLHIV were estimated by prevalence ratios (PR) using multinomial logistic regression.

RESULTS: Fifty-eight percent [225] of study participants were female and the median age was 37 years [IQR 31-45]. Median hemoglobin was 14.3 [IQR 13.1-15.3 g/dL] and 11.7 [IQR 10.1-12.9 g/dL] for males and females respectively. Overall, 41% of participants were anaemic, with 17%, 18% and 6% having mild, moderate and severe anaemia, respectively. Five [1.3%] PLHIV were co-infected with active TB and 126 [32%] with LTBI. In multivariate analysis, male sex [aPR 0.07, 95% CI:0.01-0.51], current employment [aPR 0.42, 95% CI: 0.21-0.83], and number of years being on ART [aPR 0.88 per year, 95% CI: 0.83-0.95] were associated with decreased risk of severe anemia while LTBI [aPR 1.25, 95% CI:1.08-1.44] and erythrocyte sedimentation rate (ESR) [aPR 1.04 per mm/h, 95 % CI: 1.01-1.06] were associated with increased risk of severe anaemia.

CONCLUSIONS: We identified high prevalence of anaemia among PLHIV with active TB or LTBI. Our data suggests potential benefit of screening PLHIV with evidence of LTBI for severe anaemia.

VIRAL HEPATITIS C

PEB0148

RACIAL/ETHNICAL DISPARITIES IN HCV TESTING AMONG MSM IN HIV CARE

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BACKGROUND: Liver-related mortality, primarily due to HCV, is a leading non-AIDS cause of death for persons with HIV (PWH) in the United States (US). National guidelines recommend that sexually active PWH who are men who have sex with men (MSM) be tested for HCV at least annually depending on the presence of high-risk sexual or drug use practices. HCV testing rates vary substantially by race/ethnicity in the general population. We hypothesized that race and ethnicity may also play a role in uptake of HCV testing among HIV-positive MSM.

METHODS: We analyzed medical records data from MSM in the HIV Outpatient Study (HOPS) receiving care at nine US HIV clinics during 01/01/2011-12/31/2018. We excluded participants who had a positive HCV antibody (AB) or HCV RNA (viral load, VL) test before or at baseline. Additionally, we censored observation for participants after their first positive HCV AB or VL test. We evaluated HCV AB testing in each calendar year of follow up among HCV-seronegative MSM. Generalized estimating equations analyses were performed to assess factors associated with receiving an HCV AB test.

RESULTS: Of 1,780 eligible MSM, 1,158 were non-Hispanic (NH) white, 387 NH black, 174 Hispanic, and 61 of other race/ethnicity. Most participants were ≥ 40 years (70.1%), with CD4 count ≥ 350 cells/mm3 (78.2%), and with HIV viral load < 200 copies/mL (77.9%). During 2011-2018, 1,133 (63.7%) men had any HCV AB testing with varying levels by race/ethnicity (71.8% for NH-black, 69.5% for Hispanic, and 63.9% for other race/ethnicity, 60.0% for NH-white, P < 0.001). Annual HCV testing levels during 2011-2018 were the highest for NH-black (34.2%) men, followed by those for men of other race/ethnicity (32.0%), Hispanic (31.9%), and NH-white (28.1%). In multivariable longitudinal analysis, NH-blacks were more likely to undergo an HCV test than NH-whites (OR=1.35; 95% confidence interval =1.13, 1.62). Other factors associated with HCV testing (P ≤ 0.001) included hepatitis B diagnosis and elevated aspartate aminotransferase/alanine aminotransferase levels.

CONCLUSIONS: Low HCV testing rates in all racial/ethnic groups indicate suboptimal performance of recommended HCV screening. The underlying causes of black-white difference in HCV testing need to be further investigated.

PEB0149

PREVALENCE AND PREDICTORS OF TOBACCO USE IN PATIENTS LIVING WITH HIV/HCV CO-INFECTION: FINDINGS FROM A LARGE URBAN TERTIARY CENTER

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BACKGROUND: Although tobacco use is the leading preventable cause of morbidity and mortality in the United States and a co-risk factor for hepatocarcinogenesis in patients with HCV, there is limited data on tobacco smoking behaviors in HCV patients with HIV co-infection (HIV/HHCV). This study aimed to access prevalence and predictors of tobacco use among patients living with HIV/HCV co-infection.

METHODS: Patient report outcomes (PROs) of patients with HIV/HCV co-infection (n=313) who presented for clinical evaluation and treatment of HCV between 2013-2017 at a university-affiliated clinic were analyzed. Patients completed several questionnaires on tobacco smoking, alcohol and substance use, and depression and anxiety. Laboratory and other medical data were extracted from electronic medical records. Binomial logistic regression was used to identify predictors of tobacco smoking.

RESULTS: The mean age was 52±11.1 years, and the majority of patients were African American (56%) and insured (87%). Patients were aware of their HCV diagnosis for 7±7.3 years and aware of their HIV diagnosis for 14 (9.3) years. The prevalence of tobacco use in patients with HIV/HCV co-infection was 48%. Of those who reported number of cigarettes smoked per day, 47% (82/174) and 36% (63/174) smoked ½-1 and 1-2 packs of cigarettes per day. Compared to non-smokers, a higher proportion of tobacco smokers had substance use disorders (29% vs. 44%, p=0.00), and concurrent alcohol and substance use (21% vs. 40%, p=0.000). Tobacco smokers and non-smokers did not differ in any other clinical characteristics. In multivariate analysis, concurrent alcohol and substance use (OR=3.059, p=0.011) was positively associated with tobacco smoking.

CONCLUSIONS: This study identified major disparities in the prevalence of tobacco smoking (among patients with HIV/HCV co-infection) compared to the national use rate (48% vs. 15%), and tobacco smoking was positively associated with alcohol and/or substance use. Findings suggest that tobacco smoking cessation interventions, especially pharmacological alone interventions, may be suboptimal if these respective interventions fail to integrate behavioral approaches to reduce both alcohol and substance use in patients with HCV/HIV co-infection. Otherwise, patients with HIV/HCV co-infection may be at greater risk for hepatocarcinogenesis compared to HIV patients without HCV co-infection.

PEB0150

EVOLUTION OF HIV RESERVOIR AND VIRAL SPLICING AFTER THE ELIMINATION OF HCV WITH DAAS IN HIV/HCV PATIENTS

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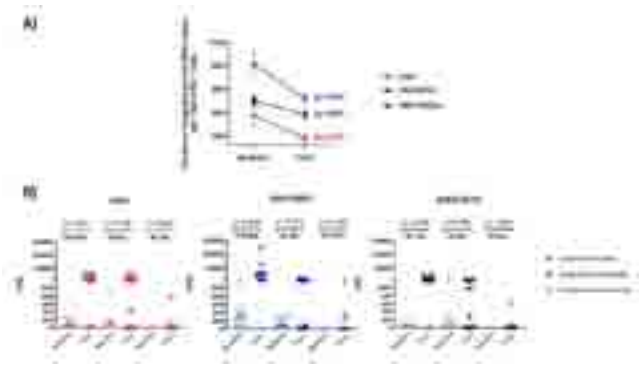
BACKGROUND: Previously, we observed an increase in HIV reservoir size in patients exposed to HCV (HIV+/HCV+ coinfected and HIV+/HCV- spontaneous clearers) compared to HIV+ monoinfected subjects in resting CD4 T cells (rCD4). We also observed an increase in multiple spliced RNA viral transcripts in HCV-exposed patients that could indicate that viral protein regulator Tat was being more actively synthesized leading to a higher yield of new HIV particles. However, the effect of HCV elimination with direct-acting antivirals (DAAs) on HIV reservoir and viral splicing remains unclear.

METHODS: Longitudinal study (52 weeks follow-up) in 50 aviremic patients: 19 HIV+/HCV+, 16 HIV+/HCV- and 15 HIV+ subjects. Using different Alu-LTR PCRs, viral spliced RNA transcripts and the number of proviral DNA copies integrated in rCD4 cells were quantified. Paired samples were analyzed using a generalized mixed linear model.

RESULTS:



[Figure.]

All HIV+/HCV+ patients achieved sustained virological response after taking DAAs. A decrease in HIV proviral DNA was observed at the end of follow-up only in HCV exposed patients: HIV+/HCV- (Baseline: 1354.8 vs Final: 871.1 HIV DNA copies/10e6 cells;p=0.019); HIV+/HCV+ (693.8 vs 551.8; p=0.057) (FigA). All forms of viral splicing had an increased ΔRQ at the end of follow-up (FigB). However, only unspliced RNA transcripts showed a significant increase: HIV+ (251.95x ΔΔRQ; p=0.002); HIV+/HCV- (116.46x; p=0.000); HIV+/HCV+ (170.12x; p=0.000).

CONCLUSIONS:

1) Evolution of HIV reservoir size in previously HCV-exposed patients showed a decrease in the number of proviral DNA copies in rCD4 cells. However, HIV reservoir size remains higher than in HIV+ group.
2) A significant increase in unspliced viral transcripts does not condition the replenishment of the viral reservoir.
3) Our results show that clearance of HCV from HIV-infected patients reinstate the dynamics of HIV reservoir.
Early treatment of HCV in coinfected patients that do not spontaneously clear the infection could suppose a better prognosis of HIV infection in these patients.

PEB0151

COSTS AND CLINICAL OUTCOMES OF A SIMPLIFIED HCV TREATMENT ALGORITHM FOR UKRAINE

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BACKGROUND: Access to hepatitis C virus (HCV) testing and treatment for key populations is limited in Ukraine. We conducted a demonstration project of an integrated HIV and viral hepatitis testing and HCV treatment strategy using generic ledipasvir/sofosbuvir (LDV/SOF).

METHODS: Eligible HCV viremic adults recruited from key populations at two clinics in Kyiv were treated with LDV/SOF +/- weight-based ribavirin for 12 weeks. Clinical assessments were performed at screening and week 24 and as needed; treatment was dispensed every 4 weeks. The primary outcome was sustained virologic response (SVR)12 weeks after treatment. Program costs in 2018 USD were estimated per patient treated using observed resource utilization, local unit costs, and antiretroviral therapy (ART) costs for HIV+ participants over the 24-week period.

RESULTS: Among 522 participants (79% HCV genotype 1, 19% genotype 3), of whom 85% were people who inject drugs and 52% HIV-positive, nearly all (511, 97.8%) achieved SVR. Only 7 (1.3%) failed therapy, 3 (0.6%) were lost to follow up, and 1 (0.2%) died. The average cost (standard deviation) per patient treated was $678 ($304), assuming generic LDV/SOF and ribavirin pricing ($102/course) and standard quantitative HCV viral load testing ($33.71/test) in the central laboratory in Kyiv. Medications comprised 38% of the average cost/patient, laboratory tests 26%, events (clinic visits, counselling) 10%, and indirect costs 26%. ART accounted for 60% of all drug costs, with HCV medications just 40%. Standard viral load testing cost less than other platforms in the project, but GeneXpert® (Cepheid) HCV at point of care (POC) may cost less ($27.54/successful test) at higher-volume implementation scale.

CONCLUSIONS: Generic LDV/SOF +/- ribavirin provided in public sector clinics produced exceptionally good outcomes at an average cost <$700/patient year, including ART for those with HIV. For budgeting purposes, under the assumption of generic drug pricing and decreased real-world effectiveness (lower SVR), an average cost of $750/patient is likely a reasonable estimate for this intervention for Ukraine, excluding costs for scaling up or maintaining the treatment program, such as procurement, training, management, and oversight. Use of POC GeneXpert® to confirm HCV viremia could increase access to testing and treatment in this setting.

PEB0152

HIGH SVR WITH LEDIPASVIR/SOFOSBUVIR +/- RIBAVIRIN AMONG PWID AND PWH IN UKRAINE

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BACKGROUND: Access to hepatitis C virus (HCV) treatment for key populations, including people who inject drugs (PWID) and people with HIV (PWH), is limited in Ukraine. We evaluated an integrated HIV and viral hepatitis testing and HCV treatment strategy using generic ledipasvir/sofosbuvir (LDV/SOF).

METHODS: Key populations (PWID, PWH, men who have sex with men, sex workers, and sexual partners of HCV+ persons) were screened for HCV, HIV, and HBV. Eligible HCV viremic adults were treated with LDV/SOF +/- weight-based ribavirin for 12 weeks. Clinical assessments were performed at screening and week 24 and as needed driven by on study symptoms or events. Treatment was dispensed every 4 weeks. Participants on ribavirin had additional haemoglobin monitoring. Those newly diagnosed with HIV were linked to antiretroviral therapy prior to HCV treatment initiation. The primary outcome was sustained virologic response (SVR) at 12 weeks after treatment.

RESULTS: 868 participants initiated treatment at two sites in Kyiv, Ukraine, 98% HCV treatment naïve, 55% HIV co-infected (67 were newly diagnosed with HIV through the project, of which 6 enrolled in HCV treatment), 0.7% HBV co-infected, 87% PWID, and 8% cirrhotic. Most (64%) were male, with a median age of 39 years. GT1 and 3 were most common (74% and 22%). Six hundred fifty-four (75.3%) participants received LDV/SOF alone and 214 (24.7%) also received ribavirin. 865 (99.7%) completed the treatment course; five were lost to follow-up after treatment completion and 860 were assessed for SVR at 24 weeks. The overall SVR rate was 97% (842/868); 96% for GT3 and PWH (184/191 and 462/482, respectively). There were 80 adverse events, and all of them but one death (due to myocardial infarction) were mild or moderate, with 70 (87.5%) drug related, of which 88.6% (62/70) were due to ribavirin and the rest to LDV/SOF. There were no treatment discontinuations due to adverse events.

CONCLUSIONS: Generic LDV/SOF +/- ribavirin was highly effective amongst PWID and PWH, regardless of HCV genotype, delivered at public health clinics in Kyiv, Ukraine. LDV/SOF may be an effective therapeutic option in settings with limited access to pan-genotypic HCV treatment regimens, but requires the capacity for HCV genotyping.

PEB0153

CREATING A MULTI-SITE HCV CARE CASCADE FOR HIV/HCV CO-INFECTED PERSONS RECEIVING CARE IN 11 CT CLINICS USING DATA TO CARE METHODS

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BACKGROUND: There is currently no available Hepatitis C (HCV) cascade of care for persons with HIV/HCV co-infection for Connecticut. Individual clinics have created localized treatment cascades for their own use, but statewide and/or multi-site care cascades have not been created due to incomplete HCV surveillance data, lack of standardized matching algorithms and inability to determine HCV care status. Such data is important for assessing treatment gaps that prevent achievement of micro-elimination targets.

METHODS: A combination of state-wide health surveillance and local clinical conferencing was used to establish a list of HIV/HCV co-infected individuals obtaining clinical care at 11 HIV clinics from January 2009 - September 2018. Statewide HIV surveillance data (eHARS) was combined with individual clinic rosters to define persons living with HIV (PLWH) who had received HIV care in this time frame. These were matched to the Connecticut HCV surveillance database (CTEDSS) using a validated algorithm. Clinic-specific co-infected patient lists were reviewed by clinic data personnel to determine current HCV treatment status for those deemed treatment eligible (e.g. treatment initiated, SVR documented, untreated but in clinical care) as well as additional determinations such as deceased, incarcerated, relocated, lost to care or transferred. These were used to generate a multi-site HCV cascade of care that was updated over time to reflect changes in treatment status.

RESULTS: A total of 7265 names were on clinic rosters as receiving HIV-related services; 2117 matched to HCV surveillance, representing 1496 unique patients. As of January 1, 2020, patients were: treatment eligible (N=855, 57%), deceased (N=304, 20%), cleared virus spontaneously (N=124, 8%), relocated out of state (N=90, 6%), transferred to non-project facilities (N=96, 6%), antibody negative (N=27, 2%). Among the treatment eligible group: 604 initiated treatment (71%), 591 completed treatment (69%), and 553 had documented SVR (65%).

CONCLUSIONS: This work emphasizes the feasibility of creating a care cascade for HIV/HCV using health department surveillance together with clinic-specific data. The determined SVR rate is better than other published care cascades, including for mono-infected individuals. Patients who have not achieved SVR are a heterogeneous group including individuals lost to care. Further study is needed to better characterize barriers to achieving cure.

OTHER VIRAL HEPATITIS (E.G., A, B, D, E)

PEB0154

PREDICTORS ASSOCIATED WITH BETTER RESPONSE TO JAPANESE ALUMINUM-FREE HEPATITIS A VACCINE TO JAPANESE PEOPLE LIVING WITH HIV: LESSONS FROM THE HEPATITIS A OUTBREAKS IN TOKYO

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BACKGROUND: HAV infections are predominantly seen among MSM in Japan and only limited MSM-LWHIV obtain anti-HAV antibody (16.9%) as of 2017. After the recent outbreak of HAV in Tokyo, the importance of HAV vaccination has been emphasized especially for MSM-LWHIV. Hepatitis A vaccine used in Japan, Aimmugen®, has been licensed and distributed exclusively in Japan. It is lyophilized, whole-virion, inactivated, aluminum-free and recommended to give three doses for the general population, however, it is reported that 85% of recipients acquire seroprotection against HAV after the second doses. We performed retrospective analyses to evaluate the efficacy of two/ three doses and the predictors associated with the response to Aimmugen® in MSM-LWHIV.

METHODS: We retrospectively examined anti-HAV IgG titers who were injected Aimmugen® between January 2018 and October 2019 in IMSUT Hospital, Tokyo, at the baseline and after each dose. The subjects' data including age, the history of AIDS, the duration of ART, BMI, smoking habits, CD4 count, CD4/8 ratio, HIV-RNA at the first vaccination, human leukocyte antigen (HLA) and killer cell immunoglobulin-like receptors association tests were collected.

RESULTS: One hundred forty-one subjects were examined and all were MSM. The titers of anti-HAV IgG were all negative before vaccination. Median age, CD4 count, CD4/8 ratio, were 46 years old, 615/μl, 0.88, respectively. The proportion of subjects with undetectable HIV-RNA was 97.2%. The acquisition rate of protectable anti-HAV IgG titers (>1.0 S/CO) after the second, the third dose was 71.1%, 98.6% respectively. The median of anti-HAV IgG level after the second, the third dose was 2.14 s/co [IQR: 0.87-4.82], 9.96 s/co [6.95-11.6], respectively. In 114 subjects whose anti-HAV IgG titers were tested after the second dose, factors significantly associated with better response were longer duration of ART, higher CD4 count and the possession of *HLA-DPA1*02:01* (p=0.009, 0.02, 0.018, respectively).

CONCLUSIONS: The acquisition of anti-HAV IgG titer of PLWH with the Aimmugen® inoculation greatly varied among individuals. In addition to long sustainable control of HIV replication resulted in an increasing number of CD4 cell counts, possession of *HLA-DPA1*02:01* may play an important role in the improvement of acquired immune systems in PLWH.

PEB0155

HIGH CO-INFECTION WITH HBV, HCV AND SYPHILIS, AND LOW CD4/CD8 RATIO AMONG HIV/AIDS PATIENTS IN GUANGZHOU, CHINA 2014-2017

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BACKGROUND: Co-infections with HBV, HCV, and syphilis among HIV/AIDS patients are common. CD4/CD8 ratio is of significant importance to immune-recovery. The purpose of our study is to understand co-infection with HBV, HCV and syphilis, as well as CD4/CD8 ratio among HIV/AIDS patients in Guangzhou, China.

METHODS: Data on HIV, HBV, HCV and syphilis, as well as CD4 and CD8 T cell counts were retrieved from the national HIV/AIDS information system in China for HIV/AIDS patients attending the Eighth People's Hospital of Guangzhou in China, a designated hospital specializing in infectious diseases. T-test and rank sum test were used to compare means or medians between two groups. Pearson's Chi-square test and Fisher's exact test were used to compare proportions between two groups. Factors associated with co-infections were assessed using multivariate logistic regression.

RESULTS: 2783 HIV/AIDS patients were included, with a mean age of 38 ± 12 years. 95.1% were Han ethnicity, 87.2% were males and 25.2% were younger than 30 years old. 27.3% were infected with at least one of HBV, HCV and syphilis. The co-infection rates of HBV, HCV and syphilis were 14.0%, 2.9% and 12.6%, respectively. Compared with men who have sex with men (MSM), heterosexual men had a higher rate of HBV co-infection (OR=1.48, 95% CI: 1.14-1.91) and intravenous drug users had a higher rate of HCV co-infection (OR=271.60, 95% CI: 109.22-675.40). The co-infection rate of syphilis in women was lower than that in men (OR=0.15, 95% CI: 0.06-0.37). Median CD4/CD8 ratio was 0.30 (IQR: 0.15-0.40). CD4/CD8 ratio was higher in patients under 30 years than those above 30 years (0.33 vs 0.29, $P < 0.001$).

CONCLUSIONS: Rates of co-infection with HBV, HCV and syphilis were high and differed by age and HIV transmission route. CD4/CD8 ratio among HIV/AIDS patients was low. Screening and treatment of co-infections was of great importance. Efforts are needed to detect HIV-infected people as earlier stage so as to maintain reasonable CD4/CD8 ratio.

PEB0156

SEROLOGIC RESPONSE TO HEPATITIS A VACCINATION AMONG HIV-INFECTED INDIVIDUALS

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BACKGROUND: Recently, acute hepatitis A outbreaks caused severe epidemics throughout the world. After the outbreak of hepatitis A among men who have sex with men in Tokyo from 1998 to 1999, we started a hepatitis A vaccination program for HIV-infected patients who are seronegative for protective antibodies.

METHODS: We analyzed the data of the patients who participated in this vaccination program from 2013 to 2019. Three-dose vaccination of lyophilized inactivated aluminum-free hepatitis A vaccine (Aimmugen) was administered for HAV antibody negative HIV-infected patients. Serology samples for hepatitis A virus antibody titers were taken 4–12 weeks later. Anti-hepatitis A virus antibody titers were measured by a chemiluminescent immunoassay. The seroconversion rate was determined, and the influence of several factors including CD4 cell counts, CD4/CD8 ratio, plasma viral load of HIV, smoking status, hepatitis B core antibody, and hepatitis C antibody were evaluated.

RESULTS: Four hundred and sixty-two patients were analyzed in this study. 99.2% were men, 98.9% were Japanese. Median age was 39 (IQR 32-45) years. 270 (58%) were hepatitis B core antibody positive, 15 (3.3%) were hepatitis C antibody positive. 178(38.5%) were active smokers. Median CD4/CD8 ratio was 0.63 (0.46-0.87) and median CD4 cell count was 548.5 (417.2-715.3).

In total, 427 (92.4%) cases turned positive for hepatitis A virus antibody after the initial series of vaccination. Among who did not show serologic response, one patient developed acute hepatitis A. The factor associated with seroconversion was higher CD4/CD8 ratio (per 0.50 increase, adjusted odds ratio, 3.12; 95% confidence interval, 1.25-7.79, p = 0.015).

CONCLUSIONS: Hepatitis A vaccination was effective for HIV-infected patients. Higher CD4/CD8 ratio was associated with higher serologic response to hepatitis A vaccination. We need to promote vaccination to prevent ongoing transmission.

PEB0157

HEPATITIS B CO-INFECTION IN HIV-INFECTED PATIENTS RECEIVING MULTI-DRUG RESISTANT TUBERCULOSIS (MDRTB) TREATMENT AT THE BOTSABELO HOSPITAL IN LESOTHO

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BACKGROUND: Lesotho is facing a high burden of infectious diseases including HIV and TB. Hepatitis B is known to be highly prevalent in regions with a high burden of HIV and causes liver injuries that often exacerbate the liver toxicity of drug-resistant TB treatment. Previously, there was no documented evidence of any association between hepatitis B and HIV co-infection in Lesotho. Our study aimed to assess the rate of hepatitis B and HIV co-infection among a cohort of Rifampicin Resistant Tuberculosis (RR TB) patients in Lesotho.

METHODS: A cohort of patients with RR TB patients enrolled in endTB observational study in Lesotho from October 2015 to September 2018 was studied. All patients were screened for hepatitis B (Hepatitis B Surface Antigen), HIV, malnutrition, anaemia and alcohol use at baseline and results were captured in patients files and Electronic Medical Record (EMR) system. We used existent aggregated and verified data to assess the proportions of hepatitis B and other co-morbidities in the cohort.

RESULTS: Among the 244 patients enrolled for the observational study, Hepatitis B Surface Antigen positivity rate was 7.4% (18). 94% (17) of patients with hepatitis B co-infection also had HIV co-infection compared to 79% of patients without hepatitis B co-infection. Rates of baseline liver injury were common among participants with and without hepatitis B co-infection (6% in both groups). However, the average baseline values of alanine aminotransferase and aspartate aminotransferase were higher among individuals with hepatitis B co-infection.

CONCLUSIONS: We found a significant rate of hepatitis B co-infection among HIV positive, MDRTB patients. This finding confirms the need for testing HIV positive patients for Hepatitis B and the need to design an algorithm for the management of hepatitis B infection in Lesotho.

STIS (INCLUDING HPV)

PEB0158

BURDEN OF HUMAN PAPILLOMAVIRUS INFECTION AMONG HIV POSITIVE WOMEN IN NORTH CENTRAL NIGERIA: A CROSS SECTIONAL STUDY

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BACKGROUND: Cervical cancer is the second most prevalent cancer among women in Nigeria and infection with high risk human papillomavirus (HPV) genotypes is the major cause of cervical cancer. The risk of acquiring HPV is higher in HIV infected women due to immune suppression and HIV modifying effect on HPV pathogenesis. In Nigeria, women particularly those who are HIV infected are under-represented in the global estimate of HPV infection. There is a dire need to emphasize HPV screening programs for accurate data on its epidemiology and effective control interventions.
METHODS: Between August 2016 and May 2017, 220 HIV-positive women attending the antiretroviral clinic of the Federal Medical Center, Keffi in Nigeria, were enrolled in a cross sectional cohort study. Cervical samples obtained were tested for cervical HPV infection using PCR while HPV genotypes were determined by DNA sequencing. Sociodemographic data were obtained using questionnaires, CD4 count and HIV viral load were retrieved from their case files and data analyzed using SPSS version 20.
RESULTS: Of the 220 HIV-positive women, HPV DNA was detected in 119(54.1%) and high risk HPV in 79(35.9%). Nineteen genotypes in varying combinations were detected with majority 10/19(52.6 %) of the high risk genotype. A total of 25/119 (21%) of the HPV- positive women had multiple HPV genotypes; predominantly of the high risk HPV 22/25 (88%). Among the 214 HIV-positive women with abnormal cytology report, 54(25.3%) had cervical pre-cancerous and cancerous lesions, almost all 53/54(98.2%) were high risk HPV. The risk of being HPV positive was significantly higher among women with CD4 count <200 and HIV viral load > 20,000 copies/ml. No significant association was found with the sociodemographic factors.
CONCLUSIONS: We found that low CD4 count and high HIV viral load are significantly associated with HPV infection. HIV-positive women infected with multiple HPV genotypes or diagnosed with pre-cancerous and cancerous cervical lesions had predominantly the high risk HPV genotypes. Increased HPV /high risk HPV screening and cervical cytology for risk stratification is necessary among HIV positive women.

PEB0159

PREVALENCE AND CHARACTERISTICS OF ANAL PAPILLOMAVIRUS INFECTION IN A COHORT OF HIV-POSITIVE MEN WHO HAVE SEX WITH MEN IN LIMA, PERU

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BACKGROUND: Human papillomavirus (HPV) is associated with anal cancer, which is more common in HIV-positive people. However, there is little data on anal papillomavirus infection in HIV-positive men in our country. We aimed to determine the prevalence and characteristics of anal HPV infection in HIV-positive men who have sex with men (MSM).
METHODS: Prospective cross-sectional observational study of HIV-positive MSM at our center between September 2017 and December 2018. HPV detection and typing was performed using a polymerase chain reaction technique that evaluated 21 genotypes: six low-risk (6, 11, 42, 43, 44 and 81) and 15 high-risk (16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66 and 68).
RESULTS: We evaluated 224 HIV-positive MSM (mean age: 42 years [SD: 12], mean length of HIV infection: 10 years [SD: 8], mean CD4 cell count: 514 cell/mm3 [SD: 232]). The HPV infection prevalence in the cohort was 71% (159/224). Multi-virus anal infection, i.e. infection with two or more HPV genotypes, occurred in 71% (113/159) of cases. Of these, 76% (86/113) had two to four different genotypes. In the group of mono-viral anal HPV infection the occurrence of high-risk genotypes was 59% (27/46). The most frequent low-risk genotypes were 6 and 11, with 30% each (47/153). The most frequent high-risk genotypes were 16, 33, 52, 58, 31, 39 and 45 with 33% (53/159), 22% (35/159), 21% (34/159), 21% (34/159), 20% (32/159), 20% (32/159) and 19% (30/159) respectively. The frequency of genotype 18 reached 8% (13/159).
CONCLUSIONS: HPV anal infection in HIV-positive MSM is very high in our center. Infection with multiple HPV genotypes is the rule. The distribution of papillomavirus genotypes is similar to that of other series or regions. These findings emphasize the importance of vaccination against papillomavirus in HIV-positive carriers, especially MSM, to prevent anal cancer.

PEB0160

CLINICAL AND LABORATORY ASPECTS OF PATIENTS WITH ASYMPTOMATIC NEUROSYPHILIS AND HIV INFECTION TREATED WITH CEFTRIAXONE: A RETROSPECTIVE COHORT

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BACKGROUND: PLHIV have higher rates of persistence of T. pallidum in the CNS even in the early stages of syphilis, leading to higher rates of CNS involvement and its complications. Current recommendations indicate the preferential use of crystalline penicillin for all neurosyphilis presentations. However, ceftriaxone has greater dosage convenience than crystalline penicillin. This study aims to describe data from HIV-infected patients diagnosed with asymptomatic neurosyphilis treated with ceftriaxone at Emilio Ribas Infectious Diseases Institute (IIER).

METHODS: An observational, retrospective study was conducted from 2015-2018 at IIER. Eligibility criteria were age 18+, HIV+; first diagnosis of neurosyphilis; use of ceftriaxone (ten consecutive days). Patients with symptomatic neurosyphilis were excluded. Information analyzed included demographic, previous syphilis occurrence, stage of syphilis, serum findings, CD4 T cell count (CD4+), HIV viral load (HIV-VL), regular use of ART and posttreatment laboratory response. Fisher's exact tests were used for for univariate and binary logistic regression. A p value <0.05 was considered statistically significant.

RESULTS: A total of 149 patients were identified. Sixty-one individuals were included in the final analyzes. Males accounted 96.7% of cases, with mean age of 39 years. The median CD4+ was 629 cells/mm^3 and 80% of participants were on HAART. Twenty-four (39.3%) had previously been diagnosed with syphilis. 86.2% had normalization of serum and/or CSF VDRL titres. Forty-nine (80.3%) patients had control serum VDRL records, form which 38 (77.5%) had adequate titration reduction within 12 months. Thirty-four patients (55.7%) had control CSF VDRL, 27 (79.4%) with adequate response within 12 months.Twenty-one patients achieved CSF cell count reduction. Undetectable HIV-VL was higher (although not statistically significant) in the group with CSF response (90.4%) p = 0.071. Twenty (74.0%) patients with adequate reduction in CSF titre, had a serum control exam. An adequate reduction in serum VDRL was observed in 16 (80%) patients. A similar percentage value (83.3%) was found for adequate serum response among individuals without CSF response.

CONCLUSIONS: In our study, most of our patients were young males, in a work active age and high levels of CD4+. Ceftriaxone allows treatment in Day Hospital regime and might be considered as an alternative to treat neurosyphilis in PLHIV.

PEB0161

INTEGRATING HPV TESTING FOR CERVICAL CANCER SCREENING IN WLHIV IN ZAMBIA

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BACKGROUND: Zambia has an estimated cervical cancer (CaCx) incidence rate of 66.4/100,0000. CaCx remains the most common cancer accounting for nearly 30% of all cancers diagnosed and cause more cancer deaths. The Ministry of Health (MOH), established the national CaCx screening program in 2006 using Visual Inspection with Acetic Acid (VIA) enhanced with digital cervicography. Recently, WHO made a call to eliminate CaCx through the 90-70-90 approach. The 70 target demands that 70% of eligible women are screened with a high-precision test at 35 and 45 years of age. We present Zambia's progress in integrating HPV testing for CaCx screening in WLHIV.

METHODS: A workshop was held in April 2019 to develop guidelines for HPV testing with support from Jhpiego and the Ministry of Health and Wellness from Botswana. Lessons from Botswana's fessibility study on HPV testing were adapted to fit the Zambian context. The Cobas-4800, GeneXpert and Hologic-Panther were validated at Centre for Infectious Disease Research in Zambia (CIDRZ) Central Laboratory and approved by MOH as primary tools for HPV testing. We present the preliminary findings on HPV testing done at CIDRZ Central Laboratory from November-December 2019 using the Hologic-Panther.

RESULTS: A total of 695 WLHIV submitted self-collected samples from Seven health centres in Lusaka district (Table 1). Two samples were insufficient. Of the 693 remaining samples, 46.9% (n=325) tested positive for HPV. About 13.3% (n=43) tested HPV16 of those that tested positive. Others were co-infections with HPV18/45 at 8.0% (n=26), HPV16/18/45 at 2.8% (n=9) and other high risk HPV at 76% (n=247).

SN	Item	Number	Percentage
1	**Cervical specimen collected**	**695**	**100.0**
	Specimen rejected (insufficient sample)	2	0.3
	Specimen tested	693	100.0
2	**Specimen tested**	**693**	**100.0**
	HPV Positive	325	46.9
	HPV Negative	368	53.1
3	**Genotype**	**325**	**100.0**
	HPV 16	43	13.2
	Co-Infection HPV 18/45	26	8.0
	Co-Infection HPV 16/18/45	9	2.8
	Other high risk HPV	247	76.0

[Table 1. HPV genotype in WLHIV screened for cervical cancer in Lusaka, Zambia]

CONCLUSIONS: It is possible to integrate HPV testing for CaCx screening in WLHIV in a country like Zambia where there is strong government commitment in a coordinated approach with implementing partners and support from other governments within the sub-region. HPV genotyping will help the country identify it's pandemic.

PEB0162

DRAMATIC INCREASE OF MACROLIDE RESISTANCE IN *TREPONEMA PALLIDUM* ISOLATES IN ARGENTINA

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BACKGROUND: Globally, approximately 94% of *Treponema pallidum* (TPA) clinical isolates belong to the SS14-like group, 6% belong to the Nichols-like group and macrolide resistance ranges from 0 to 100%. A previous study revealed that Argentina has a different distribution pattern with a higher frequency of Nichols-like strains (27%) and low levels of macrolide resistance (14%). Several studies suggested that the molecular epidemiology of TPA is changing, so our goal was to update the information on circulating TPA strains in order to assess strain distribution and macrolide resistance frequency in Buenos Aires.

METHODS: Swab samples from patients with clinical symptoms of syphilis were collected during 2015-2018. DNA was isolated and three loci (TP0136, TP0548, 23S rRNA) were characterized by sequencing-based typing. Strains were classified into two clades based on similarity to reference sequences: Nichols-like and SS14-like. We determined the presence of macrolide resistance-associated mutations (A2058G, A2059G) by examination of the 23S rRNA gene sequence. The distribution of allelic profiles was based on combinations of TP0136, TP0548 and 23S rRNA sequences. Analyses were performed using Fisher´s exact test (IBM SPSS Statistics Base 22.0).

RESULTS: Among 32 swab samples 40.6% were classified as Nichols-like and 59.4% as SS14-like. Macrolide resistance prevalence was found to be 51.7%, being significantly more frequent among SS14-

like samples as compared with Nichols-like samples (70.6% (12/17) vs. 23.1% (3/12), respectively; p=0.0253). Nine distinct allelic profiles were found, four related to the SS14 strain and five related to the Nichols strain. Compared to a previously published study (samples collected in the same setting between 2006-2013, n=41), macrolide resistance significantly increased (51.7% vs. 14.3%, p=0.0012) between the studies. The frequency of Nichols-like strains increased (26.8% vs. 40.6%, p=0.31), but not with statistical significance.

CONCLUSIONS: Even though macrolide resistance isolates were previously detected at a relatively low frequency in Argentina, our results reveal a dramatic increase. Our results are in agreement with international tendencies and underscore the need to pursue further TPA molecular typing studies in Argentina and Latin America.

PEB0163

INCORPORATION OF SCREENING AND TREATMENT FOR SEXUALLY TRANSMITTED INFECTIONS INTO ROUTINE CARE FOR PATIENTS LIVING WITH HIV IN GABORONE, BOTSWANA

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BACKGROUND: Screening for STIs during HIV care is not routinely offered in many countries and management is carried out based on symptoms, which misses asymptomatic infections. Chlamydia trachomatis (CT) and Neisseria gonorrhoea (NG) are treatable STIs associated with increased risk of HIV transmission. This study assessed the feasibility of incorporating screening for CT/NG into routine HIV care in Botswana, and the prevalence of CT/NG within this high-risk population.

METHODS: A prospective study was held at the HIV specialty clinic in Gaborone, Botswana between February and October 2019. Eligibility criteria included: ≥ 18 years, HIV-infected, and not treated for CT/NG in past month. Patients were recruited during vitals collection prior to being seen by a healthcare provider. Interested and eligible patients were offered informed consent, and were instructed on how to self-collect samples for CT/NG testing using a 4-module GeneXpert®, which allowed for 90-minutes to result.

Participants responded to a questionnaire on sociodemographic and health characteristics. Patients were offered same- day results in person or by telephone. Those who tested positive were given directly observed antibiotic therapy.

RESULTS: Among the 806 patients counselled in the vitals room, 526 (65%) expressed interest in participating. Due to personnel time limitations, 451 (86%) enrolled. Participant median age was 48 years, 66% were women, 98% were on ART, 93% had a recorded viral load, and among those, 95% had a viral load of ≤400 copies/ml. All participants provided self-collected samples, were successfully tested, and received results. Due to the 90-minute wait, most preferred to receive their results by phone (83%). The prevalence of CT/NG was 5%, including 16 with CT-only, 4 with NG-only, and 2 with dual infection. In bivariate comparisons, younger age and being female (7% in females compared to 1% in men) were associated with having CT/NG. Among those infected, 20 (91%) received same-day results, all were treated, including 4 (18%) on the same day as testing. With partner notification, among those infected, 19 preferred to notify partners themselves and 2 preferred not to notify.

CONCLUSIONS: It was feasible to integrate CT/NG testing into routine HIV care as all participants received testing, results, and treatment if appropriate.

PEB0164

EPIDEMIOLOGY OF HUMAN PAPILLOMAVIRUS GENOTYPES AND PREVALENCE OF CERVICAL PRECANCEROUS LESIONS AMONG WOMEN LIVING WITH HIV: RESULTS FROM A PILOT CERVICAL CANCER SCREENING PROGRAM IN UGANDA

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BACKGROUND: There is lack of evidence on distribution of human papillomavirus (HPV) genotypes among women living with HIV (WLHIV) in Uganda. Yet, WLHIV are more likely to be infected with human papillomavirus (HPV) and to have persistent HPV progressing to cervical pre-cancer and/or invasive cervical cancer compared to HIV negative women. Information on epidemiology of high-risk HPV (hrHPV) infections and prevalence of specific HPV genotypes is very vital in mounting an effective response to the growing challenge of cervical cancer.

METHODS: A pilot cervical cancer screening program was conducted between September and December 2019. HPV testing using self-collected vaginal samples was offered to WLHIV aged 25 to 49 attending antiretroviral clinics in 7 high-volume hospitals. Samples were processed using GeneXpert. HPV+ women were referred for Visual Inspection with Acetic acid (VIA) triage, and those having a positive VIA test (precancerous lesions) treated with cryotherapy or thermocoagulation. Data was collected from hospital registers to determine the distribution of HPV genotypes and prevalence of cervical precancerous lesions among HPV positive WLHIV.

RESULTS: Across the 7 pilot sites, 1021 WLHIV were offered screening and 991 (97%) had a valid result. HPV positivity rate was 35% (349). Of the HPV+ women, 48 (14%) were HPV16 positive, 69 (20%) were HPV 18/45 and 235 (64%) had other hrHPV genotypes as a pooled result including HPV 31, 33, 35, 39, 51, 52, 56, 58, 59, 66 and 68. 35 (10%) of the women had multiple infections with hrHPV genotypes.

175 (50%) HPV+ women were linked to care and triaged with VIA and 54 (30%) were found with precancerous lesions, of whom 35 (64%) were treated with cryotherapy or thermocoagulation. Two women were found to be suspicious of cancer and referred for further management.

CONCLUSIONS: HrHPV infections are common among WLHIV, including HPV16 and 18 that cause majority of cervical cancer. A significant proportion of women have infections that progress to cervical pre-cancer. HPV+ WLHIV found to have no lesions need to be proactively followed-up to ensure that non-regressive infections are appropriately managed. Cervical cancer efforts need to intensify screening among WLHIV.

PEB0165

DISCOVER STUDY FOR HIV PRE-EXPOSURE PROPHYLAXIS (PREP): NO EVIDENCE OF RISK COMPENSATION IN PARTICIPANTS TAKING F/TDF OR F/TAF FOR PREP THROUGH 96 WEEKS

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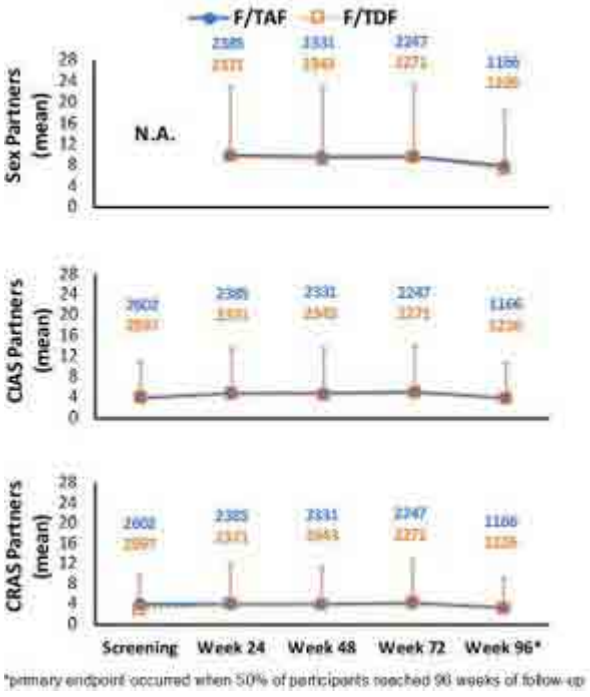
BACKGROUND: In DISCOVER, emtricitabine plus tenofovir alafenamide (F/TAF) was non-inferior to F/tenofovir disoproxil fumarate (TDF) for prevention of HIV infection in participants who reported sexual behavior associated with HIV acquisition risk. Here, we report the baseline prevalence and longitudinal trends in HIV sexual risk behaviors during the DISCOVER trial, and assess for risk compensation, defined as an increase in risk behavior due to a reduction in perceived risk.

METHODS: DISCOVER is an ongoing multi-center randomized controlled trial in which 5,335 men who have sex with men (MSM) and transgender women were randomized 1:1 and received F/TAF or F/TDF for PrEP. The primary endpoint occurred when half of participants reached 96 weeks of follow-up. Sexual behavior was assessed by Computer-Assisted Self-Interview questionnaire, including number of Sex Partners, Condomless Insertive Anal Sex (CIAS) Partners, and Condomless Receptive Anal Sex (CRAS) partners. Self-reported sexual behaviors from baseline through the primary endpoint were assessed using descriptive statistics.



[Figure. Longitudinal trends in sexual behaviors in DISCOVER.]

RESULTS: Between Sep 2016-June 2017 participants were randomized and received once-daily blinded tablets of F/TAF (n=2694) or F/TDF (n=2693) plus matched placebo. Baseline demographic, clinical, and risk behavior were balanced between arms. The median age was 34 years, 474 (9%) were black, and 1318 (24%) were of Hispanic or Latinx ethnicity. Most participants (91%) self-identified as gay; 385 (7%) as bisexual, 41 (1%) as heterosexual, and 71 (1%) as trans women. There were no longitudinal changes in the mean number of Sex Partners, Condomless Insertive Anal Sex Partners and Condomless Receptive Anal Sex Partners (Figure). These sexual behavior findings mirror the lack of change in STI rates observed in participants throughout the same timeframe (data not shown).

CONCLUSIONS: In DISCOVER, participants reported a stable number of total and condomless sexual partners through 96 weeks. These data suggest that risk compensation did not occur in DISCOVER.

PEB0166

ANAL CYTOLOGICAL ABNORMALITIES AND HPV DETECTION WITH DIFFERENT PRIMER SETS IN HIV-POSITIVE MEN IN EASTERN INDIA

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BACKGROUND: Oncogenic Human papillomavirus (HPV) infections are closely associated with anal cancer which is high among human immunodeficiency virus (HIV) infected males. HPV detection rate is affected by choice of consensus primer selection. The aim of this cross-sectional study was to detect Human papillomavirus (HPV) infection and its types by four different consensus primers in HIV positive treatment naïve males attending the ART centre.

METHODS: We screened 102 HIV positive treatment naïve males attending the ART centre between 2016-2017 with anal Pap smear cytology and HPV testing. Four different consensus primer sets MY09/11, GP5+/ GP6+, E6 and E6/E7 were used to amplify broad spectrum HPV types. HPV genotype (16, 18, 31, 35, 52, 58, 66, and 68) was determined by SYBR Green based real-time PCR method. Risk factors were analyzed by using univariate and multivariate logistic regression models.

RESULTS: The overall HPV prevalence was 79.41% (81/102). The detection rate for each primer set was E6/E7 (80%), E6 (67%), GP5+/6+ (60.49%) and MY09/11 (54.32%). The most prevalent HPV types were HPV-16, 18, 31, 35, and 52 (42%, 20%, 12%, 7% and 3% respectively) and multiple HPV types were identified in 36.58% (30/82). Prevalence of anal cytological abnormalities was 54.5% (48/88). HSIL (high-grade squamous intraepithelial lesions) was present in 1.13% (1/88), LSIL (low-grade squamous intraepithelial lesions) in 26.13% (23/88), ASCUS (atypical squamous cells of undetermined significance) in 14.77% (13/88), ASC-H (atypical squamous cells cannot exclude a HSIL) in 12.5% (11/88). Risk factors for anal cytological abnormalities were history of anal intercourse and age <19 yr at first intercourse on multivariate analysis. Among those with abnormal cytology 92% (44/48) were positive for HPV-DNA .

CONCLUSIONS: The prevalence of anal HPV infection and anal cytological abnormalities was high in our population. E6/E7 consensus primer was the most suitable primer for detection of oncogenic HPV.

PEB0167

CLINICAL PREDICTION OF *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHEA* AMONG ADOLESCENTS AND YOUNG ADULTS LIVING WITH HIV IN ESWATINI

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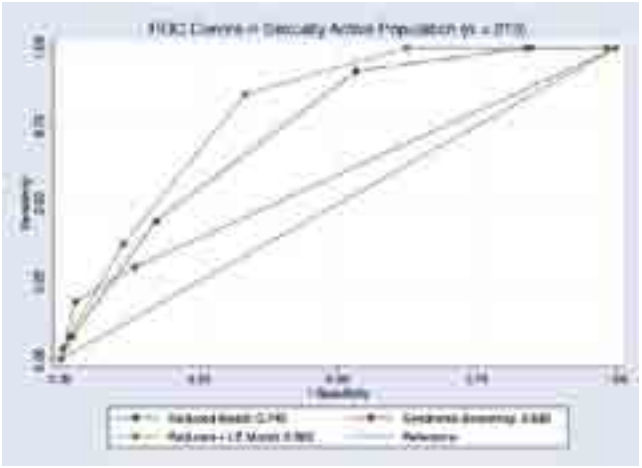
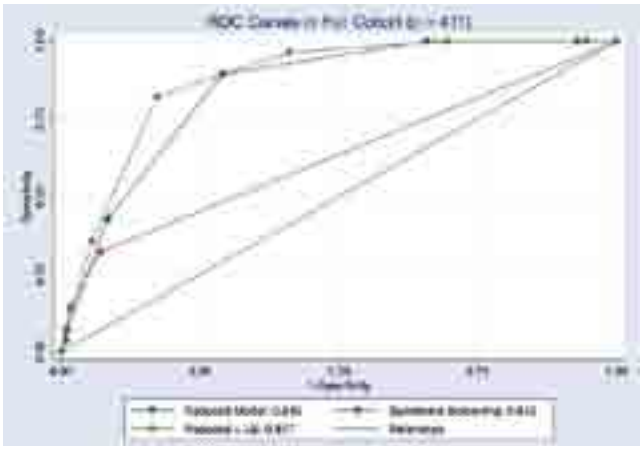
BACKGROUND: Despite poor predictive power, syndromic screening is standard of care for diagnosing sexually transmitted infections (STIs) in low-resource, high HIV-burden settings. Predictive models may augment syndromic screening when diagnostic testing is unavailable.

METHODS: 439 HIV-positive participants, age 15 to 24, were serially recruited from three clinical sites in Eswatini, providing urine, sexual and medical history, and physical examination. STI cases were defined by a positive Xpert result for *Chlamydia trachomatis* or *Neisseria gonorrhea*. A predictive model was estimated through backward-stepwise regression in a training set constituting half of the sexually active population and was assessed in the test set. Models were evaluated with receiver-operator-characteristic curves and diagnosed with c-statistics.

RESULTS: In the sexually active population, syndromic screening had an AUC of 0.589. The reduced model developed in the training set contained five predictors: relationship status, condom usage, sex, age, and recent sexual activity. This reduced model discriminated more efficiently than syndromic screening (AUC: 0.743, p = 0.0094) and similar AUCs were observed in the training (AUC: 0.732) and test set (AUC: 0.752), suggesting minimal overfitting. The model's performance increased when leukocyte esterase (LE) testing was added (AUC: 0.802, p = 0.0052). Model performance was similar for syndromic screening in the full cohort (AUC: 0.612), but improved for both the reduced model (AUC: 0.845) and the model containing LE testing (AUC: 0.877).



[Figure 1.]



[Figure 2.]

CONCLUSIONS: We propose this predictive model to complement syndromic screening or guide patient selection for molecular tests. This approach promises to improve STI diagnosis in HIV positive adolescents and young adults.

PEB0168

A MULTI-COUNTRY COMPARATIVE STUDY OF TWO TREPONEMAL TESTS FOR THE SERODIAGNOSIS OF SYPHILIS AMONGST MEN WHO HAVE SEX WITH MEN (MSM): CHEMO-LUMINESCENT ASSAY VS TREPONEMA PALLIDUM PARTICLE AGGLUTINATION

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BACKGROUND: International guidelines recommend routine screening for syphilis amongst 'high-risk' populations using treponemal and non-treponemal tests. Whilst treponemal tests have high sensitivities and specificities, differences remain regarding interpretation and workload; problematic in laboratory settings with a high turnover of sample processing. The Chemo-Luminescent Assay (CLIA) is a cost-and-time effective automated method for detecting the anti-Treponema pallidum antibody. However, Treponema Pallidum Particle Agglutination (TPPA; a manual procedure) is considered to be the 'gold-standard'. Few studies have adequately compared the performance of these two tests with sufficient positive cases. This study thus compared the performance of these tests CLIA (index) vs. the TPPA (reference test).

METHODS: 1280 asymptomatic MSM were enrolled in Brighton and Verona as part of a larger WHO multi-site study. Ethical approval was obtained. Serum was tested with CLIA (Siemens ADVIA Centaur® Syphilis assay) and TPPA (SERODIA-TP·PA®) following the manufacturers' instructions. Sensitivity, specificity, likelihood ratios (positive/negative), and the Diagnostic Odds Ratio (DOR) were estimated.

RESULTS: CLIA identified 339 (26.31%; CI95% 23.98%-28.79%) positive samples compared to 334 with TPPA (25.91%; CI95% 23.59 - 28.37%). False negative/positive rates were consistent with the manufacturer's declaration. Sensitivity was 99.4% (CI95%: 97.8%-99.9%), whilst specificity was 99.2% (CI95%: 98.4%-99.6%). The area under the ROC curve resulted: .993 (CI95%: .988 - .998). The positive Likelihood ratio was 112 (CI95%: 57.2-218) and negative Likelihood ratio .0076 (CI95%: .0022-.026). The DOR was very high 14781 (CI95%: 3588 - 60887).

CONCLUSIONS: The CLIA showed a high performance compared to the TPPA. The DOR as a global measure of test performance was very high and likely related to the sensitivity and specificity observed. However, considering the study is based on QUADAS principles and with a homogeneous population, results are also likely to be generalisable. These findings suggest that the CLIA automated method (index test) can be a viable, time-saving and cost-efficient testing approach to routine syphilis screening compared to the current more labour intensive TPPA reference test. Results have important implications for considering changes to routine laboratory algorithms for syphilis.

PEB0169

PERFORMANCE OF SELF-COLLECTED SPECIMENS FOR THE DETECTION OF CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE INFECTION

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BACKGROUND: Pharyngeal and rectal chlamydial or gonococcal infections are common in human immunodeficiency virus (HIV) infected patients. The US Food and Drug Administration (FDA) recently approved two diagnostic devices for the detection of rectal and pharyngeal *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infection with clinician-collected swab specimens. Multiple *Chlamydia trachomatis* and *Neisseria gonorrhoeae* testing platforms are FDA-approved for use with self-collected vaginal and urine specimens. FDA approval of self-collected rectal and pharyngeal specimens would benefit patients and streamline screening for providers. We assessed the quality of self-collected specimens for rectal and pharyngeal *Chlamydia trachomatis* and *Neisseria gonorrhoeae* from a large cohort study of participants undergoing chlamydia and gonorrhea screening.

METHODS: Using self-collected specimens, we tested gay, bisexual, and transgender study participants between the ages of 12-24 years in Los Angeles and New Orleans recruited into a large prospective Adolescent Trials Network study for pharyngeal, rectal, and urogenital (urine or vaginal) *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infection (Cepheid Xpert® CT/NG assay). Study interviewers provided verbal instructions on how to self-collect specimens. We used that laboratory assay's Specimen Adequacy Control data (which tests for the presence of human hydroxymethylbilane synthase gene) to calculate the proportion of tests that had detectable human synthase gene by anatomic site.

RESULTS: Our study population was 82.7% male, 12.9% HIV infected, with median age 21 years (IQR 19-23 years). The total sample provided 2,885 self-collected specimens. Human synthase gene was detected in 99.4% (2,868/2,885) of specimens. The proportion of human synthase gene positive specimens by anatomic specimen was 99.6% (891/895) for pharyngeal, 98.8% (1,072/1,085) for rectal, 100% for vaginal (223/223), and 100% (682/682) for urine.

CONCLUSIONS: Self-collected pharyngeal and rectal specimens demonstrated a very high proportion of human gene presence suggesting that self-collection was adequate. *Chlamydia trachomatis* and *Neisseria gonorrhoeae* test manufacturers should pursue additional claims for the FDA approval of self-collected pharynx and rectal specimens.

NEUROLOGIC DISORDERS

PEB0170

FREQUENCY OF DETECTABLE HIV VIREMIA AND IMMUNE SUPPRESSION EPISODES AS DETERMINANTS OF NEUROCOGNITIVE DYSFUNCTION IN UGANDANS WITH CHRONIC HIV INFECTION

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BACKGROUND: Neurocognitive dysfunction (ND), periods of immune incompetence, and HIV viremia remain highly prevalent among persons living with HIV-infection (PLWH) despite effective antiretroviral therapy (cART). Little is known about the relationship between and the frequency of immune suppression and HIV viremia in in relation to ND in cART treated PLWH.

METHODS: Participants included cART treated adolescents (11 - 18 years) n=124) and n=154 adults (22–74 years) PLWH. Absolute CD4 cell-count and viral load measures were obtained from medical records and used to define frequency of immune-suppression episodes (<500, <350 and <200 cells/ul), stable virologic suppression vs. 1 or ≥2 episodes of viremia (low:1-199, moderate:200-999; high:≥1000 copies/ml). Instrumental activities of daily living (ADL) were measured using the Waisman ADL Scale. Eight validated neuropsychological tests were used to derive age- and sex-standardized z-scores for proficiency in motor control, gross motor speed, executive function, processing speed, simple attention, concentration/working memory, and learning. Cognitive domain specific z-scores and ADL <-1.5 were used to define ND severity (not cognitively impaired, asymptomatic neurocognitive impairment and minor/major ND) per Frascatti criteria. Multinomial logistic regression models estimated relationship between the number of viremic and immune suppressed episodes to ND function using Statistical Analysis Software (v.9.4).

RESULTS: Per unit increase in frequency of CD4<500, ND severity increased increased by 28% (OR=1.28, 95%CI: [1.01, 1.62]). Per unit increase in frequency of CD4 <350 and <250 cells/ul the odds of ND severity rose from 64% (95% CI: [1.09-2.48[) to 156% (95%CI: [1.36, 4.82]) among adolescents.

Regardless of age, any viremia vs. stable virologic suppression over time in HIV care was associated with higher ND severity (OR=1.83, 95% CI: [1.17, 2.84[). However, the relationship between ND severity and detectable viremia was most consistent among adults although

the increase in ND odds per unit increases in low (OR=1.83, 95%CI: [1.04, 3.21]) and high (OR=1.85; 95%CI: [1.17, 2.93]) viremia episodes were similar.

CONCLUSIONS: High frequency of immune suppression and detectable HIV viremia are determinants of ND severity among PLWH on cART. Clinical and behavioral interventions to support cART adherence, maintain stable virologic suppression and CD4>500 cells/uL may reduce ND severity in this population.

PEB0171

NEUROCOGNITIVE FUNCTION ASSESSED VIA A SELF-ADMINISTERED TABLET-BASED DIGITAL PLATFORM AMONG PEOPLE WITH HIV SEEKING ADULT CLINICAL CARE

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BACKGROUND: Despite increasing use of effective antiretroviral therapy (ART), clinically significant neurological complications persist among people with HIV (PWH), with the most common being neurocognitive impairment (NCI). However, cognitive screening is not routinely conducted in HIV clinics.

METHODS: A self-administered tablet-based digital platform was used to cross-sectionally assess the prevalence of NCI among consenting adults seeking HIV care in the Johns Hopkins Bartlett HIV Practice from January 29, 2019 to December 30, 2019. Four neuropsychological (NP) tests were developed and programmed into an iPad-based suite of NP measurement tools called BrainBaseline Assessment of Cognition and Everyday Functioning (BRACE) by Digital Artefacts/UCSD: 1) Trail Making Tests (TMT)-Part 1 measuring attention/concentration; 2) TMT-Part 2 measuring executive function; 2) Stroop Color Test measuring processing speed; and 4) Visual-spatial Learning Test (VSLT) measuring visual-spatial learning. NCI on each test was defined as a T-score ≤40. A global NP function score was estimated by averaging T-score performance of the four outcomes with impairment defined as a mean T-score ≤40. A sub-group of participants completed a comprehensive NP battery concurrently to quantify the validity of the iPad-based tests. Sociodemographic, clinical, and co-morbidity diagnosis data were abstracted from electronic medical records of participants.

RESULTS: Four hundred and four PWH (mean age 53.6, SD=10.7 years; 72% >50 years of age; 82% Black; 58% male, 99% on ART; 90% with HIV-1 RNA < 500 copies/ml; mean CD4 count=652, SD=350) completed the four NP tests via BBC (mean completion time=12 min; SD=3.2), of whom 61 also had an NP battery. All four tests had lower means than the cut-off for NCI (TMT-1: 34%, TMT-2: 44%, Stroop: 40%, VSLT: 17%); the global NP function score indicated 25% of participants were impaired. The correlation between the gold standard NP test battery and global NP function via the iPad-based assessment in the subgroup of 61 was 0.634 (P<0.001).

CONCLUSIONS: BRACE estimated burdens of NCI in PLWH similar to the gold standard NP test battery, suggesting the validity of this easy-to-use tool in the clinical setting. Even in PWH on treatment, the burden of NCI is substantial and will continue to impact the care of adults with HIV.

PEB0172

THE NEUROCOGNITIVE ASSESSMENT IN THE METABOLIC AND AGING COHORT (NAMACO) STUDY: EVOLUTION OF NEUROCOGNITIVE DIAGNOSIS FROM BASELINE TO TWO YEARS FOLLOW-UP

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BACKGROUND: The Neurocognitive Assessment in the Metabolic and Aging Cohort (NAMACO) study previously reported a neurocognitive impairment (NCI) prevalence of 39.8% among 981 HIV positive patients in Switzerland, of whom 25.4% had asymptomatic neurocognitive impairment (ANI), 0.8% mild neurocognitive disorder (MND), 0.6% HIV-associated dementia (HAD) and 13.0% non-HIV-associated NCI. The current study examined the neurocognitive diagnosis at two years from baseline.

METHODS: The NAMACO study is an ongoing prospective, longitudinal, multicentre and multilingual (German, French, Italian) study embedded within the Swiss HIV Cohort Study. Patients ≥ 45 years old (mean age 59.3 years, 81% male, 91% Caucasian, 96% with HIV-1 RNA <50 copies/ml) were recruited and assessed with standardized neuropsychological tests performed by neuropsychologists at baseline (between 2013 and 2016) and then at a two-year follow-up. NCI was diagnosed using Frascati criteria.

RESULTS: At the two-year follow-up, 722 patients (of 981, 73.6%) were evaluated. Among these 722 patients, overall NCI prevalence was 37.4%: 24.1% with ANI, 1.1% with MND, 0.6% with HAD and 11.4% with non-HIV-associated NCI (Table 1).

	Diagnosis at two-yer follow-up				
Diagnosis at baseline of the 722 patients	NNF	ANI	MND	HAD	Non-HIV-associated NCI
NNF (N= 480, 66.4%)	403 (83.96%)	57 (11.9%)	3 (0.6%)	0	17 (3.54%)
ANI (N=152, 21.02%)	41 (26.97%)	101 (66.5%)	1 (0.6%)	0	9 (5.92%)
MND (N=7, 0.98%)	0	1 (14.3%)	3 (42.9%)	1 (14.3%)	2 (28.6%)
HAD (N=3, 0.41%)	0	0	1 (33.3%)	2 (66.6%)	0
Non-HIV-associated NCI (N=80, 11.07%)	10 (12.5%)	15 (18.75%)	0	1 (0.8%)	54 (67.5%)
Total	454 (62.88%)	174 (24.1%)	8 (1.1%)	4 (0.6%)	82 (11.4%)

[Table 1. Prevalence of NCI diagnosis among NAMACO patients at two-year follow-up]

Among 152 patients with ANI at baseline, 27% improved to normal neurocognitive function (NNF), 66.5% remained with ANI, and 5.9% developed non-HIV-associated NCI. Patients unimpaired at baseline developed NCI in 16.04% of cases, with ANI being the most common diagnosis (11.9%).

CONCLUSIONS: In this cohort of well-treated patients, ANI remained the most common NCI diagnosis. Overall, we observed a general stability in neurocognitive diagnosis among HIV patients, with a tendency towards improvement. Patient factors associated with ANI prognosis will be presented.

PEB0173

TRYPTOPHANE METABOLITES PREDICT NEUROCOGNITIVE IMPAIRMENT AND SIDE EFFECTS DURING EFAVIRENZ

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BACKGROUND: Tryptophan metabolites have been suggested as possible markers of HIV-associated neurocognitive (NC) disorders. We assessed the association of kynurenic (K) and quinolic acid (Q) with a wide spectrum of central nervous system (CNS) alterations during treatment with tenofovir/emtricitabine/efavirenz (TDF/FTC/EFV).

METHODS: We conducted a substudy of a RCT assessing NC function among patients switching from TDF/FTC/EFV to TDF/FTC/rilpivirine (RPV). At screening, patients underwent a battery of tests exploring 6 NC domains, quality of sleep, presence of depression, anxiety and CNS side effects. Those enrolled were randomized 1:1 to continue TDF/FTC/EFV or switch to TDF/FTC/RPV and repeated all assessments 24 weeks after randomization. Plasma K and Q were measured at the same time-points, along with immune-inflammatory markers neopterin, MCP-1 and sCD163. T-test was used to compare log-transformed marker levels between patients with or without NC impairment (ie, z-scores below -1 in ≥2 domains), depression, anxiety, sleep disturbances or significative CNS side effects. Correlations between markers and NC performances were assessed using Pearson correlation.

RESULTS: 112 patients were included. Upon screening, median K and Q were 726 (IQR:505-1067) and 32 (21-46) ng/ml; median Q/K ratio was 0.04 (IQR:0.02-0.08). Levels of MCP-1 directly correlated with K (r=0.29, P=0.002) and inversely with Q (r=-0.34, P<0.001) and Q/K (R=-0.4, P<0.001). K was significantly higher K among patients with depressive symptoms (P=0.02) and significant CNS side effects (P=0.09). Surprisingly, lower Q (P=0.075) and Q/K (P=0.041), but not K levels, were associated with NC impairment.

In particular, patients with impaired memory and executive function had significantly lower Q (P=0.028 and 0.020) and Q/K (P=0.087 and P=0.029). Q and Q/K levels were directly correlated with memory (r=0.25, P=0.007 and r=0.23, P=0.016), executive function (r=0.20, p=0.033 and r=0.21, p=0.027) and language z-scores (r=0.21, p=0.028). 68 patients (33 on EFV and 35 on RPV) were evaluated after 24 weeks. K and Q did not significantly change in either arm, whereas MCP-1 and neopterin slightly increased after switching to RPV (P= 0.045 and P=0.029). Changes in marker levels did not correlate with z-scores changes.

CONCLUSIONS: Among patients under effective antiretroviral treatment, plasma levels of trypotophan metabolites may predict NC function and neuropsychiatric side-effects.

DEPRESSION AND OTHER PSYCHIATRIC MANIFESTATIONS

PEB0174

ASSOCIATION BETWEEN DEPRESSIVE SYMPTOMS AND ADHERENCE AMONG ADOLESCENTS LIVING WITH HIV IN THE REPUBLIC OF CONGO

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BACKGROUND: The increasing availability of antiretroviral therapy (ART) worldwide is yet to result in decreasing HIV-related mortality among adolescents (10 - 19 years old) living with HIV (ALHIV) in part because of poor adherence. The poor adherence might itself be due to high level of depression. We assess the prevalence of depressive symptomatology and it's associated with adherence among ALHIV receiving ART care in Brazzaville and Pointe Noire, Republic of Congo (RoC).

METHODS: Adolescents aged 10-19 years, on antiretroviral therapy (ART), followed in the two Ambulatory Treatment Centers (ATC) in Brazzaville and Pointe Noire, RoC were included in this cross-sectional study. From April 19 to July 9, 2018. Participants were administered face to face interviews using a standardized questionnaire that included the nine-item Patient Health Questionnaire (PHQ-9). Participants who reported failing to take their ART more than twice in the 7 days preceding the interview were classified as non-adherent. Bivariate and multivariable log-binomial models were used to estimate the prevalence ratio (PR) and 95% confidence interval (95%CI) assessing the strength of association between predictors and presence of depressive symptoms (PHQ-9 score ≥9).

RESULTS: Overall, 135 adolescents represented 50% of ALHIV in active care at the two clinics were interviewed. Of those, 67 (50%) were male, 81 (60%) were 15-19 years old, 124 (95%) had been perinatally infected, and 71 (53%) knew their HIV status. Depressive symptoms were present in 52 (39%) participants and 78 (58%) were adherent. In Univariate analyses, the prevalence of depressive symptoms was relative higher among participants who were not adherent compared to those who were (73% vs 33%; PR:2.20 [95%CI:1.42-3.41]). In multivariate analysis, after adjustment for report of been sexually active, alcohol drinking, age category (10-14 and 15-19), not in school, loss of both parents, the association between depression and adherence was strengthened (PR: 2.06 [95%CI:1.23-3.45]).

CONCLUSIONS: The prevalence of depressive symptoms in adolescents living with HIV is high and was strongly associated with poor adherence even after adjustment of potential confounders. Efforts to scale-up access to screening and management of depression among ALHIV in sub-Saharan is needed for them to realize the full of ART.

PEB0175

MENTAL HEALTH BARRIERS TO PARENTING AMONG MOTHERS LIVING WITH HIV IN ZIMBABWE

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BACKGROUND: HIV presents challenges to parenting beyond HIV prevention. We assessed a parenting intervention for mothers living with HIV in a cluster-randomised trial with no evidence of a difference in child development by trial arm but showed maternal mental health was poor. We present secondary analyses exploring how mother's mental health changes over time and its impacts on childhood cognition.

METHODS: Mother-infant dyads in 30 clusters in two Zimbabwe rural districts, were provided a one-year parenting and income/savings intervention or control. Suicidal ideation, and common mental health disorders (CMD) were assessed using validated measures (Edinburgh Postnatal Depression Scale;Shona Symptom Questionnaire) and child cognitive development was assessed using the Mullen Scales. We categorised suicidal ideation and common mental disorders measured twice, one-year apart, to generate four groups: chronic (indicated at both times), well (not indicated at either time), deteriorating (indicated at follow up only), improving (indicated at baseline only). We used mixed effects linear regression to examine the effect of mother's mental health category on infant cognitive outcomes adjusted for trial arm.

RESULTS: Mental health was assessed in 485 biological mothers at both baseline and one-year follow-up. Suicidal ideation was indicated in 171/562 (30%) mothers at baseline and 132/485 (27.2%) mothers after one-year, with n=86;17.7% chronic, n=287;59.2% well, n=46;9.5% deteriorating and n=66;13.6% improving. Baseline suicidal ideation was associated with younger maternal age, unmarried status, reported moderate to severe hunger, elevated parental stress and postnatal depression symptoms. CMD was indicated in 40.1% well, 25.5% chronic, 19.7 deteriorating and 14.8% improving. Infants of mothers with emerging maternal suicidal ideation showed poorer child cognitive outcomes (Adjusted mean difference [aMD]:-7.1;95% CI:-11.5 to-2.7;p=0.03).Children of caregivers with chronic CMD(n=131,25.5%) had lower receptive language scores (aMD:-2.81, 95%CI -5.1 to -0.6;p=0.05) compared to well mothers (n=206, 40.1%).

CONCLUSIONS: Prevalence of maternal mental health morbidity were high and fluctuated over time, possibly interacting with effectiveness of parenting interventions Maternal suicidal ideation and common mental health disorders are associated with lower infant cognition. A family approach with mental health provision may be urgently needed to maximise parenting and ensure the best long term outcomes for children born into HIV affected families.

MALIGNANCIES (AIDS AND NON-AIDS)

PEB0176

PATIENT AGE AND CERVICAL LESION SEVERITY BY HIV-STATUS: THE FIRST 13 MONTHS OF VIA AND CRYOTHERAPY/THERMOCOAGULATION IMPLEMENTATION IN NAMIBIA

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BACKGROUND: Recommendations for cervical cancer screening initiation in HIV-positive women vary internationally with little published data available on which to base those recommendations. In March 2018, the Namibian Ministry of Health and Social Services finalized cervical cancer prevention guidelines setting first screening for HIV-positive women at age 20 years because of high HIV prevalence (15.7%) and younger sexual debut (mean: 16 years). Analysis of program data compared visual inspection with acetic acid (VIA)-positivity at age of first screening by HIV status to inform screening initiation recommendations.

DESCRIPTION: We analyzed program data from the first 13 months (October 2018–October 2019) of VIA and cryotherapy and thermocoagulation implementation in the Khomas region, and from the first three months (July–September 2019) from 6 expansion regions. We compared rates of VIA-positivity by age at self-reported first ever screening, and lesion severity by HIV status. Chi-square tests were used to assess statistical significance.

LESSONS LEARNED: Of the 3,172 women who completed screening, 499 (16%) had pre-cancer lesions and 31 (1%) had suspected cancer. Among the women screened, 1,374 (43%) were HIV-positive. For all ages, HIV-positive women had VIA-positivity rates significantly higher (19% vs. 15%, p=<0.01) and the proportion with large lesions ineligible for cryotherapy or thermocoagulation was significantly higher compared to HIV-negative women (7% vs. 3%, p=<0.01) (Tables 1–2). Of the 279 women below 24 years of age (15–24) who completed screening, 56 (20%) had pre-cancer lesions, a higher VIA-positivity rate than any other age group. Among women 20–24 years, the VIA-positivity rate was 23% in HIV-positive women compared to 19% in HIV-negative women.

	Age (years)								
	Total	15-19	20-24	25-29	30-34	35-39	40-44	45-49	≥50
HIV Positive									
VIA-screened	1,374	2	95	185	265	314	299	202	12
VIA-positive	255 (19%)	0 (0%)	22 (23%)	42 (23%)	58 (22%)	60 (19%)	54 (18%)	18 (9%)	1 (8%)
CryoHIV Unknown/thermo Eligible	141 (10%)	0 (0%)	17 (18%)	25 (14%)	29 (11%)	37 (12%)	28 (9%)	4 (2%)	1 (8%)
Cryo/thermo Ineligible	98 (7%)	0 (0%)	5 (5%)	16 (9%)	26 (10%)	21 (7%)	19 (6%)	11 (5%)	0 (0%)
Suspected Cancer	16 (1%)	0 (0%)	0 (0%)	1 (0.5%)	3 (1%)	2 (0.6%)	7 (2%)	3 (1%)	0 (0%)
HIV Negative									
VIA-screened	1,689	6	162	601	359	256	173	121	11
VIA-positive	249 (15%)	2 (33%)	30 (19%)	96 (17%)	57 (16%)	37 (14%)	14 (8%)	13 (11%)	0 (0%)
Cryo/thermo Eligible	178 (11%)	2 (33%)	19 (12%)	74 (12%)	38 (11%)	28 (11%)	11 (6%)	6 (5%)	0 (0%)
Cryo/thermo Ineligible	58 (3%)	0 (0%)	11 (7%)	20 (3%)	15 (4%)	7 (3%)	1 (0.6%)	4 (3%)	0 (0%)
Suspected Cancer	13 (1%)	0 (0%)	0 (0%)	2 (0.3%)	4 (1%)	2 (1%)	2 (1%)	3 (2%)	0 (0%)
HIV Unknown									
VIA-screened	109	0	14	37	23	14	10	8	3
VIA-positive	26 (24%)	0 (0%)	2 (14%)	10 (27%)	4 (17%)	6 (43%)	3 (30%)	0 (0%)	1 (33%)
CryoHIV Unknown/thermo Eligible	16 (15%)	0 (0%)	2 (14%)	8 (22%)	2 (9%)	3 (21%)	1 (10%)	0 (0%)	0 (0%)
Cryo/thermo Ineligible	8 (7%)	0 (0%)	0 (0%)	2 (5%)	2 (9%)	3 (21%)	1 (10%)	0 (0%)	0 (0%)
Suspected Cancer	2 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (10%)	0 (0%)	1 (33%)

[Table 1. VIA findings at first screening by age, lesion severity, and HIV status in Namibia (Oct. 2018–Sep. 2019)]

VIA-positive	Yes	No	Total	Chi-square Test
HIV-positive	255	1,119	1,374	
HIV-negative	249	1,440	1,689	χ2= 8.03
Total	504	2,559	3,063	p= <0.01
Cryotherapy/thermocoagulation ineligible	**Yes**	**No**	**Total**	**Chi-square Test**
HIV-positive	98	1,276	1,374	
HIV-negative	58	1,631	1,689	χ2= 21.44
Total	156	2,907	3,063	p= <0.01

[Table 2. VIA-positivity and cryotherapy/thermocoagulation ineligibility by HIV status at first screening in Namibia (Oct. 2018–Sep. 2019)]

CONCLUSIONS/NEXT STEPS: Young HIV-positive women in Namibia had high VIA-positivity. Age-stratified cancer incidence data could distinguish human papillomavirus infections likely to self-clear from true pre-cancer lesions in young women. Additionally, cost-benefit analysis of potential overtreatment and cancer cases averted in young women could guide resource allocation.

PEB0177

CERVICAL CANCER SCREENING: EXPERIENCE FROM THE CAMEROON BAPTIST CONVENTION HEALTH SERVICES WOMEN HEALTH PROGRAM

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BACKGROUND: Cervical cancer is one of the most common malignancies affecting women of reproductive age in Cameroon. Its incidence has seen a great increase since the start of the HIV epidemic and it is a major cause of morbidity and mortality in women living with HIV/AIDS. Prevention and early detection through massive low-cost screening campaigns is key to improving quality of life and increasing survival

DESCRIPTION: The Women's Health Program (WHP) of the Cameroon Baptist Convention Health Services was set-up in 2007 with 1 screening site. The "see and treat" method was adopted to ensure continuity of care and the average cost of screening was set at USD 5.92. Visual Inspection with Acetic acid (VIA) /Visual Inspection with Lugol's Iodine (VILI) was the main screening method and positive lesions were treated with cryotherapy or Loop Electrosurgical Excition procedure (LEEP) meanwhile biopsy was done for suspected cases of malignancy. In order to improve on the detection of pre-cancerous lesions, new technologies such as a portable colposcope with a better magnification linked to a mobile application integrated into a Samsung device is currently used as the main screening method. The program has been expanded to 12 screening sites and all the screening procedure is performed by trained nurses.

LESSONS LEARNED: Since 2007, 85847 women have been screened for cervical cancer in the WHP. VIA was positive in 6568 (7.7%) cases of all women screened. HIV was positive in 9443 (9.1%) women and VIA was positive in 1139 (12.1%) HIV positive women. A decreasing trend of VIA positivity in HIV positive women was also recorded from 26.8% in 2007 to 12.7% in 2018. These results highlight the success of a low-cost nurse-led program for the prevention, detection, and management of cervical cancer in both HIV positive and HIV negative women.

CONCLUSIONS/NEXT STEPS: We recommend the widespread application of VIA in all health facilities in Cameroon, in order to scale-up cervical cancer screening and promote early detection and management. We also recommend further longitudinal studies to be carried to evaluate the effectiveness of the "see and treat" method in preventing future development of cervical cancer in Cameroon.

PEB0178

ASSOCIATIONS OF VIREMIA AND ANTIRETROVIRAL THERAPY DURATION WITH VIA POSITIVITY IN MALAWI: A RETROSPECTIVE ANALYSIS

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BACKGROUND: HIV-positive women face a particularly high cervical cancer burden. HIV severity (e.g., low CD4 count, clinical stage) has been shown to impact cervical cancer risk, however, there is less evidence on how additional factors such as viral load suppression and antiretroviral therapy (ART) duration and regimen influence risk. We describe results from a cervical cancer screening program based at a free ART clinic in Malawi, and explore the association between HIV clinical characteristics and screening positivity.

METHODS: Data were collected at an urban, PEPFAR-USAID supported HIV treatment site in Malawi that provides free cervical cancer screening (visual inspection with acetic acid [VIA]) and same-visit removal of abnormal cells (using thermocoagulation) or referral for complicated cases. Retrospective data from the cervical cancer screening and ART registries were analyzed to investigate the association between viral load, ART duration and regimen, and body mass index (BMI) on VIA positivity. Associations were assessed through multivariate logistic regression adjusted for age and year of VIA screening.

RESULTS: Between May 2017 and October 2019, 1308 HIV-positive women underwent first-time cervical cancer screening. Most women were between 25-49 years old (74%) and 99.5% were on ART with a median treatment duration of 7.1 years (IQR: 4.4-9.2). Five percent of women (n=65) screened VIA-positive. Factors associated with positive VIA included a viral load of ≥ 1000 copies/mL within one year of screening (aOR=2.66, 95% CI: 1.33-5.31); ART for less than 5 years (aOR=1.90, 95% CI: 1.05-3.42); and treatment with a protease-based ART regimen (aOR=1.94, 95% CI: 0.78 – 4.83) (Table 1).

[Table 1. Association between HIV clinical characteristics and VIA positivity (n=971)]

CONCLUSIONS: HIV-positive women with a high viral load and shorter duration on ART were more likely to have abnormal VIA. Elucidating cervical cancer risk factors for women with HIV can help inform screening strategies tailored to women based on risk, with more frequent screening and careful follow-up for women at highest risk.

CARDIOVASCULAR DISEASE

PEB0179

PREVALENCE AND PREDICTORS OF HYPERTENSION STRATIFIED BY HIV STATUS IN KISUMU, KENYA

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BACKGROUND: Few studies have assessed the prevalence of hypertension among people living with HIV (PLWH) on long term antiretroviral therapy (ART) after the test and treat strategy was implemented in Sub-Saharan Africa (SSA). Death from cardiovascular disease is increasing in SSA, with untreated hypertension a likely contributor. We sought to compare the prevalence and risk factors associated with hypertension among PLWH to the HIV negative individuals.

METHODS: In a cross-sectional study design, we enrolled PLWH on long term ART (≥ 6 months) and HIV-negative adults ≥ 30 years, seeking routine services at the Kisumu County Hospital, between 2017 and 2018. Hypertension was classified as systolic blood pressure ≥ 140mmHg, diastolic blood pressure ≥ 90mmHg and/or previous diagnosis of hypertension. Logistic regression was used to evaluate the association between hypertension and HIV status adjusting for age, gender and traditional cardiovascular risk factors.

RESULTS: We enrolled 300 PLWH and 298 HIV-negative men and women. The median (interquartile range) age was 45 (40-53) years among PLWH and 40 (31-55) years for HIV-negative participants. Among PLWH, average duration on ART treatment was 8 years with 96% of them having achieved viral suppression. The prevalence of hypertension was lower among the PLWH compared to HIV negative persons (33% vs 44%; p<0.01). After adjustment for age, sex, and traditional CVD risk factors, PLWH were 42% less likely to have hypertension than HIV-negative participants [adjusted odds ratio (aOR) 0.58; 95% confidence interval (CI) 0.40-0.83]. Other factors that were associated with hypertension in the overall cohort included older age ≥ 40 years [aOR 2.59; 95% CI 1.73-3.87] and BMI of ≥ 25kg/m^2 [aOR 2.02; 95% CI 1.25-3.26]. No significant association was observed between ART duration, nadir or current CD4 T cell count with hypertension among PLWH after additionally adjusting for HIV related characteristics.

CONCLUSIONS: There was lower prevalence of hypertension in PLWH than HIV negative individuals in this study from the SSA region. Further exploration of potential factors that contribute to these differences is critical to targeting future interventions.

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PEB0180

CARDIOVASCULAR AND METABOLIC COMORBIDITIES IN HIV-INFECTED PATIENTS IN COLOMBIA: A MULTICENTER STUDY

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BACKGROUND: HIV-infected individuals are at increased risk of cardiovascular disease (CVD). Previous studies have demonstrated this increased risk is related to HIV infection, side effects of antiretroviral therapy (ART), and conventional CVD risk factors. This study describes the HIV-infected population in Colombia who were naive for ART, and their associated CVD risk factors and comorbidities.

METHODS: We conducted a multicenter, retrospective cohort study in 26 HIV clinics from the Colombian HIV group (VIHCOL). Patients aged ≥ 18 years, who were naïve to ART, and had at least six months of follow up were included. Data collection was performed using the software REDCap. Preliminary analysis of these data was conducted using R software.

RESULTS: A total of 1,371 patients were included; 1,138 (83.0%) identified as male, median age was 30 years (IQR 24-40). Median baseline viral load and TCD4 lymphocyte count were 46,996.5 copies/mm3 (IQR 10,12-181,500) and 281 cells/mm3 (IQR 133-433) respectively. Existing comorbidities included hypertension (n=51, 3.7%), dyslipidemia (n=330, 24.1%), diabetes mellitus (DM, n=13, 0.9%), and chronic kidney disease (CKD, n=12, 0.9%). Mean baseline BMI was 22.8 kg/m2; 48 (3.5%) individuals were classified as obese. Tobacco smoking in the past six months was reported by 240 (17.5%) patients. Mean follow-up time was 32.3 months. By the end of follow up, 70.0% (n=960) had an undetectable viral load. During the study period, there were 39 (3.0%) incident cases of hypertension, three (0.2%) of DM, and 14 (1.0%) of CKD. Mean BMI increased to 23.9 kg/m2 (p<0.001). Mean low-density lipoprotein (LDL) level increased from 92.1 to 99.5md/dl (p<0.001), and triglycerides from 145.6 to 158.0mg/dl (p=0.021). Five patients had a non-fatal cardiovascular event (1.3 per 1,000 person-years). Four patients died (1.1 per 1,000 person-years).

CONCLUSIONS: In this cohort of Colombian HIV-infected patients, metabolic comorbidities are less frequent than those described in high-income countries, which may be a result of the younger median age at enrollment and the follow-up time. However, there is a high prevalence of modifiable risk factors for CVD such as smoking and dyslipidemia in this population, which may be the target of interventions. Next steps include further analysis of these longitudinal data.

PEB0181

PATTERNS OF ANTIRETROVIRAL USE AND IMMUNOLOGIC CORRELATES IN THE REPRIEVE TRIAL AT STUDY ENTRY

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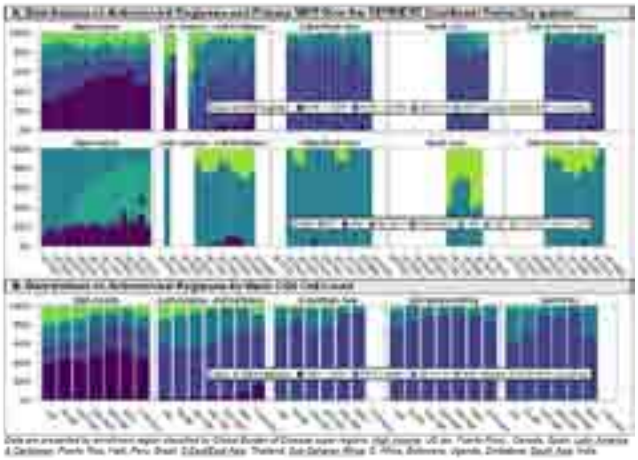
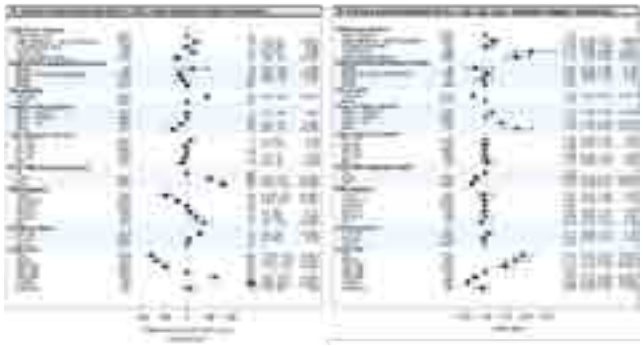
BACKGROUND: REPRIEVE is an international randomized trial of pitavastatin calcium versus placebo to prevent major adverse cardiovascular events in people with HIV (PWH) on antiretroviral therapy (ART). We present patterns of ART use and immunologic correlates at study entry.

METHODS: REPRIEVE enrolled PWH age 40-75 years on ART for ≥180 days, with a CD4 count >100 c/mm^3 and low-moderate CVD risk. ART use was summarized by key demographics within global burden of disease super regions; adjusted linear and logistic regression examined associations with CD4 counts and CD4:CD8.

RESULTS: 7,770 participants enrolled between 2015-2019. Median (Q1,Q3) age-50 years (45,55); female sex-31%; black race-43%, Asian race-15%; BMI>25 kg/m^2-56%; Current/former smokers-49%. Median CD4 count-620 cells/mm^3 (447,826) and undetectable HIV viral load-88%. Median duration of prior ART use-9.5 years (5.3,14.8). Overall, 40% were taking NRTI+NNRTI; 35% taking NRTI+INSTI; 15% were taking NRTI+PI; and 10% other combination ART. ART use varied noticeably by region (Figure 1 Panel A), with shifts in ART during enrollment (Figure 1 Panel A). ART selection varied by nadir CD4 (Figure 1 Panel B). In adjusted analyses, entry CD4 and CD4:CD8 (Figure 2) were associated with geographic region, sex, ART selection, duration of ART, and nadir CD4; CD4 was also associated with BMI and smoking status.





CONCLUSIONS: There were substantial variations in ART use by geographic region and over time that likely reflect local availability of specific medications, changes in treatment guidelines and provider/patient preferences. The CD4 and CD4:CD8 analyses provide interesting signals that may provide valuable insights regarding immune function and outcomes in PWH.

PEB0182

INCREASED EPICARDIAL ADIPOSE TISSUE VOLUME IN VIRALLY SUPPRESSED OLDER HIV-INFECTED ASIAN AND RELATIONSHIPS TO CENTRAL FAT ACCUMULATION AND LIPODYSTROPHY

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BACKGROUND: There is evidence that epicardial adipose tissue (EAT) volume correlates with the severity of coronary artery disease. Little is known regarding EAT in older people living with HIV (PLHIV) in Asia. We assessed EAT among PLHIV and matched HIV uninfected participants older than 50 years, to identify factors associated with EAT.

METHODS: We conducted a cross-sectional study of 339 consecutive older PLHIV (age≥50 years) compared to 144 HIV uninfected participants frequency matched by sex and age in 5-year intervals, in Bangkok, Thailand. Participants underwent a non-contrast cardiac CT scan to assess coronary artery calcium (CAC) score from Mar 2016-June 2017. EAT was measured in the same CT images. All cardiac CT and EAT measurements were read by 1 trained radiologist and confirmed by 1 specialized radiologist, both blinded to patient care and HIV status. Multivariate linear regression analyses were used to investigate factors associated with the EAT among PLHIV.

RESULTS: Patient's mean age was 56.9 + 5.8 years, 63% were men,15% had diabetes mellitus, 31% had hypertension and 13% current smokers. 16 % had CAC>100. Median duration of ARV was 16 years with 97% had HIV RNA< 50 copies/ml and median CD4 of 617 cells/mm^3. Median EAT was significantly higher in PLHIV [99 (IQR 75-122 cm^3)] than the negative controls [93 (IQR 69-117 cm^3)], p=0.009. From a

multivariate regression model, factors independently associated with EAT were age (coefficient =1.61, 95% CI=1.04–2.18), p<0.001), waist circumference (coefficient = 1.28, 95% CI = 0.66–1.91), p<0.001), HIV infection (coefficient =19.88, 95% CI=11.88–27.88), p<0.001), triglyceride (coefficient 0.04, 95%CI=0.01-0.07,p=0.009) and having hypertension (coefficient 8.37 (95%CI=1.35–15.4); P=0.02). In PLHIV, EAT was strongly associated with age (coefficient = 1.93, 95% CI = 1.20–2.66), p<0.001), abnormal waist circumference (male>90 cm, female > 80 cm) (coefficient = 13.91, 95% CI = 1.15–26.67), p=0.03) and lipodystrophy (coefficient =12.4, 95% CI = 2.69–22.12), p=0.012), after adjustment for other confounders.

CONCLUSIONS: In this group of elderly PLHIV on long-term ART with high rates of viral suppression, EAT was significantly higher than HIV-uninfected individuals and it was independently associated with central fat accumulation and lipodystrophy.

PEB0183

INCREASED IL1-β PRODUCTION DURING CHRONIC HIV-INFECTION; A ROLE FOR INNATE REPROGRAMMING

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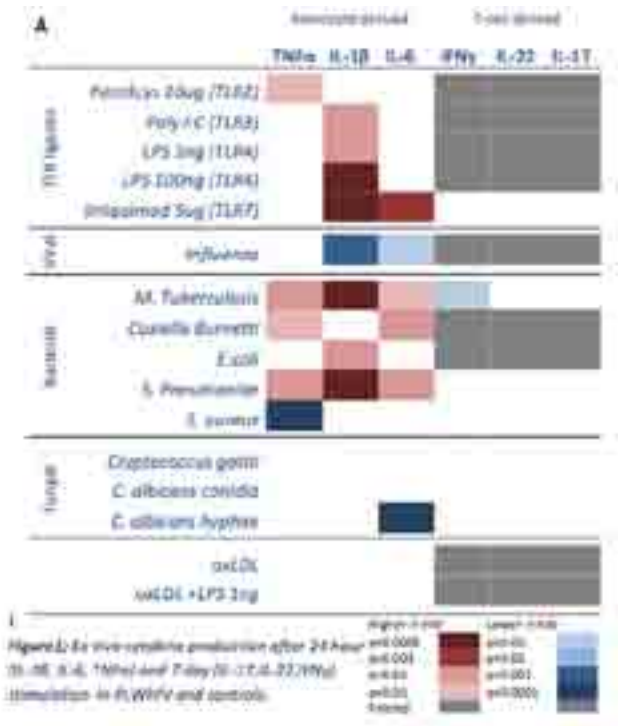
BACKGROUND: Chronic inflammation and immune dysfunction play a key role in the development of non-AIDS related comorbidities. The aim of our study was to explore new pathways for this immune dysregulation by comparing specific antigen immune responses between people living with HIV(PLWHIV) and uninfected controls.

METHODS: PLWHIV on stable antiretroviral therapy(cART) and controls simultaneously were enrolled including an age-sex matched control group in the second sampling. We performed PBMC stimulation to assess ex vivo cytokine production after bacterial, fungal and viral stimulation. We used a linear regression model with age, sex, BMI and seasonality as covariates to compare both cohorts. All p-values are FDR-corrected.

RESULTS: The median (IQR) duration of known HIV-infection and cART-use were 8.1(9.3) and 6.5(7.9) years. PLWHIV (n=211) were more often male (91% vs 61%) than controls. Upon stimulation (Figure 1), PLWHIV showed a pro-inflammatory profile in monocyte-derived cytokines, especially IL1β after imiquimod (TLR7), LPS and Mycobacterium tuberculosis (all p<0.0001) stimulation. This IL-1β production correlated with systemic inflammation (sCD14,r=0.33,p<0.0001). This increase was stable, after subsequent sampling using an age-sex matched control group. The priming of the IL1β pathway and intrinsic changes in monocytes were confirmed using transcriptome analysis (Figure 2)



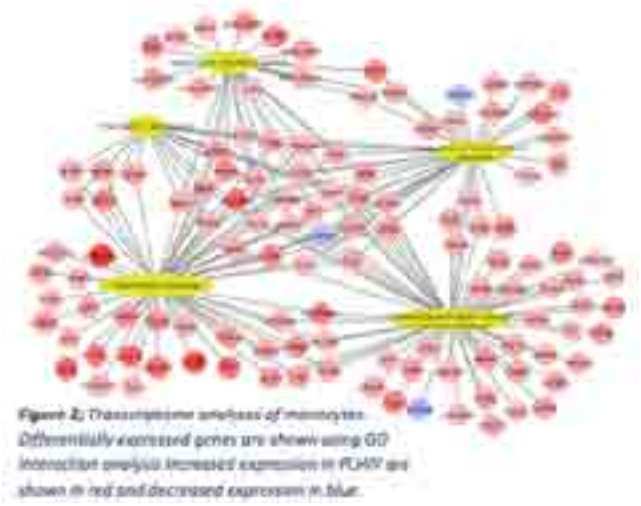


Figure 2: Transcriptome analysis of monocytes. Differentially expressed genes are shown using GO interaction analysis. Increased expression in PLWHIV are shown in red and decreased expression in blue.

CONCLUSIONS: Our findings show that PLWHIV on stable cART have a strong increase in the production of monocyte-derived cytokines (especially IL-1β), but not of lymphocyte-derived cytokines. This stable increase in cytokine production capacity in PLWHIV suggests priming of the innate immune compartment or trained immunity. Our findings highlight the relevance for the innate immune system as a potential therapeutic target for inflammation-related comorbidities during chronic HIV infection.

PEB0184

ASSOCIATION OF ANTIRETROVIRAL THERAPY WITH MYOCARDIAL DEFORMATION IN ANTIRETROVIRAL THERAPY-NAIVE HIV-INFECTED PATIENTS

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BACKGROUND: People living with HIV are found to have more myocardial deformation change, and myocardial deformation has been used to detect early cardiovascular disease (CVD). Although antiretroviral therapy (ART) can lower the risk of CVD, its effect on the myocardial strain remains unclear. This study aims to investigate whether myocardial deformation change is reversible after the initiation of ART in ART-naive population.

METHODS: This prospective cohort study enrolled asymptomatic ART-naive HIV-infected patients from August 2017 to August 2018 in a medical center of Taiwan. Simultaneously, patients with regular ART were also recruited for comparison. 2D speckle-tracking echocardiography (2DSTE) was performed during enrolment and repeated after six months to measure the left ventricular (LV) myocardial strain. Abnormal LV global longitudinal strain (LVGLS) was defined as greater than -15%. A greater absolute number of LVGLS represents better myocardial deformation.

RESULTS: A total of 20 ART-naive (aged 28.2 ± 6.6 years) and 132 ART-experienced (aged 38.6 ± 11.5 years) patients were recruited. Surprisingly, the ART-naive group had a higher prevalence of abnormal LV myocardial deformation, comparing to ART-experienced group (15.0% vs. 6.1%). After six months of ART, the prevalence of abnormal LV myocardial deformation for the ART-naive group dropped to 10.5%, while 6.4% of the experienced group had abnormal myocardial deformation. The LVGLS changes of ART-naive and experienced group were -0.9 ± 4.1% and 0.1 ± 3.4% respectively.

Data	ART-experienced (n = 132)	ART-naive (n = 20)
CD4 (/mm^3), mean ± SD	534.6 ± 245.0	403.9 ± 245.1
Viral load < 200 copies/mm^3, n (%)	126 (95.5)	0
LV ejection fraction (%), mean ± SD	66.2 ± 5.6	63.5 ± 4.6
LVGLS (%), mean ± SD	-19.0 ± 2.5	-17.0 ± 3.5
LVGLS > -15%, n (%)	8 (6.1)	3 (15.0)
After 6 months	ART-experienced (n = 125)	ART-naive (n = 19)
LVGLS (%), mean ± SD	-18.1 ± 3.4	-18.4 ± 2.8
LVGLS > -15%, n (%)	8 (6.4)	2 (10.5)
Difference in LVGLS	-0.9 ± 4.1%	0.1 ± 3.4%

[Table]

CONCLUSIONS: This is the first cohort study using 2DSTE to evaluate the effect of ART on myocardial deformation in HIV-infected patients. We found that myocardial deformation is likely to be reversed after the initiation of ART. The result emphasizes the importance of early ART initiation on CVD. However, the long term effect of ART remains a question and we expected further analysis of this ongoing cohort could provide more evidence on the effect of ART on CVD in the future.

PEB0185

IS HYPERTENSION MORE PREVALENT IN HIV PATIENTS? A CROSS-SECTIONAL STUDY FROM RWANDA

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BACKGROUND: Hypertension (HTN) is major risk factor for cardiovascular disease among HIV infected patients. Highly active antiretroviral therapy (ART) has greatly reduced the morbidity and mortality related to HIV/AIDS. Association of hypertension (HTN) with HIV infection and initiation of ART has not been sufficiently evaluated in our context.

METHODS: A cross-sectional study was conducted at three AHF supported sites in Kigali. Patients older than 21 years,resident in Kigali area and followed up in the three facilities were offered to participate in the study. A questionnaire on life style and risk factors for hypertension was administered and clinical files were used to get additional information. Patients were selected using matched age and sex to identify HIV negative controls in the same community. The study was conducted between December 2014 and June 2015. Hypertension was defined as a systolic blood pressure (BP) ≥ 140 mmHg and/or diastolic BP ≥ 90 mmHg taken at 2 different occasions. In descriptive analysis, proportions were compared using chi square. Logistic regression was used to identify factors independently associated with hypertension.

RESULTS: 835 clients were included in the study. 68% were female, 38% were ≥ 40 years, and 31% were unemployed. 30% of participants were overweight or obese. 31% were HIV negative, 30% HIV positive ART-naïve, 39% HIV positive on ART and 92% were WHO clinical stage 1. The prevalence of hypertension was 20% in HIV positive patients not on ART, 16% in patients on ART and 13% in HIV-negative controls. In the multivariate regression analysis, HIV positive not on ART (Odds Ration [OR] 1.73, [95% CI]:1.04-2.89, p=0.035) versus HIV negative, unemployment (OR 2.54, 95% CI 1.13-5.72, p=0.024), and age 40-49years (OR 2.85, 95% CI 1.51-5.37, p=0.001 were associated with an increased risk of hypertension.

CONCLUSIONS: In line with previous studies, we found that risk of hypertension increases with age. Routine monitoring of Blood Pressure needs to be reinforced in national guidelines for People living with HIV especially in those above 40 years. Income generating activities should be availed consistently to address hypertension risks in people living with HIV in Rwanda.

PEB0186

WHO HEARTS TREATMENT PROTOCOL FACILITATES INTEGRATION OF HYPERTENSION MANAGEMENT INTO HIV CARE AND IMPROVES BLOOD PRESSURE CONTROL AT THE LARGEST HIV CLINIC IN UGANDA

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BACKGROUND: Persons Living with HIV (PLHIV) receiving antiretroviral therapy have increased risk of cardiovascular disease (CVD). Integration of services for hypertension (HTN), the primary CVD risk factor, into HIV clinics is recommended in Uganda. At Makerere University Joint AIDS program (MJAP's) HIV Centre of Excellence (COE) providing ART to over 16500 PLHIV, HIV control as shown by viral suppression is at 97%. Paradoxically, among PLHIV who have HTN, only 23% were receiving appropriate anti-hypertensive treatment despite a high prevalence of HTN of 21%. The purpose of the project was to integrate screening and treatment of HTN into HIV care at Mulago ISS clinic.

DESCRIPTION: This implementation science project started in August 2019. We aimed to screen 100% of all PLHIV for HTN, initiate HTN treatment in at least 90% of HTN patients and achieve BP control of 50% at one year. The implementation package included: training 36 health care providers on WHO HEARTS guideline for CVD, patient education and counseling on HTN/HIV by HIV peer counselors, one page HTN treatment protocol, adopting WHO data collection tools as well as HTN targets (50% of HTN PLHIV with BP ≤ 140/90), providing medicines for HTN (Amlodipine, Valsartan and Hydrochlorothiazide) at no cost to patients and task shifting HTN screening to HIV peer counselors and treatment to nurses and clinical officers.

LESSONS LEARNED: At three months, all the 16400 PLHIV were screened for HTN with a prevalence of HTN of 24% and baseline HTN control of 27%. A total of 1063 hypertensive PLHIV are enrolled into integrated HTN/HIV treatment. HTN control overall is 64% at 3 months and is 74% among clients who have completed 4 months of treatment. The HIV care cascade continued to perform well despite HTN/HIV integration at 92%, 91% and 97% of the UNAIDS 90-90-90 goals.

CONCLUSIONS/NEXT STEPS: A quarter of adult PLHIV have HTN. Simple, stepwise treatment protocols are effective for HTN control and facilitate task shifting of HTN screening and treatment. Continuous supply of anti-hypertensive medicines is necessary for effective integration. There is need to expand HTN/HIV integration efforts since integration does not interfere with but rather leverages the HIV program gains.

PEB0187

CARDIOVASCULAR RISK ESTIMATION IS SUB-OPTIMAL ACROSS TWO HIV COHORTS

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BACKGROUND: Persons living with HIV (PLWH) confront an elevated risk of cardiovascular disease (CVD) that may not be accurately predicted by established CVD risk prediction functions. We assessed the performance of two established CVD risk prediction functions in two clinically and geographically discrete HIV cohorts.

METHODS: CVD risk scores were calculated for PLWH in the Kaiser Permanente Northern California (KPNC) HIV Cohort and the Partners HIV Cohort, using the Framingham function for coronary heart disease (CHD) and the American College of Cardiology/American Heart Association (ACC/AHA) atherosclerotic CVD (ASCVD) function. Outcomes were myocardial infarction (MI) or coronary death for the Framingham function and MI, stroke or coronary death for the ASCVD function. Within each cohort and for each function, we assessed discrimination and calibration separately among men and women.

RESULTS: There were 7918 individuals in the KPNC Cohort and 2212 in the Partners Cohort. Event numbers, incidence rates, and median risk scores are shown in the Table.

Framingham CHD	N	Years Follow-up Median (Q1, Q3)	Events	Incidence Rate (per 1000 Person Years)	Risk Score Median (Q1, Q3)	C-statistic	Chi-square (p)
Partners Women	536	10.7 (5.3, 15.1)	32	5.90	0.012 (0.006, 0.029)	0.693	38.98 (p<0.0001)
Partners Men	1676	11.3 (5.9, 14.8)	97	5.59	0.030 (0.017, 0.052)	0.689	175.0 (p<0.0001)
KPNC Women	809	4.4 (1.5, 8.7)	7	1.66	0.012 (0.005, 0.025)	0.844	N/A
KPNC Men	7109	3.8 (1.5, 8.0)	116	3.34	0.026 (0.015, 0.045)	0.735	252 (p<0.0001)
ACC/AHA ASCVD	**N**	**Years Follow-up Median (Q1, Q3)**	**Events**	**Incidence Rate (per 1000 Person Years)**	**Risk Score Median (Q1, Q3)**	**C-statistic**	**Chi-square (p)**
Partners Women	318	8.3 (3.7, 13.2)	46	16.59	0.018 (0.009, 0.042)	0.670	6.46 (p=0.167)
Partners Men	1144	10.0 (4.7, 13.4)	144	13.46	0.037 (0.020, 0.070)	0.689	51.9 (p<0.0001)
KPNC Women	552	5.0 (1.7, 8.9)	22	7.33	0.015 (0.008, 0.033)	0.743	0.16 (p=0.694)
KPNC Men	5207	4.0 (1.6, 8.2)	211	8.05	0.033 (0.017, 0.064)	0.719	53.6 (p<0.0001)

[Table]

Discrimination, assessed using c statistic, was suboptimal for men and women in Partners for both functions, moderate for men in KPNC for both functions and moderate for women in KPNC for the ASCVD function. Calibration was poor for men in both cohorts for both functions and for women in Partners for the Framingham function. A chi-square p value could not be calculated for women in KPNC for the Framingham function due to a small number of events.

CONCLUSIONS: These data confirm and expand upon initial findings that established CVD risk prediction functions do not provide a good fit for HIV populations, particularly among men. Differences in model performance by gender underscore the need for both HIV-specific and gender-specific functions. Development of such models will enhance the care of aging PLWH.

BONE DISEASE

PEB0188

BONE ACCRUAL IN CHILDREN WITH PERINATALLY ACQUIRED HIV COMPARED TO HEALTHY CHILDREN

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BACKGROUND: Low bone mineral density (BMD) has been reported in children living with perinatally-acquired HIV (CPHIV), but few studies compared slopes of bone accrual in CPHIV to healthy children.
METHODS: Among CPHIV in the U.S.-based Pediatric HIV/AIDS Cohort Study, we performed whole body (WB) and spine (SP) dual energy X-ray absorptiometry (DXA) at baseline (age 7-16 years), 2 years post-baseline, and >4 years post-baseline if Tanner 5 not reached at second DXA. Outcomes included BMD (g/cm^2) and bone area (BA, cm^2) of the WB and SP. We calculated Z-scores for WB- and SP-BMD in CPHIV for age, race (Black vs non-Black), and sex using reference curves from the longitudinal Bone Mineral Density in Childhood Study of healthy children. We fit weighted linear mixed effects models with a random slope for each child to compare BMD Z-scores across actual age by cohort, adjusted for height Z-score (HZ), and compare WB-BA and SP-BA, adjusted for sex, race, and HZ. We tested for differences in slopes over age by cohort (effect modification).
RESULTS: After weighting, baseline age, sex, and race were similar between the 172 CPHIV and 1321 healthy children. Final Z-score models assume similar slopes between cohorts. The mean difference (95% confidence interval), adjusted for HZ, in WB-BMD Z-score (-0.50 [-0.80, -0.20]) was consistently lower across age in CPHIV vs healthy children. SP-BMD Z-score was lower across age in CPHIV without adjustment for HZ, but higher (0.32 [0.03, 0.61]) in CPHIV adjusted for HZ. Slopes differed across cohorts for BA. CPHIV had slower accrual in WB-BA (slope difference: -24.74 [-34.42, -15.07]) and SP-BA (slope difference: -0.42 [-0.70, -0.13]) before 14 years. After 14 years, accrual in WB-BA (slope difference: 13.97 [-1.48, 29.42]) and SP-BA (slope difference: 0.39 [-0.08, 0.85]) was slightly faster in CPHIV. However, both adjusted mean WB-BA and SP-BA tended to be lower overall in CPHIV.
CONCLUSIONS: Across age, CPHIV had deficits in BMD and BA at most sites compared to healthy children. The exception was higher SP-BMD Z-score across age in CPHIV, perhaps explained by BA accrual deficit for height. Data are needed on CPHIV followed to adult height and peak bone mass.

PEB0189

THE IMPORTANCE OF BONE MASS DISCORDANCE IN THE DIAGNOSIS OF OSTEOPOROSIS IN PEOPLE LIVING WITH HIV

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BACKGROUND: Bone mass discordance between lumbar spine and femoral neck can change the prevalence of osteoporosis, though no data on its significance and characteristics are available for people living with HIV (PLHIV).
METHODS: Longitudinal study of 865 consecutive PLHIV included after a dual X-ray absorptiometry (DXA) scan. Bone mass discordance was defined as different T-score categories at lumbar spine and femoral neck: major discordance (osteoporosis versus normal), minor discordance (osteoporosis versus osteopenia, or osteopenia versus normal).
RESULTS: Of 865 individuals (mean 44.5 years, female 27%), 381 (44%) presented bone mass discordance (major, 2%; minor, 42%), mainly due to lower lumbar spine-bone mineral density (BMD). Of all individuals with osteoporosis at lumbar spine, 78% had no diagnosis of osteoporosis at femoral neck. Thus, the prevalence of osteoporosis changed from 4% when both sites were considered for diagnosis to 21% using the lowest T-score at any site. Discordant PLHIV with lower femoral neck-BMD were older (P<0.01), had lower BMI (P<0.01), higher prevalence of chronic kidney disease (P=0.08), hyperparathyroidism (P=0.08), and HCV coinfection (P=0.07) compared to discordant individuals with lower lumbar spine-BMD. Noteworthy, HIV-related factors such as low CD4+ T-cell counts (P=0.05), longer duration of HIV infection (P<0.01) and longer time on antiretroviral therapy (P=0.03) were more frequent among discordant PLHIV with lower femoral neck-BMD. Complete data to estimate the 10-year risk of fracture by Fracture Risk Assessment (FRAX) tool were available for 208 individuals. The FRAX score was significantly higher among discordant PLHIV with lower femoral neck-BMD versus those with lower lumbar spine-BMD (2.44% versus 1.79%, P=0.04, +36% for major osteoporotic fracture; 0.73% versus 0.31%, P<0.01, +135% for hip fracture).
CONCLUSIONS: Bone mass discordance was highly prevalent among PLHIV, affecting the overall diagnosis of osteoporosis and modifying the estimated risk of fracture. HIV-related factors and secondary causes of osteoporosis explained the presence of bone mass discordance.

PEB0190

CD4 NADIR AND CD4/CD8 RATIO ARE ASSOCIATED WITH BONE REMODELLING

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BACKGROUND: Bone turn-over markers and Bone Loss were associated with immune reconstitution in HIV infection. The aim of our study was to assess the association between plasma markers of bone remodeling (BM), as Beta cross-laps (CTX), bone alkaline phosphatase (bALP) and Osteocalcin (OC), and CD4 cell count (CD4) , and CD4/CD8 ratio. The secondary aim was to evaluate the association between bone density and Immune-status.
METHODS: A cross sectional study including HIV-positive patients under antiretroviral treatment, with available dosage CTX, bALP and OC between 2011 and 2019. When a recent DEXA scan was available

bone mineral density (BMD) at hip (F) and lumbar spine (L) were expressed as T-scores. Non-normally distributed variables were log transformed. Correlations between BM and immune-markers were assessed using Pearson correlation analysis. Similarly, Spearman correlation analysis and linear regression were used to assess possible association between BMD and the same covariates.

RESULTS: 1005 patients were included. 756 (75.2%) were male, with a mean age of 48 yrs [Interquartile range (IQR) 41-54]; 891 (88.7%) acquired HIV infection by sexual route. Their median CD4 was 578 cell/micrL (IQR 397-780), and CD4/CD8 ratio 0.6 (IQR 0.4-0.9); CD4 nadir 236 cell/micrL (IQR 108-399). DEXA scan was available for 473 patients. Median bone marker levels were as follows: CTX 440 pg/ml (IQR 291-602), bALP 14.6 mcg/L (IQR 11.1-19.3), OC 23 ng/ml (IQR 18-30). F T-score was -1.4 (IQR -2.1 - -0.8), whilst L T-score -1.3 (IQR -2.1 - -0.5).

Using multivariable linear regression analysis, nadir CD4 (per 100 cells, est 0.011, P=0.005) and CD4/CD8 ratio (est. -0.08, P<0.001) were significantly associated with log10 CTX levels, patients with lower CD4 nadir had significantly lower levels of bALP (per 100 cells, est. -0.011, P<0.001)while , CD4/CD8 ratio resulted to be inversely associated with levels of OC (est -0.04, P=0.006).

CONCLUSIONS: A history of severe immune-depression and current low CD4/CD8 are associated with high levels of bone formation markers (bALP and OC) while only current low CD4/CD8 ratio is associated with increased levels of bone resorption markers.

RENAL DISEASE

PEB0191

VALIDATION OF D:A:D CHRONIC KIDNEY DISEASE RISK SCORE MODEL AMONG PEOPLE LIVING WITH HIV IN ASIA

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BACKGROUND: Chronic kidney disease (CKD) is one of the important comorbidities among people living with HIV (PLHIV). Although several CKD risk prediction models are available, their use in clinical settings has been limited. We validated the Data collection on Adverse events of anti-HIV Drugs (D:A:D) full- and short-risk score models for CKD in two Asian PLHIV databases.

METHODS: PLHIV with baseline estimated glomerular filtration rate (eGFR) >60 mL/min/1.73m^2 were included from the TREAT Asia HIV Observational Database (TAHOD) for validation of the D:A:D full-risk score model and TAHOD Low Intensity Transfer (TAHOD-LITE) for the D:A:D short model. Those with <3 eGFR measurements from baseline or previous exposure to nephrotoxic antiretrovirals were excluded. CKD was defined as two eGFR values ≤60 mL/min/1.73 m2 at least 3-months apart. Kaplan-Meier methods were used to estimate the probability of CKD development. Calibration of full- and short-risk score models Lwas estimated by calculating the Area Under the Receiver Operator Characteristic (AUROC) curve.

RESULTS: We included 5701 participants from TAHOD (full model validation) and 9791 from TAHOD-LITE (short model validation). The majority of participants were male (70%), >50% had nadir CD4 count ≤200 cells/mm3 and nearly 70% had baseline eGFR >90 ml/min/1.73m^2. The crude incidence rate of CKD was 0.81 (95% CI 7.3-8.9) per 100 person-years of follow-up (PYFU) during a median of 8.2 years follow-up in TAHOD, and 1.05 (95% CI 9.6-11.4) per 100 PYFU during a median of 4.9 years follow-up in TAHOD-LITE. There were 90, 99, and 202 CKD events among low-, medium-, and high-risk groups in TAHOD and 106, 147, and 267 CKD events among these groups in TAHOD-LITE. The progression rates for CKD at 10 years in TAHOD were 2.7%, 8.9% and 26.1% for low-, medium- and high-risk groups, and 3.5%, 11.7% and 32.4% in TAHOD-LITE. The AUROC curve for CKD risk score in the full model was 0.81 and 0.83 in the short model.

CONCLUSIONS: D:A:D CKD full- and short-risk score models well predicted CKD events in Asian PLHIV populations. These risk prediction models might be useful tools to assist clinicians in identifying individuals at high risk of developing CKD.

PEB0192

TDF RENAL SAFETY IN HBV-INFECTED, HIV-NEGATIVE WOMEN DURING PREGNANCY AND POST-PARTUM PERIOD

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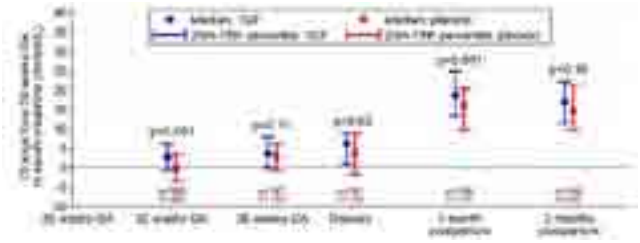
BACKGROUND: Renal safety data on tenofovir disoproxil fumarate (TDF) in HIV-uninfected pregnant women remain limited. We analyzed the evolution of several renal safety parameters using data and serum and urine samples from a randomized, double-blind, placebo-controlled clinical of TDF for the prevention of mother-to-child transmission of hepatitis B virus (HBV) in HBV mono-infected pregnant women in Thailand (iTAP study, NCT01745822).

METHODS: 331 women received either (1:1) 300 mg of TDF (n=168) or a matching placebo (n=163) once daily from 28 weeks gestational age (GA) to 2 months postpartum. Serum creatinine was measured

at 28, 32 and 36 weeks GA, delivery and 1 and 2 months post partum. Tubular dysfunction was defined by the presence at 2 months postpartum of at least two of these parameters: tubular maximum phosphate reabsorption to estimated glomerular filtration rate ratio <0.8 mmol/L, urine total protein to creatinine ratio >30 mg/mmol and urine glucose ≥10 mg/dL.

RESULTS:



[Figure 1. Change in serum creatinine from baseline during pregnancy and postpartum period in women randomized to TDF arm (blue) and women randomized to pacebo arm (red). Comparisons using Wilcoxon-Mann-Whitney test.]

At 28 weeks GA (baseline), the median (IQR) weight was 61 (56 to 70) kg, height 157 (153 to 160) cm, and serum creatinine 45 (41 to 53) µmol/L. Changes in creatinine levels from baseline to 32 weeks GA, delivery and 1 month post-partum were significantly higher in the TDF arm versus placebo (Figure 1). At 2 months postpartum, 1 of 123 women (1%) on TDF had tubular dysfunction versus 0 of 129 (0%) on placebo (Fisher's exact test: p=0.49). No kidney-related adverse events reached DAIDS Grade 3-4 nor warranted TDF discontinuation.

CONCLUSIONS: In HIV-negative, HBV-infected Asian women, TDF from 28 weeks GA to 2 months postpartum was not associated with an increase risk of tubular dysfunction despite a slight increase in creatinine level. These findings were similar to that observed in PrEP users and complement our knowledge of TDF safety in HIV-negative pregnant women such as those receiving daily TDF/emtricitabine PrEP.

METABOLIC, LIPID AND ENDOCRINE COMPLICATIONS (INCLUDING LIPODYSTROPHY)

PEB0193

A STUDY OF EFFECT OF ANTI-RETROVIRAL THERAPY (ART) REGIMEN ON METABOLIC SYNDROME (METS) IN PEOPLE LIVING WITH HIV/AIDS (PLHIV) IN INDIA: A COMPREHENSIVE POST HOC ANALYSIS

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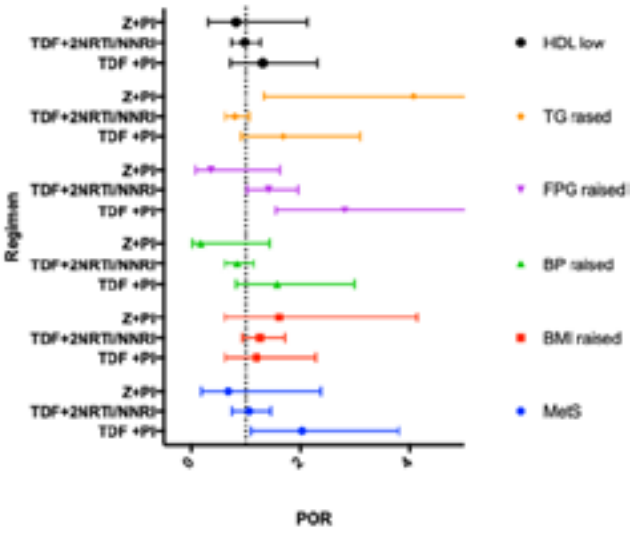
BACKGROUND: Treatment guidelines for ART have recently undergone a major change in India. The primary ART regimen is now Tenofovir (TDF) based. As the ART programme in India has now been available for almost 15 years, an increasing number of patients are on second-line therapy which is protease-inhibitor (PI) based. While the association of dyslipidemia with nucleoside reverse transcriptase (NRTI) based regimens in India is well-reported, the effect of TDF or PIs on the same has not been studied much. This study looked at the impact of ART regimen on MetS in people living with HIV/AIDS (PLHA) .

METHODS: This study was a post hoc analysis of unpublished dissertation data in a cross-sectional prevalence study conducted in ART clinics in a tertiary care hospital in India between Dec 2016 and Nov 2018. A total of 1208 PLHA on ART were enrolled in this study. Data was obtained through personal interviews and records. ART constituted the exposure and outcomes included occurrence of MetS, obesity, hypertriglyceridemia, low HDL-c, and deranged blood sugars. Chi square test, Mann Whitney U test, logistic regression analysis was done and Prevalence Odds Ratio (POR) was calculated.

RESULTS: The overall prevalence of MetS was 21.3%. This study found that the TDF based PI regimens had a two fold risk of MetS against patients of HIV on other ART regimens (Fig 1). Also this risk was significantly higher than both TDF based non PI regimens and Non TDF based PI regimens.



[Fig 1.]

CONCLUSIONS: Thus patients on TDF based PIs had a significantly higher prevalence of MetS. This has significance in the present and future scenario of HIV therapy in India which relies heavily on TDF as a backbone of ART and is seeing increased use of PIs .

WEIGHT GAIN

PEB0194

WEIGHT/BODY MASS INDEX (BMI) GAINS FOLLOWING INITIATION OF INTEGRASE STRAND TRANSFER INHIBITOR (INSTI) VERSUS PROTEASE INHIBITOR (PI) AMONG PEOPLE LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS (PLWH) IN THE UNITED STATES

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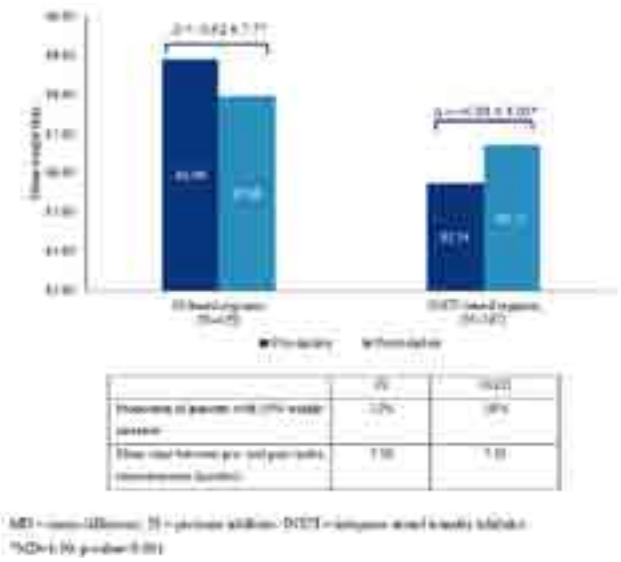
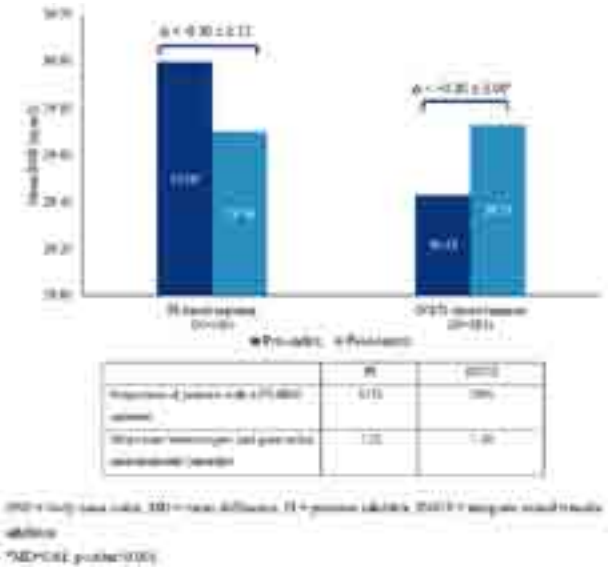
BACKGROUND: Growing evidence suggests that INSTIs may be associated with weight gain among PLWH; as a result, US-based treatment guidelines were updated to reflect such findings and raise clinicians' awareness. This real-world study compared change in weight/BMI between insured US patients initiating a PI or INSTI.

METHODS: A retrospective longitudinal study was conducted using linked claims and electronic medical records from Decision Resources Group's Real World Data Repository (7/17/2017-6/1/2019). Adult PLWH initiating a PI or INSTI on or after 7/17/2018 (index date) were included. Baseline characteristics during the 12-month pre-index period were balanced using inverse probability of treatment weighting (IPTW). Proportion of patients with weight/BMI increases ≥5% and mean weight/BMI change from pre- to post-index were evaluated. Outcomes were compared using odds ratios (ORs) and mean differences (MDs).

RESULTS: Following IPTW, 20367 patients (9993 PI and 10374 INSTI) were included. Baseline characteristics were well-balanced (mean age=50 years; ~30% females in both cohorts). Pre- and post-index weight/BMI measurements were available in 429/430 PI patients and 397/383 INSTI patients. Mean time between index and follow-up measurements was ~7 months. The proportion of patients with a weight/BMI gain ≥5% was lower in the PI (12%/11%) than the INSTI (18%/20%) cohort (OR [≥5% weight gain]=0.61; p=0.014; OR [≥5% BMI gain]=0.51; p<0.001). Mean weight/BMI gain was significantly higher (MD=1.90/0.61) in the INSTI than in the PI cohort (Figure 1 and 2 respectively).



[Figure 1. Mean change between pre- and post- index weight for PI and INSTI cohorts]



[Figure 2. Mean change between pre- and post- index BMI for PI and INSTI cohorts]

CONCLUSIONS: Results confirm previous evidence demonstrating higher weight/BMI gain in patients initiating INSTIs relative to PIs. Clinical considerations for selecting treatment options are warranted.

PEB0195

SO MUCH TO LOSE: A REVIEW OF 25 BARIATRIC SURGERY CASES IN PEOPLE LIVING WITH HIV (PLWH) AT AN URBAN, RYAN WHITE-FUNDED HIV CLINIC

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BACKGROUND: Combination antiretroviral therapy (cART) has transformed the lives of PLWH but has been associated with weight gain, obesity and related comorbidities. Bariatric surgery is utilized commonly to manage obesity, but data remains limited regarding possible impacts on cART related to altered gastrointestinal anatomy. We evaluated outcomes following bariatric surgery in a cohort of PLWH at an urban, Ryan White-funded HIV clinic.

METHODS: 28 PLWH who underwent bariatric surgery were identified retrospectively. Medical records were abstracted for demographics, HIV viral load (VL), CD4, cART, weight, BMI, GFR, hemoglobin A1c and number of medications taken for comorbidities (diabetes [DM], hypertension [HTN], hyperlipidemia) at baseline and up to 36 months post-surgery. For missing data, last observation was carried forward but not beyond the current post-surgery interval. Reasons for virologic rebound, cART changes and post-operative complications were also analyzed.

RESULTS: 25 of 28 PLWH with at least 12 months follow-up were analyzed (2 without baseline data, 1 with recent surgery were excluded). At baseline, patients were mainly female (76%) with mean age of 46 (24-61) and BMI of 43.7 kg/m2 (32-67) and underwent sleeve gastrectomy (60%) or Roux-en-Y (40%). Mean BMI decreased 28.6% at 12 months and was maintained through 36 months. Seven experienced virologic rebound (VL>200) during follow-up, 3 due to post-surgery complications (2 nausea, 1 dysphagia), and 4 with nonadherence. All re-suppressed except one (nonadherence). 7 patients had DM at baseline. Mean DM medication use per patient declined 80% by 12 months and 91% by 36 months. Nausea and acid reflux were common. 2 patients briefly switched to liquid cART due to dysphagia. No deaths, opportunistic or post-operative infections occurred.

N=25	Baseline	12 Months	*p*-value
Weight, mean (kg)	119.4	84.3	<0.001
BMI, mean (kg/m^2)	43.7	31.2	<0.001
CD4, mean (cells/mm^3)	722	706	0.704
Percentage w/ HIV VL <20 copies/mL	92%	92%	NS
HTN Medication Count, mean	1.78	0.67	<0.001
Lipid Medication Count, mean	1.33	0.33	0.041
Patients with Diabetes (N=7)	**Baseline**	**12 Months**	***p*-value**
Hemoglobin A1c, mean (%)	8.19	5.91	0.009
DM Medication Count, mean	2.14	0.43	0.011

CONCLUSIONS: We demonstrate that bariatric surgery in PLWH is an option to reduce body weight and improve outcomes of obesity-related comorbidities while not compromising virologic control. Post-operative issues impacting cART adherence can be managed effectively.

PEB0196

IMPACT OF WEIGHT GAIN ON PRESCRIBING BEHAVIOR FOR HIV PATIENTS ON INTEGRASE INHIBITOR REGIMENS USING REAL WORLD DATA

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BACKGROUND: Integrase inhibitors [InSTIs] are widely considered safe and effective treatments for HIV; however, weight gain in patients on InSTIs is now being seen. We hypothesize that weight gain in patients on InSTIs does not substantively change prescribing habits, but patients who gain the most weight are likely to be switched off InSTIs.

METHODS: We leveraged IQVIA ambulatory EMR data, a fully anonymized data set covering roughly 100 million patients going back to 2006 with approximately 22 million patients per annum. Patients were selected based on their HIV positive diagnosis. This retrospective observational cohort study was conducted on HIV patients selected starting January 2013 and observed through August 2019.

RESULTS: We identified 31,841 patients on InSTIs during the selection period. 28,895 remained after removing those treated with both InSTIs and PIs [protease inhibitors] at the index date. Ultimately, our study cohort yielded 4,585 patients having both baseline and follow-up visit weights. 61.4% of patients gained weight, and of those, 80% underwent switch. Most switching occurred within the InSTI class, followed by InSTIs to PIs, then InSTIs to NNRTIs [non-nucleoside reverse transcriptase inhibitors]. Switches to PIs slightly increased as weight gain increased from 0-30 pounds, while the reverse was true for switches to NNRTIs. In patients gaining > 30 pounds, the lion's share of switching was intra-InSTI. The mean time to first switch was 1.34 years for females, 1.35 years for males. 94% of patient switching was associated with weight gains of 0 to 19 pounds, and surprisingly only 75% of patients gaining > 30 pounds switched. Across all patients, the mean weight gain to first switch was 7.6 pounds.

CONCLUSIONS: This study revealed that only 49% of InSTI patients who gained weight switched their antiretroviral therapy. Most switching was within the InSTI class, even in those who gained the most weight, disproving a portion of our hypothesis. Switching between classes was modest. We acknowledge that factors other than weight gain can account for switching. Future analyses will focus on which InSTIs were associated with the most weight gain across gender, age, time to switch and concomitant usage with tenofovir alafenamide.

PEB0197

WEIGHT GAIN ASSOCIATED WITH ANTIRETROVIRAL THERAPY IN HIV-INFECTED INDIVIDUALS IS AFFECTED BY MULTIPLE FACTORS

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BACKGROUND: Weight gain during antiretroviral therapy (ART), which is strongly associated with metabolic issues, has been a concern in patients live with HIV (PLWH). It has been related to use of antiretroviral medications especially integrase inhibitors in many populations. However, disease status at diagnosis may have significant impact on the baseline weight and its change overtime, especially in late presenters. In this study, we investigated dependent factors of weight gain in Chinese PLWH.

METHODS: A retrospective observational study was conducted in adult PLWHs (aged over 18 years) enrolled in Peking Union Medical College Hospital during Jun 2007 to Aug 2018. Patients' weight at baseline, one year and two years of ART were collected and analyzed in treatment-naïve individuals. We compared the weight gain data among different regimens and used linear regression models to assess weight change, adjusted for age, race, baseline CD4 count, CD4/CD8 ratio, viral load, and opportunistic infection status.

RESULTS: A total of 334 patients were included in this study, with 65 starting INSTI-based regimens (35 using DTG and 28 using RAL). 92% of these patients were male and the median age was 42 (IQR 33-50). On average, the INSTI group experienced greater weight gain of 4.6kg and 5.7kg at one-year and two-year follow-up, respectively, compared with 1.3kg and 1.6kg of those using non-INSTI regimens. Significant differences were observed in weight change of PLWH with different levels of CD4/8 ratio (<0.15, >=0.15), CD4 counts (<125, >=125), or opportunistic infection status, indicating that weight gain following ART initiation was also determined by pre-treatment stage of HIV infection.

Weight change in INSTI group stratified by clinical characteristics

Clinical Characteristics	Mean (IQR) Change in Weight (kg) at 1-year followup	p value	Mean (IQR) Change in Weight (kg) at 2-year followup	p value
Baseline CD4 cell (cells/mm3)				
CD4<=125 (n=17,7)	8.5(2-12)	0.0029	9.2(0-15.5)	0.1681
CD4>125 (n=46,30)	3.2(0-6)		4.9(2-7)	
Baseline CD4/CD8 ratio				
CD4/CD8<=0.15 (n=16,9)	8.8(2.5-13.5)	0.0028	8.9(1-17)	0.032
CD4/CD8>0.15 (n=47,28)	3.2(0-6)		4.3(1.5-6.5)	
Opportunistic infection when start INSTI regimen				
Y (n=8,4)	10.8(6-16.5)	0.0038	16.1(12-20)	0.0019
N (n=55,33)	3.7(0-6)		4.5(1-7))	

[Table.]

CONCLUSIONS: Weight gain associated with ART in treated naïve Chinese patients is affected by multiple factors. In addition to regimen-specific influences, important baseline factors should be taken into consideration when evaluating the weight gain associated with ART.

PEB0198

TENOFOVIR ALAFENAMIDE (TAF) DOES NOT INCREASE WEIGHT IN PEOPLE LIVING WITH HIV (PLWH)

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BACKGROUND: Obesity, which is associated with comorbid conditions, is becoming one of the most common ailments encountered in PLWH in our inner-city clinic in Newark, NJ. The increased use of Integrase inhibitors (INI) has been implicated as an underlying cause for this epidemic, and some studies have suggested that TAF may contribute as well.
Most of those studies, however, examined antiretroviral therapy (ART) naïve patients, in which weight gain could represent a recovering immune system.
METHODS: This was a retrospective, observational cohort study in virologically suppressed (VS) patients who switched ART. Virologic suppression was defined as HIV RNA < 200 copies/mL for at least 12 weeks on pre-switch ART regimen, that persisted for at least 24 weeks after switch.
We evaluated mean change in weight at 24 weeks after switch. We analyzed those who switched from a non-TAF containing regimen (nTAF) to nTAF (group 1) or to a TAF regimen (group 2); also, those who switched from a TAF containing regimen to TAF (group 3), or to nTAF (group 4). The one-way ANOVA test was used for statistical analysis of the primary endpoint.
RESULTS: Among the 350 patients eligible for inclusion, 64% were Male and 36% were Female. The majority of patients were Black (59%) and the mean age was 53 years (SD + 12). Weight at 24 weeks was evaluated in the 4 groups: group 1 (n = 127), group 2 (n=150), group 3 (n = 51), and group 4 (n=22). Mean changes in weight were +0.97 kg for group 1, -0.03 kg for group 2, -0.22 kg for group 3, and +0.67 kg for group 4. Mean change in weight at 24 weeks was statistically similar between groups (p = 0.81).
CONCLUSIONS: Our study showed that PLWH who are VS on a nTAF regimen did not gain weight in the first 24 weeks after switching to a TAF containing regimen, as well as those who switched from TAF to nTAF did not lose weight. This is reassuring, but requires confirmation with prospective, longer term trials, taking into consideration the backbone of the regimen.

PEB0199

WEIGHT CHANGE BEFORE AND AFTER SWITCHING THERAPY TO TENOFOVIR ALAFENAMIDE (TAF) IN VIROLOGICALLY SUPPRESSED (VS) PERSONS

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BACKGROUND: While Protease inhibitors (PIs), and more recently, integrase-strand-transfer inhibitors (INSTIs) have been associated with an increase in weight, there is a paucity of data examining the effect of regimens with TAF-based (TAFb) backbones. Moreover, there is little literature describing the effect on weight in patients switched to TAF-based backbone regimens with the same background agent
METHODS: This was an observational, retrospective study conducted at an inner-city clinic in Newark, NJ. We evaluated change in weight 24 weeks before the switch to baseline (time of switch) and baseline to 24 weeks after the switch in VS patients who were switched to a TAFb regimen with the same background agent. Background agents included PIs, INSTIs, or non-nucleoside reverse transcriptase inhibitors (NNRTIs). VS was defined as HIV RNA < 200 copies/mL at least 24 weeks before and through 24 weeks after switching regimen.
RESULTS: There were 70 patients identified who met inclusion criteria, 40 of which were Male and 30 were Female. The majority of patients were Black (57%), their mean age was 51 years (SD + 13). Mean change in weight 24 weeks pre-TAFb regimen switch compared to 24 weeks post-TAFb regimen switch was evaluated for the following groups: PI-based (n = 3), NNRTI-based (n = 27), and INSTI-based (n = 40). In the PI-based group, mean change in weight 24 weeks pre-TAFb switch and 24 weeks post-TAFb switch was +2.7 kg and -2.5 kg respectively, however the sample size was too small for statistical analysis. There was no difference in mean change in weight pre-TAFb and post-TAFb switch in the NNRTI-based group (-0.7 kg vs +2.3 kg [p = 0.28]). There was, however, a statistically significant difference in mean change in weight pre-TAFb and post-TAFb switch in the INSTI-based group (+0.26 kg vs –1.23 kg [p = 0.029]).
CONCLUSIONS: Our study suggests that patients who are VS, do not gain weight when the backbone is switched to a TAFb regimen, and may possibly loose weight if the background is an INSTI. If this finding is validated in a larger sample size, it may add another benefit of switching to TAFb backbone.

PEB0200

CHANGES IN BODY MASS INDEX AMONG PEOPLE LIVING WITH HIV WHO ARE NEW ON HIGHLY ACTIVE ANTIRETROVIRAL THERAPY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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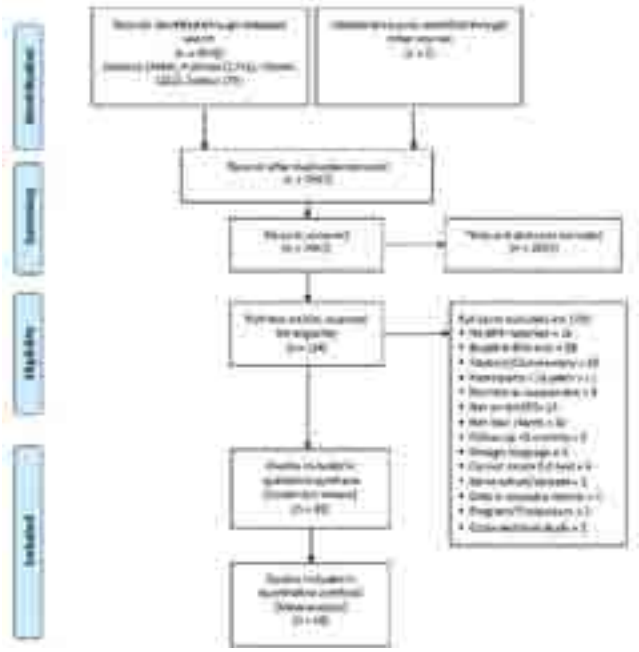
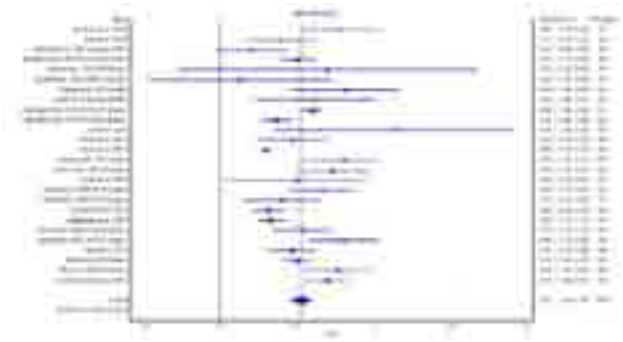
BACKGROUND: In the era of highly active antiretroviral therapy (HAART), obesity is increasingly being reported among people living with HIV (PLHIV). In this study, we reviewed published literature on body mass index (BMI) changes among treatment-naïve adult PLHIV who started HAART and remained on treatment for at least six months.

METHODS: Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline, four databases were searched in February 2018, and results of included studies were synthesized to describe the BMI trend among PLHIV on treatment.

RESULTS:



[Figure 1. PRISMA Flow Diagram]



[Figure 2.]

The search generated 4948 studies, of which 30 were included in the qualitative synthesis and 18 were eligible for the meta-analysis. All the studies showed an increase in group BMI. HAART was associated with increase in BMI (pooled effect size [ES] = 1.58 kg/m^2; 95% CI: 1.36, 1.81). The heterogeneity among the eighteen studies was high (I^2 = 85%; p <.01). Subgroup analyses showed pooled ES of 1.54 kg/m^2 (95% CI: 1.21, 1.87) and 1.63 kg/m^2 (95% CI: 1.34, 1.91) for studies with follow-up ≤1 year and >1 year, respectively. We conclude that the greatest gain in BMI is in the initial 6-12 months on treatment, with minor gains in the second and subsequent years of treatment.

CONCLUSIONS: Finally, care providers working with PLHIV should take note of possible changes in BMI and the potential implications of a rising BMI on the health of their clients especially with regards to the clustering of other chronic diseases and cardio-metabolic risk factors associated with obesity and overweight.

PEB0201

RISK OF WEIGHT GAIN (WG) ACCORDING TO TYPE OF SWITCHING STRATEGY IN A LARGE COHORT OF HIV-INFECTED INDIVIDUALS WITH STABLE SUPPRESSED HIV-RNA

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BACKGROUND: There is rising evidence that INSTIs may be associated with WG in ART-naïve patients. Data on WG in virologically suppressed patients switching to INSTIs are still limited.

METHODS: ART-treated patients in the Icona Foundation Cohort with stable viral suppression (<200 copies/mL), no history of virological failure who switched for the first time over 2009-2019 to ART regimen with anchor drug belonging to a drug class (INSTI or PI/b or NNRTI) to which they were currently naïve (baseline), were included. Primary endpoint was to evaluate WG defined as an increase of ≥3 kg or ≥5% or BMI over 2 units from baseline (Outcome 1).

A more stringent WG definition (≥10% weight increase or BMI ≥30 from baseline), identifying "greater gainers" and treatment-emergent obesity, was also used (Outcome 2).

Sensitivity analysis, excluding patients with BMI≥30 or ≤18.5 at baseline or receiving TAF, was performed. Follow-up accrued until to change/stop of drug class or last observation. Inverse Probability Weighted Cox regression was used to estimate causal HR of WG, adjusting for the main confounders (Table).

RESULTS: 720 patients (male 79%; Caucasian 94.5%) included, 348 (48%) switching to INSTI, 138 (19%) to PI/b and 234 (33%) to NNRTI. WG occurred in 320/720 patients by Outcome 1 and in 109/660 by Outcome 2, with incidence rate of 24.4 [95%CI21.9-27.2] and 7.3 [6.0-8.8] per 100 PYFU, respectively. Causal HR of WG for INSTIs versus other drug-classes did not show any significant difference (Table). In the sensitivity analysis, only using Outcome 2, an increased risk of WG for INSTIs compared to NNRTIs was observed (Table).

[Table. Crude and adjusted hazard ratios (AHR) of experiencing weight gain (WG) after switching to a new ARV drug-class according to two different outcome definitions from fitting a weighted Cox regression model.]

CONCLUSIONS: No clear evidence of WG after switching to INSTIs was observed in overall population. However, an increased risk of greater WG (≥10%) or obesity was found in those switching to INSTIs compared to NNRTIs when considering normal/overweight patients not receiving TAF.

PEB0202

GREATER WEIGHT GAINS FOUND IN ART-EXPERIENCED NIGERIAN PATIENTS SWITCHING TO DTG THAN IN EFV-BASED PATIENTS AT 18-MONTHS FOLLOW-UP

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BACKGROUND: Weight gain is associated with dolutegravir (DTG) use. At 6 (6m) and 12 months (12m) follow-up we found underweight and normal body-mass-index (BMI) patients gained weight in Nigerian adult patients switching to DTG. Here we extended our analysis to 18 months (18m) and compared findings to patients receiving efavirenz-based ART.

METHODS: We included NNRTI-intolerant patients that switched to TDF/3TC/DTG (TLD) starting July 2017, and 18m follow-up was completed by July 2019. Records were extracted for TDF/3TC/EFV (TLE) patients, with a minimum of 6 months of ART experience, at the same facilities and time window.

We analyzed weight and BMI changes at 6m, 12m, and 18m using generalized estimating equations adjusted for facility clustering using SAS9.4.

RESULTS: 271 patients were enrolled in the original DTG study. 206 were ART-experienced with a baseline and at least one other weight data point. 187(69%) had baseline and 18m weights. 63% were female, median age was 47. 95% were virally suppressed at switch (n=168), the mean weight was 62kg and 61% had normal baseline BMI. In the TLE arm, 380 patients had baseline and at least one other weight data point. 72% were female, median age 42 and mean baseline weight 63kgs.

Absolute weight gains were found at 18m in both TLD and TLE patients: 3.9kg (p<0.01) and 2.1kg (p<0.01), respectively, with a significant difference of 1.8kg between arms(p=0.02).

Additionally, there was an increase in percentage weight gain in both arms: TLD-3%(6m), 5%(12m), and 7%(18m) (p<0.01 for all) TLE-2%(6m), 3%(12m), and 4%(18m) (p<0.01 for all). The percentage difference between arms was significant at 6m(1.6%, p=0.01) and 18m(3%, p<0.01). Isolating normal baseline BMI, there was a difference across arms in absolute weight gain at 18m only(p=0.03). No significant difference was found for overweight and obese BMI(p>0.4 for all).

CONCLUSIONS: We found weight gain in both the TLD and TLE patients at 18m, however the weight gain was greater in the TLD group signifying that discussions of healthy lifestyle is important for all patients. We did not find TLD-associated weight gain among overweight and obese patients, suggesting that withholding TLD from this cohort requires further research and may be unnecessary.

PEB0203

EFFECT OF DOLUTEGRAVIR ON WEIGHT IN PERSONS LIVING WITH HIV IN HAITI

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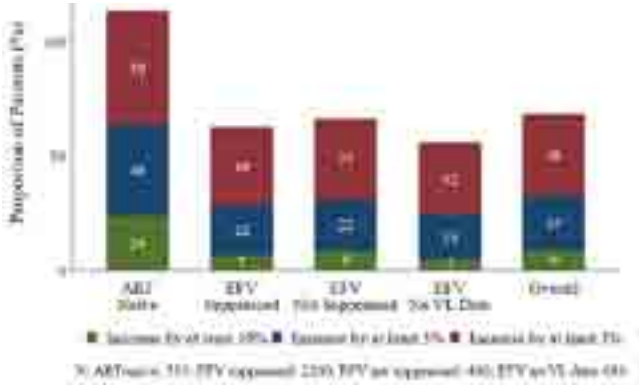
BACKGROUND: Dolutegravir (DTG) is being rapidly scaled-up due to its high potency, low cost, and favorable tolerability. However, recent studies have reported associated weight gain. We studied this relationship in a real-world setting among persons living with HIV in Haiti.

METHODS: Between November 2018 and September 2019, 3954 patients started DTG (ART-naïve or switching from efavirenz [EFV]-based regimen) and had ≥3 months follow-up with ≥2 weight measurements at GHESKIO, the largest HIV-services provider in the Caribbean. We analyzed weight change (from -30/+15 days of DTG initiation to latest measurement) and potential predictors.

RESULTS: 515 patients (13%) were ART-naïve, 2260 (57%) switched from EFV with HIV-1 RNA (VL) <200 copies/mL, 496 (13%) with VL ≥200 copies/mL, and 683 (17%) without VL data at switch. 2060 (52%) were female; median baseline age was 45 (IQR: 35–53).

Median time on DTG was 6 months (IQR: 4–8). Median weight gain was 1.0 kg (IQR: -1.0–3.0) overall; 1.8 kg (IQR: -1.0–5.0) among ART-naïve patients; and 0.9 kg (IQR: -1.0–3.0), 0.3 kg (IQR: -2.0–2.7), and 0.8 kg (IQR: -1.0–2.5), among patients switching from EFV (suppressed, not suppressed, and without VL data, respectively).



[Figure. Proportion of weight gain by ART category at start of Dolutegravir]

Factors positively associated with ≥10% weight gain were, among ART-naïve patients, lower weight (OR: 2.54; 95% CI: 1.67–3.87), ages 30–50 (OR: 1.95; 95% CI: 1.09–3.48), and time on DTG (OR: 1.12; 95% CI: 1.02–1.23); and among EFV patients, lower weight (OR: 2.06; 95% CI: 1.51–2.81), female sex (OR: 2.06; 95% CI: 1.50–2.82), and time on DTG (OR: 1.25; 95% CI: 1.16–1.34), with viral suppression negatively associated (OR: 0.68; 95% CI: 0.48–0.98).

CONCLUSIONS: One-tenth of patients starting DTG in Haiti gained ≥10% weight. Gains were greater among ART-naïve patients than those switching treatments (see Figure) and among low-weight and not-suppressed patients, supporting a return-to-health.

HEPATIC COMPLICATIONS (E.G., NASH)

PEB0204

DIABETES MELLITUS IS ASSOCIATED WITH INCIDENT LIVER CIRRHOSIS IN PEOPLE LIVING WITH HIV IN THAILAND: A PROSPECTIVE COHORT ANALYSIS

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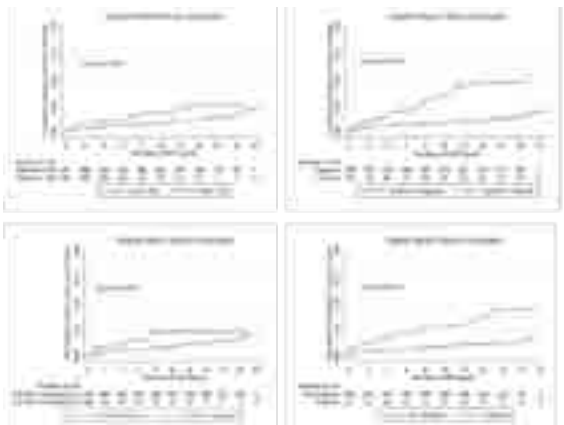
BACKGROUND: Liver disease has emerged as a common non-AIDS related mortality among people living with HIV(PLHIV). We determined the incidence of liver cirrhosis and its associated risk factors among PLHIV on long-term combination antiretroviral therapy(cART) in Thailand from 1996-2019.

METHODS: Patients were included if they had a pre-treatment ALT, AST and platelet count measurement at cART initiation and at least one additional ALT, AST and platelet count available during the follow-up. Liver cirrhosis was defined as having APRI score >1.5 or FIB4 score >3.25 or liver stiffness measurement by transient elastography>12.5 kPa or a clinical diagnosis of cirrhosis. HBV and HCV co-infections were defined by positive HBsAg and positive anti-HCV. Factors associated with incident liver cirrhosis were analysed using Cox regression models.

RESULTS: Among 1,069 PLHIV (67%males) included, 124(12%) developed liver cirrhosis over a median of 7.1(3.9-13.3) follow-up years (incidence,1.5 per 100 person-years [PYS] during 8,225 PYS). The median age and median CD4 count at cART initiation were 32 years and 240 cells/uL, respectively. Prevalence of HBV and HCV-coinfection were 16% and 9%. During follow-up, 5.2% and 23% developed diabetes mellitus and lipodystrophy. Figure 1 shows the probability of liver cirrhosis.



[Figure 1. Cumulative incidence of liver cirrhosis stratified by CD4 count, anti-HCV status, HIV-RNA and diabetes mellitus]

Factors independently associated with liver cirrhosis (adjust hazard ratio [aHR] (95% CI)) were: HCV co-infection (4.7, 2.9-7.63, p<0.001), current HIV-RNA ≥50 copies/mL (2.21 (1.15-4.23), p=0.02; vs. <50 copies/mL), lipodystrophy (2.7 (1.41-5.17), p=0.003), HDL-cholesterol ≤40mg/mL (2.25 (1.39-3.65), p=0.001; vs. >40mg/dL) and diabetes mellitus (2.98 (1.56-5.7), p<0.001) were independently associated with incident liver cirrhosis in multivariate Cox model. Mortality among cirrhosis (5.7%) and non cirrhosis (3.8%) was comparable but ASCVD score was higher among cirrhosis (4.9 vs 2.4, p<0.001).

CONCLUSIONS: Liver cirrhosis contributes an important comorbidity in PLHIV from an Asian setting. Screening and management of co-infections and non-AIDS comorbidities such as metabolic diseases are important to reduce burden of liver diseases among PLHIV.

PEB0205

RACE AND GENDER AS PREDICTORS OF LIVER STEATOSIS IN PEOPLE LIVING WITH HIV IN THE MIAMI ADULT STUDIES ON HIV (MASH) COHORT

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BACKGROUND: Several studies have previously reported an increased risk of liver steatosis and metabolic complications in people living with HIV (PLWH). However, the role of race and gender in the development of steatosis is still not completely understood. The objective of this study was to investigate the relationship between race, gender, and liver steatosis in an HIV mono-infected population.

METHODS: Two hundred and eleven HIV mono-infected individuals were included in the current study. Liver fat percentage was calculated from magnetic resonance elastography (MRE) and blood draw procedures were completed after an overnight fast. Liver steatosis was defined as >3.5% liver fat. Insulin resistance was measured via the Triglyceride-Glucose Index (TyG). Statistical analysis included Pearson Chi-square, student t-test, and multiple logistic regression.

RESULTS: The sample was comprised of 49 White, 146 Black, and 16 unspecified participants, with 92 women and 119 men were analyzed. The prevalence of steatosis by race was 49% in White participants, 24.7% for Black participants, and 25% among unspecified participants. The prevalence of steatosis in Women was 28.3% and 31.9% in Men. White participants had a mean triglyceride level of 167.79 ± 83.90 compared to 121.52 ± 92.53 (P=0.002) in Black participants despite no difference in BMI, total energy, protein, carbohydrate, or fat intake (all P-values > 0.250). Triglyceride levels were not different between Men and Women (P=0.116). Univariate analysis showed White participants had an increased risk of liver steatosis compared to Black participants (OR=2.93 (1.49-5.76), P=0.001), but no difference between men and women (P=0.581). Multivariate logistic analysis resulted in White participants still being at a greater risk of liver steatosis (OR=2.61 (1.21-5.65), P=0.015), additionally BMI (P=0.012) and TyG Index (P<0.001) were also independently associated with higher risk of liver steatosis. Gender was not significantly associated with steatosis (P=0.718).

CONCLUSIONS: White participants had higher fasting triglyceride levels and were 2.61 times more likely to have liver steatosis than Black participants but there was no difference by gender. The latter

finding contradicts previous studies warranting further investigations into lifestyle and genetic factors that may help explain the role of race and gender in the development of liver steatosis.

PEB0206

ASSOCIATIONS BETWEEN DIET QUALITY, THE INTESTINAL MICROBIOME, AND LIVER FIBROSIS IN PEOPLE LIVING WITH HIV (PLWH) IN THE MASH COHORT

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BACKGROUND: Liver disease is a common comorbidity and a leading cause of mortality in PLWH. PLWH have also been shown to have poor diet quality and measurable differences in intestinal microbiome composition. This study's objective was to investigate the interrelationships between diet quality, intestinal microbiome composition, and liver fibrosis in PLWH.

METHODS: A cross-sectional prospective pilot study of 50 HIV+ adults on antiretroviral therapy was completed which enrolled participants from the Miami Adult Studies on HIV (MASH) cohort based in Miami, FL. Demographic data, HIV viral load, CD4 cell count, aspartate aminotransferase, alanine aminotransferase, and 24-hour recalls were obtained from the MASH cohort study. Diet quality was measured using the USDA Healthy Eating Index-2015 (HEI). Microbiome composition was measured via 16S rRNA gene sequencing obtained from fecal samples. Liver fibrosis was measured using the Fibrosis-4 Index (FIB-4). Participants were divided into two groups based on FIB-4<1.45 and FIB-4 ≥1.45. T-tests, chi-square, one sample t-test, spearman correlation, and partial least squares discriminant analysis (PLS-DA) were conducted.

RESULTS: The mean age was 55±6.81 years, 58% were male, 68% were Non-Hispanic African American, and 68% had an annual income of <$12,500. Mean CD4 cell count was significantly lower in the FIB-4 ≥1.45 group (P=0.007). The mean total HEI score for the sample was 45.67±11.54, which was significantly lower than the mean total HEI score of the US population (P<0.0001). Dairy consumption (P=0.0057) and dairy HEI score (P=0.0364) were significantly higher in the FIB-4 <1.45 group. Intestinal microbiome features that separated the FIB-4 ≥1.45 group from the FIB-4 <1.45 group using PLS-DA included the bacterial genus *Haemophilus*, associated with respiratory diseases and the oral microbiome.

CONCLUSIONS: Dairy consumption has been associated with oral health and shown to have a hepatoprotective effect. Additionally, poor oral health is related to liver disease progression. A higher abundance of *Haemophilus* within the higher FIB-4 score group was found, and this finding has also been demonstrated in other liver disease-related studies. These findings may suggest mechanisms of actions and potential for interventions in PLWH.

PEB0207

IS NAFLD THE SAME DISEASE IN HIV INFECTED PATIENTS?

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BACKGROUND: Non-Alcoholic Fatty Liver Disease (NAFLD) is a growing comorbidity in HIV-infected population, in association with the obesity pandemic. We aimed to determine the prevalence and epidemiology of NAFLD in HIV patients and to compare it with non-infected NAFLD patients.

METHODS: HIV patients without known liver disease followed at an Infectious Disease outpatient clinic in a tertiary university hospital were included. Clinical and anthropometric data were collected. Patients with opportunistic diseases, hospital admission in the previous 3 months and on hepatotoxic drugs were excluded. HIV patients were screened for NAFLD and HIV-NAFLD patients were compared with non-HIV NAFLD patients from the Hepatology Outpatient Clinic.

RESULTS: 157 patients were referred; 32 declined participation and 13 patients were excluded due to identification of hepatitis C infection and/or excessive alcohol intake; 83 patients were included in this analysis, mostly Caucasian (72%;n=60), males (65%;n=54), with mean age 53±12years (24-90years), TCD4+≥ 500cel/mm3 (78%;n=65), all with undetectable viral load. 68 patients had BMI≥25kg/m2. Less than 20% of patients presented abnormal liver enzymes, but 53% had NAFLD (n=44). The prevalence of abnormal aminotransferases was similar in HIV patients regardless of the presence of NAFLD. Using a fibroscan device, mean controlled attenuation parameter (CAP) was 282±44; Elastography showed F2-F3 fibrosis in 23% (n=10) and F4 in 9%(n=4). FIB4 could not predict liver cirrhosis and elastography did not correlate with steatosis severity. HIV-NAFLD presented higher BMI vs. HIV non-NAFLD (27.5±4.2 vs. 25.1±4.4kg/m2;p=0.031). Compared to 67 non-HIV NAFLD patients, gender and age were similar, but HIV-NAFLD patients were leaner (BMI 27.5±4.2 vs. 31.3±5.6kg/m2;p<0.001) and presented lower AST levels (24±9 vs. 45±29IU/L;p<0.001), ALT (30±19 vs. 63±46IU/L;p<0.001) and GGT (62±35 vs. 101±75IU/L;p<0.001). HIV-NAFLD patients more frequently presented advanced fibrosis compared to non-HIV NAFLD patients (32 vs. 9%;p<0.001).

CONCLUSIONS: The preliminary results of this ongoing study suggest that NAFLD is highly frequent in compensated HIV patients, and present more frequently with advanced fibrosis as compared to non-HIV NAFLD patients, despite lower BMI and lower liver enzymes. In fact, non-invasive scores did not seem to accurately discriminate advanced fibrosis in HIV-NAFLD patients.

MENTAL HEALTH AND HIV

PEB0208

HIV AND SERIOUS MENTAL ILLNESS

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BACKGROUND: HIV has been associated with poorer outcomes in patients with psychosis. We aimed to describe the mental health profile of HIV infected adults presenting with first episode psychosis (FEP) in a high HIV prevalence setting in South Africa.

METHODS: We recruited adult patients (18-45 years) presenting with FEP to five psychiatric units in the eThekwini Municipality, KwaZulu-Natal Province. We used the Positive And Negative Symptoms Scale to assess the severity of psychotic symptoms, the WHO Quality of Life (WHOQOL)-BREF to measure quality of life and the Alcohol, Smoking and Substance Involvement Screening test (WHO ASSIST) for substance use. Sociodemographic and trauma exposure information was collected

RESULTS: Sixty-six participants were recruited mean age 26 years (SD 8, IQR 19-33), 65% (n=43) were male. Mean age at presentation was 24 and 30 years for males and females respectively, with males being significantly younger than females (p=0.002).

HIV prevalence was 26% (n=17). After controlling for age, males were 6.6 times more likely to be HIV infected than females, p=0.0001 and increasing age was associated with an increased likelihood of being HIV positive.

HIV infected patients reported poor physical and psychological quality of life compared with those not infected (p=0.01)

There was no significant difference between the severity of psychotic symptoms between HIV infected and uninfected participants (p=0.4).

Eighty percent (n= 53) reported lifetime traumatic events and there was no difference between trauma exposure by gender and HIV status, p= 0.7 and p=0.3 respectively.

Lifetime use of tobacco, alcohol and cannabis was reported at 58%, 46%, and 31% respectively. All tobacco and cannabis users were assessed to need intervention while 63% of alcohol users were found to be in need to intervention for use.

CONCLUSIONS: The study shows that in an already marginalised group of people with serious mental illness, HIV infection is associated with with an additional burden of a lower quality of life. The study also bring to attention an important subgroup with increased vulnerability to HIV, that of males with serious mental illness. For the elimination of HIV by 2030 to be achieved, focused interventions targeting high-risk groups in society need to be developed.

PEB0209

SUICIDAL THOUGHTS AND ATTEMPTS AMONG HIV-POSITIVE TRANS WOMEN IN TRANSAMIGAS STUDY, SÃO PAULO, BRAZIL

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BACKGROUND: Transgender women living with HIV face a complex set of psychosocial challenges in access to and adherence to HIV care, including stigma and discrimination. In general, trans people have higher rates of emotional health challenges related to experienced stigma, such as depression, resulting in increased levels of self-injury behaviour and suicidality (suicidal thoughts, suicide attempts and suicide rates) compared to the cisgender population. This analysis aims to investigate the prevalence of suicidal thoughts and attempts, and associated factors among HIV-positive trans women in the TransAmigas study in São Paulo, Brazil.

METHODS: TransAmigas was a 9-month randomized peer-navigation intervention based on the Gender Affirmation Model, specifically developed for the trans population. Between May and December 2018, interviewer-administered questionnaires were applied to 113 HIV positive, 18+ transgender women at study enrollment. Bivariate and multivariate Poisson regression models were employed to analyze lifetime suicidal attempt association with transphobic violence experiences, emotional health, substance use and sociodemographic variables, such as unstable housing, that is defined as living on the street, in a shelter or at work.

RESULTS: The majority of participants reported previous suicidal thoughts 69 (61.1%), 45 (39.8%) reported previous attempted suicide, and 13 (11.5%) attempted suicide in the previous 12 months. In a multivariate model adjusted for age, ethnicity, education and income, having suffered transphobic sexual violence (aPR 1.75; CI95% 1.09 - 2.80) and unstable housing (aPR 2.09; CI95% 1.29 - 3.36) were associated with having attempted suicide at least once in a participant's lifetime. Self-evaluation of emotional health and illicit substance use were not significantly associated with suicidality.

CONCLUSIONS: Suicidality is a critical health concern among transgender people and investigating risk factors of suicide among HIV-positive transgender women may inform the development of preventative interventions. The association between suicidality and experience or anticipation of violence or discrimination suggests the preponderance of social and structural factors in the health of this population. These results reinforce the importance of understanding the life trajectories of the populations we serve and addressing these in work to facilitate access to care.

PEB0210

DEPRESSION AND ASSOCIATED FACTORS AMONG ART PATIENTS IN UKRAINE

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BACKGROUND: Mental health disorders among PLHIV have an immense detrimental impact on initiation of and adherence to ART and progression to AIDS, leading to poorer health outcomes and mortality. Until very recently, this issue has been neglected by HIV service providers in Ukraine globally, representing a lost opportunity for more efficient HIV response. In this study we assessed prevalence of depression and its association with other health outcomes.

METHODS: This study is a secondary analysis of data from a survey of ART patients at 23 largest HIV clinics in 11 priority regions of Ukraine. A random sample was recruited at each facility to measure adherence, physical and mental health, side effects and treatment satisfaction. CES-D scale was used to assess depression. Clinical data were extracted from an electronic medical record system.

RESULTS: Of the 473 surveyed patients, 44.8% were males, average age was 40.5 years. Moderate or severe depression (CES-D score >=10) was detected in 93 (19.7%) patients. There was significant correlation of the depression score with recent injecting drug use (Pearson's r=0.178, p<0.001), lifetime history of injecting drug use (r=0.194, p<0.001), age (r=0.146, p=0.001), SF-12 physical health score (r=-0.512, p<0.001), treatment satisfaction score (r=-0.337, p<0.001), number of side effects (r=0.540, p<0.001), more recent missed doses (r=0.174, p<0.001), HCV diagnosis (r=0.185, p=0.016), TB (r=0.142, p=0.026), higher CD4 count (r=-0.134, p=0.008). Prevalence of moderate or severe depression was higher among those who experienced ART dropout (55.6% compared to 20.1%, p=0.01). There was no significant association with gender, clinical stage at diagnosis, alcohol intake, and viral suppression.

CONCLUSIONS: The study found a substantial level of depression among ART patients in Ukraine. Our findings confirmed the adverse impact of depression on HIV treatment adherence and outcomes, and the contribution of co-morbidities (such as HCV, TB, drug use) to the burden of mental illness. Integration of mental health services in HIV clinics should become a priority for programs aiming to achieve high level of adherence and the third "90" of the UNAIDS targets.

AGEING WITH HIV (INCLUDING POLYPHARMACY AND FRAILTY)

PEB0211

EVALUATION OF THE IMPLEMENTATION OF A COMPREHENSIVE HIV AND AGING PROGRAM IN A LARGE URBAN HIV CLINIC: THE GOLDEN COMPASS PROGRAM

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BACKGROUND: Older adults living with HIV face an increased risk of comorbid and geriatric conditions as well as unique psychosocial issues. We present findings from the initial evaluation of an innovative care model for older people living with HIV (PLHIV), called the Golden Compass Program, at the Ward 86 HIV Clinic at San Francisco General Hospital.

METHODS: Golden Compass, a comprehensive HIV and aging program- which includes co-located cardiology and geriatrics clinics, pharmacy support, exercise and brain health classes, and support groups- was initiated in January 2017 at Ward 86 to address the needs of PLHIV aged ≥50 years. The implementation science framework RE-AIM (*Reach, Effectiveness, Adoption, Implementation, and Maintenance*) was used to guide the evaluation of the program after the first 1.5 years.

RESULTS: From 1/2017-6/2018, 200 adults aged ≥50 years participated in 1 or more components of Golden Compass, corresponding to an estimated *reach* of approximately 20% of eligible patients at Ward 86. Providers, staff, and patients indicated high acceptability of the program; patients and providers were satisfied with both clinics and classes. Co-location of services and specific pharmacy and geriatric assessments, such as those for mobility, were especially valued in both groups. Among patients, connections gained through participation in classes was important (*effectiveness*). Overall *adoption* by providers was high and the program has been *implemented* and *maintained* largely as originally designed. Areas for improvement included outreach to older women and challenges of framing aging services to patients without accompanying stigma.

CONCLUSIONS: The Golden Compass program at Ward 86 is one of the first HIV and aging programs in the U.S. and evaluation of its success via implementation science methodology showed moder-

ate reach, but high effectiveness, adoption, implementation and maintenance. Next steps for Golden Compass include expanding the reach of the program, examining longer-term outcomes, and replicating its model in other settings.

PEB0212

LONG TERM IMPACT OF ABACAVIR AND TENOFOVIR (TDF OR TAF) ON BLOOD TELOMERE LENGTH

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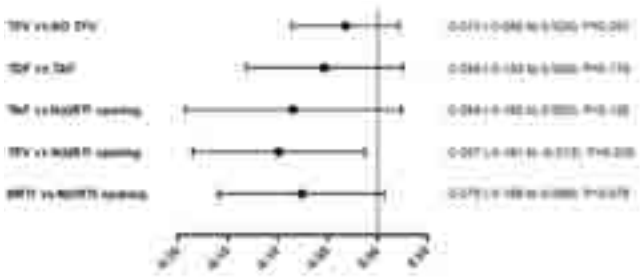
BACKGROUND: Tenofovir (TFV) disoproxil fumarate (TDF) or abacavir (ABC) produced smaller gains in blood telomere length (TL) after 2 years of follow-up in our cohort of aviremic HIV-infected adults. We now report the impact of ABC and TDF or tenofovir alafenamide (TAF) in blood TL after 4 years of follow-up.

METHODS: Prospective cohort of aviremic HIV+ participants. We compared blood TL (qPCR) in participants receiving nucleoside reverse transcriptase inhibitors (NRTI), TFV (TDF or TAF) or nucleos(t)ide reverse transcriptase inhibitors (NtRTI)-sparing regimens throughout the 4 years of follow-up. Variables independently associated with TL were evaluated using a backward stepwise procedure. We assessed differences by treatment group adjusting by potential confounders.

RESULTS: 132 participants. Male: 76,5%, Caucasian: 92%, at year 4 of follow-up mean age: 53.3 years, mean duration of known HIV infection: 21 years, mean CD4, CD8 and CD4/CD8: 727, 677 cells/μL and 1.2, median blood TL(IQR): 0.95(0.845, 1.07), NtRTI use: TFV 50 (TDF 23, TDF switched to TAF 27), NRTI 61(ABC 59, AZT 2) and NtRTI-sparing 21 (boosted protease inhibitors [bPI] monotherapy 14, bPI+lamivudine 3, others 4). Crude association between independent factors and longer blood TL at 4 years: younger age (p=0.001), female (p<0.001), shorter time since HIV diagnosis (p=0.003), higher CD4/CD8 (p=0.03), lower %CD8 (p=0.009), higher CD4 (p=0.052). Adjusted associations with longer blood TL at 4 years: younger age (p=0.021), female (p=0.002), shorter time since HIV diagnosis (p=0.003) and lower %CD8 (p=0.054). An estimative analysis of the impact of type of ART on blood TL adjusted by age, sex, %CD8, %CD4 and time since HIV diagnosis, showed that, compared to participants receiving NtRTI-sparing regimens, participants receiving TFV (-0.097, p=0.025) or NRTI (-0.075, p=0.076) had shorter blood TL.



[Figure. Mean difference in telomere length after 4 years by treatment group]

CONCLUSIONS: After 4 years of follow-up, longer blood TL was associated with younger age, female sex, shorter duration of HIV infection and treatment with NtRTI-sparing regimens.

PEB0213

AGING WITH HIV: USING TREATMENT CASCADES TO IDENTIFY GAPS IN THE PROVISION OF CARE TO PEOPLE LIVING WITH HIV (PLWH)

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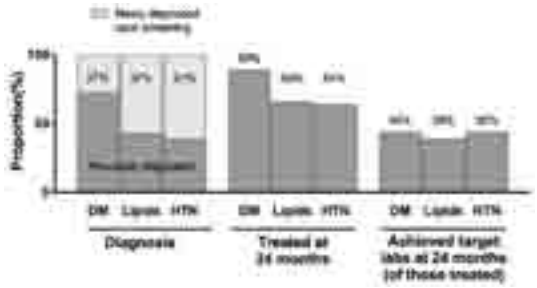
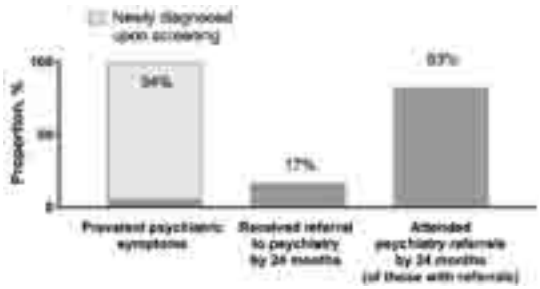
BACKGROUND: The rapidly growing epidemic of non-communicable diseases (NCDs) including mental health among aging PLWH has put a significant strain on the provision of health services in many HIV clinics. We constructed care cascades for specific NCDs and mental health among PLWH attending our centre to identify potential areas for programmatic improvement.

METHODS: This was a follow-up study of participants recruited in the Malaysian HIV & Aging study (2014-2016) at the University Malaya Medical Centre (n=336). Participants on suppressive antiretroviral therapy for a minimum of 12 months were invited to participate. At study entry, all participants underwent screening for diabetes (DM), hypertension (HTN) and dyslipidemia; and completed assessments using the depression, anxiety and stress scale (DASS-21). Screening results were recorded in medical charts and clinical management provided as per standard of care. A subsequent review of medical records was performed at 24 months following study completion among participants who remained on active follow-up. Treatment pathways for NCD treatment (drug or lifestyle modification) and psychiatric referrals were assessed based on local practice guidelines to construct the care cascade.

RESULTS: 333 participants (83% male; median age=47 years) completed follow-up at 24 months and 329 had complete laboratory/pharmacy records for NCD management. The prevalence of diabetes was 13%, dyslipidemia 88% and hypertension 44% while 45% presented with moderate-extremely severe symptoms of depression, anxiety and/or stress requiring psychiatric referrals. Treatment cascades were as follows;



[Figure. Treatment cascade for non-communicable diseases (NCDs)]



[Figure. Treatment cascade for symptoms of depression, anxiety and stress]

CONCLUSIONS: Systematic screening must be introduced to identify NCDs, particularly mental health, followed by proper linkage and referrals for management of screen positive cases.

PEB0214

PREVALENCE AND SEVERITY OF NEUROCOGNITIVE DYSFUNCTION IN AGE, SEX AND DEMOGRAPHICALLY MATCHED PEOPLE WITH HIV AND COMMUNITY DWELLING HIV-UNINFECTED UGANDAN SENIORS

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BACKGROUND: In the era of effective antiretrovirals, the burden of neurocognitive dysfunction (ND) among older people living with HIV (PLWH) in Africa-the region with the highest HIV burden remains understudied.

METHODS: PLWH in Uganda 50+ years (n=112) were enrolled from a tertiary health center and matched to HIV-uninfected community controls (n=107) by age (± 5 years), sex and village of residence. Eight neuropsychological tests were internally standardized by age and sex to performance by community controls and used to define proficiency in motor control, gross motor speed, executive function, processing speed, simple attention, concentration/working memory, and learning. Instrumental activities of daily living (ADL) were measured using the Waisman ADL Scale. Multi-domain neurocognitive impairment and ADL z-scores <-1.5 were used to define ND severity (not cognitively impaired, asymptomatic neurocognitive impairment (ANI) and minor/major ND) per Frascatti criteria. Multinomial logistic regression models estimated HIV-serostatus differences on ND severity after adjusting for a number of non-HIV comorbid diseases, educational status (≥advanced level, some/completed ordinary level vs. ≤primary) and above vs. ≤average score on the Hope Scale using Statistical Analysis Software (v.9.4).

RESULTS: ANI and major/minor ND were present in 12.5% (n=14) and 41.1% (n=46) respectively among older PLWH. Among HIV-uninfected controls, ANI and major/minor ND were present in 7.5% (n=8) and 22.4% (n=24), respectively. Compared to HIV-uninfected individuals, older PLWH were at a higher odds of ND severity (OR = 2.97, 95% CI: 1.67, 5.29). Increasing number of non-HIV comorbid conditions(OR=1.34, 95% CI: 1.00, 1.79) was positively associated with ND severity. Regardless of HIV-serostatus and comorbidity, higher education (some/completed ordinary level vs. ≤primary education (OR=0.48, 95% CI: 0.24, 0.92) and above vs. ≤average self-reported hope score were both associated with lower ND odds (OR=0.44, 95% CI: 0.25, 0.78).

CONCLUSIONS: Despite treatment, older PLWH experience higher rates and greater severity of ND relative to HIV-uninfected peers. However, higher education and greater self-reported hope were each cognitively sparing regardless of HIV-serostatus. This suggest that multi-modal interventions that enhance knowledge and buttress psychosocial resiliency maybe useful adjunct complements of benefit for reducing ND among older Ugandans regardless of HIV-infection.

PEB0215

COMPARISON OF THE FRAILTY SCORE AND THE POOLED COHORT EQUATIONS IN PREDICTING CARDIOVASCULAR DISEASE AMONG PERSONS WITH HIV

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BACKGROUND: The 2013 Pooled Cohort Equations (PCE) for estimating 10-year atherosclerotic cardiovascular disease (ASCVD) risk has underestimated cardiovascular disease (CVD) events among people with HIV (PWH). Frailty is associated with multiple adverse health consequences and was associated with incident CVD in our cohort. We evaluate whether the addition of frailty modifies PCE's ability to estimate CVD risk among aging PWH.

METHODS: Participants in the AIDS Clinical Trials Group (ACTG) A5322 who had baseline PCE and frailty data were included. Frailty score was measured on a 0-5 scale, with frailty defined as ≥3 components of weight loss, fatigue, low activity, weakness, and slowness. The primary outcome was incident CVD (acute coronary syndrome, unstable angina, peripheral arterial disease, cerebrovascular accident, need for invasive coronary intervention). Inverse probability-weighted logistic regression models for incident CVD were fit with (a) PCE alone and (b) PCE and frailty scores together; the area under the curve (AUC) for both models were compared to assess how the addition of frailty modified the predictive ability of PCE.

RESULTS: The analysis included 999 A5322 participants (age ≥40 years at enrollment): 48 experienced incident CVD during the study period, and 71 were censored due to lack of follow-up data. Baseline 10-year ASCVD risk scores, frailty status and frailty scores are presented in Table 1. The AUC=0.738 for the PCE-only model. With frailty score added, the AUC was unchanged (0.733). In the model including both PCE and frailty score, both variables predicted CVD risk (PCE: odds ratio [OR]=1.08, 95% confidence interval [CI]=1.05-1.10, p=<0.001; frailty score: OR=1.28, 95% CI=0.99-1.65, p=0.06).

	Total (N=999)	Persons with incident CVD (N=48)	Persons without incident CVD (N=880)	Censored (N=71)
10-year ASCVD risk score, median (Q1, Q3)	4.9% (2.6%, 9.9%)	12.0% (5.0%, 25.7%)	4.8% (2.4%, 9.1%)	5.2% (3.1%, 10.1%)
Frailty status, N (%) frail	61 (6%)	6 (13%)	55 (6%)	0 (0%)
Frailty score, median (Q1, Q3)	0 (0, 1)	1 (0, 2)	0 (0, 1)	0 (0, 1)

ASCVD = atherosclerotic cardiovascular disease; CVD = cardiovascular disease
Covariates included in the PCE (assessed at entry) include: age, sex, race/ethnicity, body mass index, smoking status, diabetes history, hypertensive medication use, fasting total cholesterol, fasting high-density lipoprotein, fasting low-density lipoprotein, systolic blood pressure, and diastolic blood pressure.

[Table 1: Baseline 10-year ASCVD score, frailty status, and frailty score]

CONCLUSIONS: Addition of frailty did not modify the predictive ability of PCE. PCE independently predicts future CVD risk in this cohort of older PWH, as does frailty score, though marginally. While no CVD risk estimator has yet been validated among PWH, for aging PWH with marginal CVD risk, incorporation of the frailty score into clinical practice may provide additional or adjunctive CVD risk estimation.

PEB0216

OLDER ADULTS WITH HIV ARE NOT ALL THE SAME. DATA FROM THE HIV-FUNCFRAIL COHORT

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BACKGROUND: More than 50% of the people with HIV are older than fifty years. Data about this population are still scarce and mainly focused on comorbidity instead of physical function, frailty and quality of life. HIV-FUNCFRAIL Cohort is one of the four European Cohorts of older HIV adults, launched in 2018. Our main objective in this work was to know the characteristics of older adults with HIV in terms of comorbidity, polypharmacy, frailty, physical function and other geriatric syndromes.

METHODS: Longitudinal prospective cohort study. Patients from the "HIV-FUNCFRAIL: Multicenter spanish cohort to study frailty and physical function in older adults with HIV" were included. Eleven centers participated. We recorded sociodemographic data, comorbidities and variables related to HIV infection. All the patients underwent a Comprehensive Geriatric Assessment (CGA): frailty (frailty phenotype, physical function (FAC, Barthel index, SPPB, gait speed, falls), cognitive (MOCA test), mood (GDS-SF), social status and quality of life were measured.

RESULTS: 563 patients were included. Median age was 56.2 (53.7–60.6). 25.8% were women. At baseline median CD4 count was 672.5 (473.5 – 904.5). Viral load was undetectable in 91.2%. 30% of the patients had > 4 comorbidities and 21.8% had polypharmacy. Results of the CGA are shown in Table 1.

	N=563
FAC 5 (%). Able to walk independently	97.5
Barthel Index 100 (%).	97
Falls in the las year (%)	16.6
Short Physical Performance Battery < 9 (%)	17.7
Frailty (%)	
Frail	5.8
Prefrail	51.5
Robust	42.6
Gait speed < 0.8m/sg	5.4
VACS. 5 year risk of mortality (Median IQR)	7.8 (5.8-11.3)
MOCA score < 20 (%)	12.6
SF-GDS Geriatric Depression Scale >9 (%)	11.7
Not satisfied with his/her life %	27.7
Pain (%)	40
Living alone (%)	35.5
No social contacts (%)	27.7
No social support (%)	31.3

[Table 1.]

In the multivariate analysis frailty was associated with: year of HIV diagnosis <1996 (OR 0.26; 0.10-0.65); polypharmacy (OR 6.42; 2.73-15.09); MOCA score <20 (OR 3.05; 1.23-7.57) and SF-GDS score >9 (OR 7.34; 2.88-18.73).

CONCLUSIONS: Older adults with HIV are a heterogeneous group with many differences regarding physical, cognitive and social status, frailty and quality of life. It is important to detect those who are more vulnerable to design specific approaches.

OTHER ART COMPLICATIONS AND ADVERSE REACTIONS

PEB0217

TO DOSE-ADJUST OR NOT TO DOSE-ADJUST: 3TC DOSE IN RENAL IMPAIRMENT

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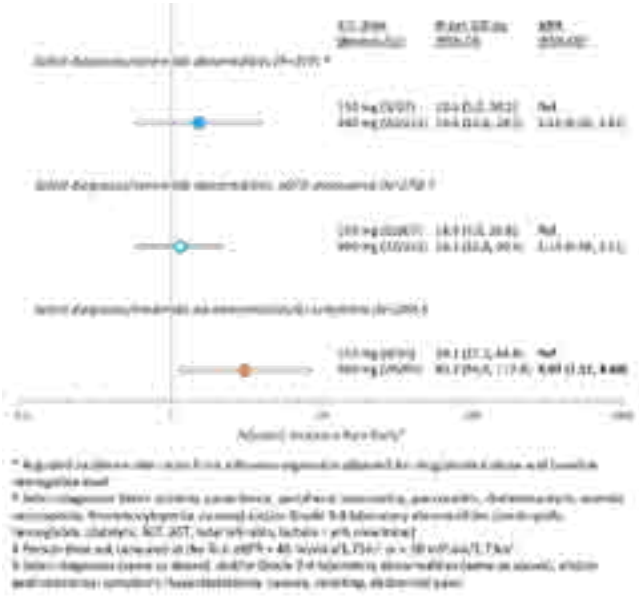
BACKGROUND: Current guidelines suggest 3TC dose adjustment for people living with HIV (PLWH) with decreased renal function, which may prevent fixed-dose combination use. We assessed the risks associated with the full (300mg) vs adjusted 3TC dose (150mg) in PLWH with decreased estimated glomerular filtration rate (eGFR).

METHODS: PLWH initiating 3TC for the first time with an eGFR ≥30 and ≤49 ml/min/1.73m^2 were identified in the OPERA cohort. Person-time was censored at 3TC discontinuation/dose change, loss-to-follow-up, death, 31Mar2019, or first out-of-range eGFR. The association between 3TC dose and incident composite events (Figure) was assessed among PLWH without prevalent events with Poisson regression adjusted for drug/alcohol abuse and hemoglobin. In a sensitivity analysis, person-time was not censored at first out-of-range eGFR.

RESULTS: PLWH on 150mg 3TC were sicker than those on 300mg (Table). There was no statistically significant difference in select diagnoses/severe lab abnormalities with 300mg 3TC vs 150mg 3TC (main analysis aIRR: 1.51; 95% CI: 0.59, 3.92; sensitivity analysis aIRR: 1.14, 95% CI: 0.59, 2.21) [Figure]. However, a statistically significantly higher rate of select diagnoses/moderate lab abnormalities/gastrointestinal symptoms was observed with 300mg vs 150mg 3TC (aIRR: 3.07, 95% CI: 1.12, 8.40) [Figure].

	3TC Daily Dose: 150 mg, n=103	3TC Daily Dose: 300 mg, n=436
Age, median (IQR)	54 (48, 61)	54 (47, 60)
Female, n (%)	40 (39)	119 (27)
Black, n (%)	67 (65)	202 (46)
Log10 Viral load, median (IQR)	2.1 (1.3, 4.5)	1.7 (1.3, 2.9)
eGFR, median (IQR)	39.9 (36.4, 45.5)	43.3 (38.4, 46.5)
Drug/alcohol abuse, n (%)	28 (27)	79 (18)
Low hemoglobin (female: <8.5g/dL; male: <9g/dL)	17 (17)	28 (6)
Prevalent Composite Unintended Events 1 (select diagnoses, Grade 3-4 lab abnormalities)	36 (35)	124 (28)
Prevalent Composite Unintended Events 2 (select diagnoses, Grade 2-4 lab abnormalities, gastrointestinal symptoms)	79 (77)	351 (80)

[Table. Characteristics at ART initiation]



[Figure. Incidence rates and rate ratios for unintended events by 3TC dose]

CONCLUSIONS: Among PLWH with decreased eGFR, there was no statistically significant difference in the risk of select diagnoses/severe lab abnormalities by daily 3TC dose, but an increased risk of GI symptoms/moderate lab abnormalities was detected with the full dose. 3TC dose adjustment may be unnecessary with eGFRs 30-49, although clinical judgement is key in weighing risks and benefits.

PEB0218

RACIAL DISPARITIES IN HOSPITALIZATIONS AMONG PERSONS LIVING WITH HIV (PLWH) IN THE US AND CANADA, 2005-2015

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BACKGROUND: Among PLWH, racial/ethnic differences in antiretroviral use and risk of comorbidities may lead to differences in hospitalization rates. We examined hospitalization rates by race/ethnicity among US and Canadian PLWH.

METHODS: We followed PLWH aged ≥18 years in care between 2005 and 2015 in six NA-ACCORD cohorts. We used modified Clinical Classifications Software to categorize the primary discharge diagnosis of hospitalizations. We calculated crude annual rates and used Poisson regression with GEE to estimate incidence rate ratios (IRR):

(1) examining linear calendar time trends stratified by race/ethnicity, and;

(2) comparing rates between racial/ethnic groups.

Adjusted models included calendar year, gender, HIV risk group, and annually-updated age, CD4, and HIV viral load.

RESULTS: Among 28,057 included patients (125,724 person-years), 32% were Black, 41% White, 16% Hispanic, and 80% cisgender men. One-quarter (n=7503) were hospitalized, contributing 21,230 total hospitalizations. Trends in crude all-cause hospitalization rates were -3% annually (95% CI -5, -2) for White, -5% (-7, -4) for Black, and -5% (-7, -3) for Hispanic patients; in 2015, crude rates were 11.9 (95% CI 10.7-13.3), 16.6 (14.8-18.7), and 11.6 (9.7-13.8) per 100 person-years, respectively. After adjusting, in each racial/ethnic group, rates were stable over time. Compared to Whites, all-cause hospitalization rates were higher for Black (adjusted IRR 1.18, 95% CI 1.07-1.29) but not Hispanic patients (0.97, 0.88-1.07). In cause-specific adjusted analyses (Table), Hispanic and Black patients had higher hospitalization rates than Whites for AIDS-defining illnesses (ADI), and Black patients had higher rates for cardiovascular, renal/genitourinary, and endocrine/metabolic hospitalizations.

Diagnostic Category	Number of hospitalizations (%)	Adjusted IRR (95% CI) Black vs White	Adjusted IRR (95% CI) Hispanic vs White
Non-AIDS-defining infection	5263 (25%)	1.08 (0.96-1.22)	0.94 (0.82-1.09)
Cardiovascular	2134 (10%)	1.43 (1.10-1.85)	0.97 (0.76-1.23)
Liver/gastrointestinal	1817 (9%)	0.94 (0.76-1.16)	1.10 (0.88-1.37)
Psychiatric	1699 (8%)	0.92 (0.72-1.17)	0.81 (0.58-1.14)
Non-AIDS-defining cancer	1411 (7%)	0.85 (0.66-1.08)	0.93 (0.69-1.26)
AIDS-defining illness	1232 (6%)	1.31 (1.02-1.69)	1.41 (1.10-1.82)
Injury	1112 (6%)	1.00 (0.81-1.25)	0.76 (0.60-0.96)
Renal/genitourinary	1076 (5%)	2.49 (1.97-3.15)	1.33 (0.95-1.85)
Endocrine/metabolic (including diabetes)	992 (5%)	1.81 (1.37-2.39)	1.16 (0.82-1.64)

[Table]

CONCLUSIONS: Adjusting for demographics, CD4, and viral load, Black and Hispanic patients had higher hospitalization rates than Whites for ADI, and Black patients had higher hospitalization rates for all-cause and several other causes. Hospitalization disparities might be partly attributable to delayed care-seeking due to socioeconomic factors, or to differences in diabetes, chronic kidney disease, and other chronic diseases.

PEB0219

EVALUATION OF HEALTH-RELATED QUALITY OF LIFE OF PEOPLE LIVING WITH HIV IN TAIWAN

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BACKGROUND: Antiretroviral therapies containing integrase strand transfer inhibitors (INSTIs) have been recommended regimens in Taiwan since 2016, where HIV-positive patients receiving antiretroviral therapy have increased from 73% in 2015 to 90% in 2019, and viral suppression has increased from 87% in 2015 to 94% in 2019. Good health-related quality-of-life has been proposed as the fourth 90 target by UNAIDS. We aimed to investigate the current status of physical and mental symptoms among these virally suppressed patients in Taiwan.

METHODS: A prospective survey was conducted at an outpatient department of a university hospital to include patients with HIV suppression (<200 copies/mL) who were receiving stable antiretroviral therapy. A 20-item self-reported HIV symptom index questionnaire interview was conducted to inquire into the physical and mental symptoms. For each symptom, a five-point scale is used to score responses, as follows: (0) no symptom; (1) has symptom, but does not

bother; (2) has symptom and bothers a little; (3) has symptom and bothers; (4) has symptom and bothers a lot. Medical records were reviewed to collect information on demographic and clinical characteristics.

RESULTS: Of all 340 patients who completed the questionnaire interview, 330 (97.1%) were male, with a median age of 36.8 years (range 19.5-88 years) and 39 (11.5%) aged over 50 years. The median known duration of HIV diagnosis was 7.1 years (range, 0.09-28), with 235 (69.1%) being five years or more. Of these patients, 313 (92.1%) were on INSTI-containing regimens. The average number of reported symptoms was 5.8 (SD, 5.2), and 215 (63.2%) patients reported at least one bothersome symptom. "Fatigue/loss of energy" was the most common symptom reported by 166 patients (48.8%), followed by "trouble remembering" (164, 48.2%), and "difficulty sleeping" (143, 42.1%); 95 (28%) reported "difficulty sleeping" to be bothersome.

CONCLUSIONS: A brief, self-reported questionnaire is a simple approach to measuring HIV symptoms for planning of integrated clinical management in the successful, long-term management of HIV infection. While modern antiretroviral therapies have improved linkage to care, ART initiation, and achievement of viral suppression, more efforts are needed to improve the health-related quality of life among people living with HIV.

PEB0220

FACTORS ASSOCIATED WITH SELF-REPORTING OF ADVERSE EVENTS IN BRAZIL: RESULTS FROM A REAL-LIFE COHORT OF PLHIV USING DTG-CONTAINING REGIMENS

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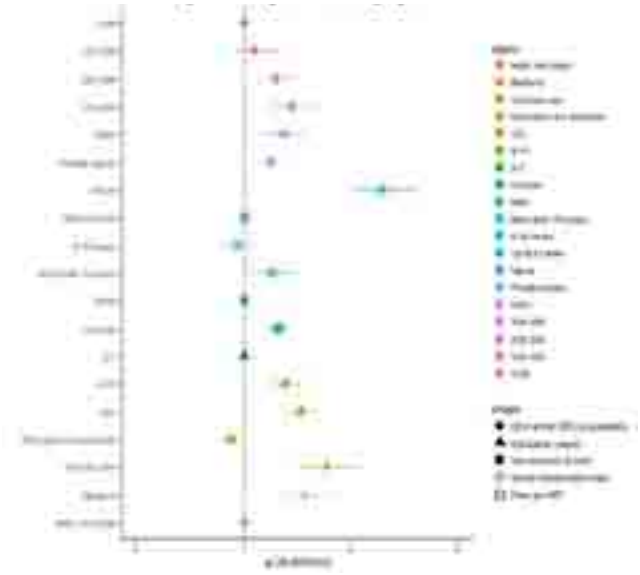
BACKGROUND: Brazil offers universal and free HIV care and treatment for all people living with HIV (PLHIV). Since January/2017, the Ministry of Health of Brazil (MoH) has included DTG in its antiretroviral portfolio and, in April/2017, implemented an active pharmacovigilance (PV) to monitor adverse events (AE) among PLHIV using DTG-containing regimens (DTG-CR). AE occurrences are reported by PLHIV through a specific form. In this study, we aim describe factors associated with self-reporting an AE in a real-life cohort of PLHIV aged 18yo and using DTG-CR.

METHODS: We analyzed programmatic data from the pharmacovigilance system, which gathers information on AE occurrence reported by PLHIV using DTG-CR. PV information was collected by pharmacists at the second DTG pick-up. Logistic regression models were used to assess factors associated to the likelihood of PLHIV self-report an AE.

RESULTS: We included 275,251 people aged 18yo and over who filled the pharmacovigilance form. Median age was 38yo(IQR:29-49), 72% were men and overall AE prevalence was 1.3%. The main factors associated to PLHIV self-reporting an AE in the multivariable analysis were: starting ART with a DTG-CR (aOR:2.29;CI95%:2.01-2.61); 12+ years of education (aOR:1.53;CI95%:1.37-1.71); residence in a city with low/very low SVI (aOR:1.77;CI95%:1.51-2.08); higher CD4 counts at first DTG prescription; and being a woman (aOR:1.32; CI95%: 1.23-1.42).



[Figure. Forest plot of adjusted odds ratio (aOR) for self-reporting an AE among PLHIV using DTG-containing regimens]

CONCLUSIONS: Our study showed low prevalence of AE in Brazil in a cohort of PLHIV using DTG-CR, in accordance to what has been observed in clinical trials. Factors associated with self-perception seem to play a very important role in AE reporting by PLHIV, since we observed that PLHIV in favorable social context seem to perceive more an AE than those in most unfavorable settings. More studies are needed to better understand the contribution of individual factors on self-perception of AE and, therefore, on AE reporting.

PEB0221

MEDICATION BURDEN AND ADVERSE DRUG REACTIONS DURING THE INITIAL SIX MONTHS OF ANTIRETROVIRAL TREATMENT

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BACKGROUND: The association between the number of non-antiretroviral drugs ("medication burden") with adverse drug reactions (ADR) in the first six months of antiretroviral treatment (ART), along the effects of ADR on adherence and viral suppression, was evaluated at our HIV referral center in Lima, Peru.

METHODS: From November 2016 to December 2017, we conducted a prospective cohort study with follow-up to 24 weeks after ART initiation. The main exposure was medication burden, defined by number of non-antiretroviral drugs; ART adherence was measured by a validated questionnaire (SMAQ) and the HIV program results were used for viral suppression. ADR were detected at each study visit and by charts reviews. We present descriptive and bivariate analyses.

RESULTS: The median age of 268 participants was 29.6 years (IQR 24.4;36.5); 83.9% were men, 31 (11.6%) were ART experienced and 26 (9.7%) were on TB treatment at enrollment. Major depression was reported by 22.8%, alcoholism in 20.5% and illegal drug use in 13.4%. The principal ART regimens were TDF+3TC+EFV (40.7%) and AZT+3TC+EFV (36.2%); 48.5% used at least one non-ART drug, in participants older than 30 years the percentage was 56.6%. The main use of non-ART drug was for TB therapy (34.3%) and prophylactic drugs for opportunistic infections (25.7%). The frequency of ADR was 70%, including gastrointestinal (32.1%), sleep disturbances (16.6%)

and skin lesions (10.7%); 76.8% has severity 1 and 18.5% severity 2. In a total follow-up of 9153 persons-week, the incidence rate of ADR was 0.22 [95% CI: .019-.025]). Only 47.9% reported being adherent in all visits but 84% were adherent in visits on the first month of treatments and 81.6% in the visits after five months. Viral suppression between 3 to 9 months was 52.3%. Overall, the appearance of ADR was not associated with medication burden, neither ADR with adherence, but we found a trend in ADR appearance with total adherence.

CONCLUSIONS: An association between medication burden and ADR was not found, nevertheless a high frequency of ADR and suboptimal levels of adherent to ART and viral suppression were found.

PEB0222

DOLUTEGRAVIR-RELATED ADVERSE EVENTS: RESULTS FROM THE ACTIVE PHARMACOVIGILANCE IMPLEMENTED IN BRAZIL

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BACKGROUND: Antiretroviral treatment in Brazil is universal and free of charge for all people living with HIV (PLHIV). Following the introduction of DTG as first line therapy in national guidelines in 2017, the Ministry of Health of Brazil (BMoH) implemented a strategy of active pharmacovigilance (PV) to monitor adverse events (AE) among PLHIV using DTG-containing regimens (DTG-CR). Brazil has one of the biggest cohorts of PLHIV using DTG-CR in the world and the PV system aimed to contribute to the safety data on the use of DTG in a real-life cohort. This study aimed to estimate AE prevalence and to describe the most common AE observed in the country.

METHODS: The antiretroviral (ARV) national database registers virtually all treatment prescriptions and comprises a self-reported PV form. The PV information is primarily collected by pharmacists from the second DTG prescription and by October/2019 covered 92% of PLHIV using DTG-CR. We conducted a descriptive analysis of most frequent AE and the estimated prevalence rate of AE and severe AE occurrence. All registered PLHIV using DTG-CR aged above 18yo who filled the PV form from January 2017 to October 2019 were included in this analysis.

RESULTS: 276,602 adult PLHIV using DTG-CR were included in the analysis; median age was 38yo (IQR:29-49) and 72% were men. 3,521 PLHIV reported any AE, with an overall AE prevalence of 1.3% (CI95%= 1.23%-1.31%). The prevalence rate of severe AE was 0.07% (CI95%= 0.06%-0.08%), with only one severe AE reported as being persistent. Most common AE were nausea (876;0.32%), headache (600;0.22%), diarrhea (566;0.20%), skin disorders (460;0.17%) and insomnia (397;0.14%). Depression was reported by 73 (0.03%), weight gain by 49 (0.02%), weight loss by 29 (0.01%) and hyperglycemia by six people.

CONCLUSIONS: This study of a real-life cohort showed a low prevalence of self-reported AE associated with the use of DTG-CR in Brazil, which is in accordance to what has been observed in randomized controlled trials. This analysis did not support evidence of a possible concern about depression, nor weight gain or hyperglycemia. PV has been an important tool to support public health decisions on ART recommendations in the country.

PEB0223

MEASURING THERAPY TOLERANCE THROUGH PROMS AS PART OF ROUTINE CLINICAL HIV CARE: EVALUATING TWO YEARS OF EXPERIENCE

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BACKGROUND: Combination antiretroviral therapy (cART) has become more efficient and more tolerable over the years although therapy intolerance can still negatively influence health related quality of life (hrQoL). In OLVG we introduced a questionnaire in our daily clinical HIV practice to measure patient related outcomes (PROs). These could lead to interventions in the care process in order to improve hrQoL of our patients. To our knowledge no validated therapy tolerance questionnaire exists yet. Therefore we formulated one question regarding therapy tolerance with a focus on side-effects. Also, we started registering switch of cART routinely. In this study we evaluated (1) the usefulness (the "actionability") of this therapy tolerance question included in our hrQoL-questionnaire and (2) whether there was a link between therapy tolerance and therapy switch.

METHODS: Yearly all patients attending OLVG HIV center in Amsterdam are asked to fill in the routine hrQoL-questionnaire before consultation. Patients are offered a smartphone app that connects to their electronic health record (EHR). A visual analog scale is used for the therapy tolerance question: 'to what extend do you experience side effects form your HIV medication? (1 = not at all to 10 = the worst ever). This first analysis reports on how many patients did fill in the questionnaire, what scores were obtained and if poor tolerability scores results into therapy switch.

RESULTS: In 2018-2019, a total of 1713/3641 patients (47%) with access to the EHR answered the therapy tolerance question. A score of 3 or lower was reported in 11.7% in 2018 and 11.9% in 2019; a score of 8 or higher in 28.3 % in 2018 and 35.9% in 2019. In 3.6% of cases with a low side effect score (3 or lower), cART was switched due to toxicity versus a 12.5% switch due to toxicity in the group with high side effect scores of 8,9 or 10.

CONCLUSIONS: Preliminary data shows that higher therapy tolerance scores lead to more ART toxicity switches (12.5% vs 3.6%) although the effect is lower than anticipated. Final analysis will contain kind of cART used and file investigation whether tolerance scores have been discussed with the patient.

OTHER NON-COMMUNICABLE DISEASES

PEB0224

PILOT TRIAL OF A NOVEL BEHAVIORAL ACTIVATION/PROBLEM SOLVING SMOKING CESSATION INTERVENTION FOR PEOPLE LIVING WITH HIV IN BOTSWANA

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BACKGROUND: Tobacco use is prevalent among HIV infected individuals. In resource constrained settings, pharmacological smoking cessation interventions are infeasible due to their high cost. There is a need to develop and evaluate behavioral interventions to address the unique challenges of tobacco use in the HIV infected populations in these settings. We aimed to assess the feasibility and acceptability of the Behavioral Activation/Problem Solving for Smoking Cessation (BAPS-SC) intervention to determine whether it should be tested in an adequately powered randomized controlled trial.

METHODS: We merged Behavioral Activation Therapy (BAT) with the principles of Problem Solving Therapy to create a novel 5-session counseling model to address the unique challenges of tobacco cessation among those with HIV. Feasibility measures included the rate of enrollment among those eligible and the retention rate and descriptive analysis of intervention acceptability. Our secondary outcome was 7-day point smoking prevalence abstinence, confirmed with breath carbon monoxide (CO).

RESULTS: A total of 128 individuals were screened over eight weeks with 50 deemed eligible and 40 enrolled (80%). Retention at week 12 was 53% (21/40). The 7-day point prevalence abstinence, co-confirmed, at week 12 was 37.5% (15/40). All respondents indicated that they would recommend BAPS-SC to other smokers who want to quit and would be willing to participate in the program again up to the point of exit if they did not stop smoking.

CONCLUSIONS: A full scale RCT comparing BAPS-SC with usual practice is warranted to evaluate the efficacy of this novel intervention in these settings.

PEB0225

PREVALENCE OF LOW LEAN MASS IN PEOPLE LIVING WITH HIV ON ANTIRETROVIRAL THERAPY

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BACKGROUND: Low lean mass (LLM) may affect physical function and is associated with adverse events. We assessed the prevalence of LLM in people living with HIV (PLHIV) on antiretroviral therapy, the associated factors, and the influence of using different definitions.

METHODS: Cross-sectional study of 607 consecutive PLHIV included after a whole-body dual X-ray absorptiometry (DXA) scan. We defined LLM based on the following criteria and cut-offs: 1) appendicular lean mass index (ALMI) criteria according to European cut-off (EWGSOP, <7.26 kg/m^2 in men; <5.5 kg/m^2 in females), 2) ALMI criteria according to the NHANES cut-off (<6.19 kg/m^2 and <4.73 kg/m^2, respectively), and 3) ALMI/body mass index criteria (ALMI/BMI, <0.9 kg/m^2 and <0.63 kg/m^2, respectively).

RESULTS: The overall mean age was 44.6 years, and 28% were females. The mean (range) ALMI was 7.4 (4.75-11.16) kg/m^2 in males, and 5.83 (3.85-8.52) kg/m^2 in females. Applying the European criteria, 46% of males and 32% of females presented LLM. Additionally, the prevalence of LLM varied considerably according to the cut-off and criteria applied: NHANES, 10%; ALMI/BMI, 44% (Table). The highest values of ALMI were observed in the fourth decade, although the prevalence of LLM using European criteria was high in all age strata. In both sexes, the ALMI was negatively and weakly correlated with age (males: rho=-0.12, P=0.01; females: rho=-0.16, P=0.04), while there was no correlation with the duration of HIV infection or antiretroviral treatment. In males, this index was positively correlated with lymphocyte T-CD4+ count at inclusion and its improvement from nadir. Furthermore, the ALMI was correlated with BMI (males: rho=0.22, P<0.01; females: rho=0.46, P<0.01), total fat (males: rho=0.57, P<0.01; females: rho=0.32, P<0.01), and trunk and limbs fat.

	ALMI -EWGSOP criteria	ALMI -NHANES criteria	ALMI/BMI criteria
Total (n=607)	42%	10%	44%
Males (n=437)	46%	10%	44%
Females (n=170)	32%	8%	43%

CONCLUSIONS: LLM was highly prevalent in PLHIV under antiretroviral therapy in all age strata, with lower rates in the fourth decade. Nevertheless, the prevalence of LLM and the relationship between lean mass and body fat differed considerably according to the criteria and cut-offs applied.

PEB0226

LEVELS OF MATRIX METALLOPROTEINASES (MMPS) IN HIV-INFECTED CHILDREN AND ADOLESCENTS WITH AIRWAY OBSTRUCTION

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BACKGROUND: Chronic lung complications, predominantly airway obstruction, are common in children growing up with HIV. HIV impairs host defence mechanisms in the lung, maintains chronic inflammation and facilitates lung fibrosis. Matrix metalloproteinases (MMPs) are enzymes involved in remodeling of extracellular matrix proteins that may contribute to lung fibrosis progression. In this study, we aimed to investigate the relationship between plasma levels of several MMPs and presence of airway obstruction in HIV-infected children.

METHODS: All participants were recruited at a public hospital in Harare, Zimbabwe. HIV-infected individuals on antiretroviral therapy aged 6-19 years provided blood samples. Clinical history was collected and spirometry was performed in order to define airway obstruction (FEV1 z-score <-1 without reversibility). The plasma levels of MMP 1, 3, 7, 8, 10, 12 were measured using Multiplex assay panel. Linear and logistic regression analyses were performed in order to examine to which extent levels of MMPs differed between study groups. The levels of MMPs were log-transformed prior to analyses. Analyses were adjusted for age, sex and stunting.

RESULTS: In total 296 HIV-infected participants were enrolled: 241 with airway obstruction and 55 with normal lung function. 34% of HIV-infected children with airway obstruction had prior tuberculosis (TB) compared to 14.5% of HIV-infected with normal lung function (p=0.005). Higher levels of MMP 1, 7, 10 were significantly associated with presence of airway obstruction in adjusted logistic regression analysis. Moreover, levels of MMP 1, 7, 8, 10 were associated with lower FEV1 z score in adjusted linear regression analysis. Notably, prior TB was a significant predictor of higher MMP 10 level in adjusted linear regression analysis.

CONCLUSIONS: Our findings support a role for certain MMPs in HIV-associated chronic lung impairment. Further studies are warranted in order to investigate the potential utility of them as an early plasma marker of lung damage in HIV-infected population.

PEB0227

DELAYS IN SOLID ORGAN TRANSPLANT EVALUATION AMONG HIV-INFECTED PATIENTS

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BACKGROUND: Solid organ transplantation (SOT) has shown to confer increased survival benefits to HIV-infected patients with terminal organ failure. Nonetheless, HIV-infected patients suffer from equal access and disparities in SOT. In this study, we compared the duration to complete SOT evaluation for HIV-infected and non-HIV-infected patients.

METHODS: The study was conducted at the Centre Hospitalier de l'Université de Montréal. Data was collected retrospectively through the TRANSHIV cohort for HIV-infected patients as well as the kidney and lung transplant registries for non-HIV infected patients. Patients were recruited if referral date to the SOT team was available. Time spans were calculated between the referral date, the registration date on the waiting list and the SOT date. Any withdrawal of the waiting list or SOT refusal was registered along its reason. Adjusted hazard ratios (HR) were calculated using Cox regression for time spans according to HIV status.

RESULTS: We identified 15 HIV-infected and 230 non-HIV-infected patients. HIV-infected patients spent an average of 869,3 days between the referral date to the SOT evaluation and the registration date on the waiting list while non-HIV-infected patients passed an average of 437 days. Likelihood of shorter time spent for SOT assessment up to the registration date on the waiting list was 61% lower for non-HIV-infected patients than for HIV-infected patients (adjusted HR, 0,39; 95% CI, 0,23 to 0,67; p = 0,0001). Average time spent between the waiting list and the SOT was 467,2 and 444,2 days respectively for HIV-infected and non-HIV-infected patients (adjusted HR, 0,89; 95% CI, 0,52 to 1,53; p = 0,6653). In the HIV group, reasons for temporary or permanent withdrawal of the waiting list include occurrence of a new lung nodule (n = 2), CD4 < 200 cells/ul (n = 1) and the need of semi-urgent surgery (n = 2).

CONCLUSIONS: Our finding highlights disparities in terms of delay of time in the SOT evaluation process up to the registration on the waiting list for HIV-infected candidates. HIV status did not affect the time on the waiting list to the SOT. Additional studies are required to further understand why HIV status prolongs SOT assessment time.

CO-MORBIDITIES AND ART COMPLICATIONS IN KEY POPULATIONS

PEB0228

HIGH ABSTINENCE RATES FROM A SMOKING CESSATION PROGRAM EMBEDDED WITHIN AN HIV CLINIC

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BACKGROUND: Smoking rates for people living with HIV (PLWH) are 2-4 times higher than within the general US population, and smoking-related diseases are the leading cause of death in PLWH. PLWH face multiple barriers to quitting including high rates of co-morbid psychiatric illnesses and low socioeconomic status (SES). To address this, the Duke Center for Smoking Cessation and Division of Infectious Diseases (ID) partnered to develop a specialized smoking cessation program embedded within the Duke HIV Clinic.

METHODS: Patients referred to the Duke ID Smoking Cessation Clinic located in the Duke HIV Clinic in Durham, NC, were seen by both an advanced practice provider from the Duke Center for Smoking Cessation and a behavioral provider at the HIV clinic. Here, we report data on patient demographics, HIV history, cigarette use, nicotine dependence, and pre- and post-treatment smoking abstinence confirmed by carbon-monoxide breath testing.

RESULTS: Between December 2017 to April 2019, 62 PLWH were seen at the Duke ID Smoking Cessation Clinic. Demographic outcomes include: 74% male, 57% African American, 94% non-Hispanic, 52% publicly insured, 19% uninsured, and 75% with an annual income <$50,000. Among these patients, 93% had current CD4 counts >200 cells/mm^3, and 87% had undetectable HIV-1 viral loads (<50 copies/mL). Mean baseline cigarettes per day was 16.22 (SD=8.38), expired carbon monoxide level was 18.02 parts per million (ppm) (SD 11.68), pack years was 25.03 (SD=17.91), and the Fagerstrom Test for Nicotine Dependence was 4.31 (SD=2.25). Since its initiation, 400 smokers were referred to this program; 62 (16%) completed an initial visit, and 32 (52%) completed at least 1 follow-up visit. Among persons with data available on a quit attempt, 37% demonstrated smoking abstinence confirmed by expired breath carbon monoxide < 7 ppm.

CONCLUSIONS: Our approach - a smoking cessation program embedded within an HIV clinic - is serving an important need. Patients at this clinic were mostly black males with well-controlled HIV, low SES, moderate nicotine dependence, and high-level cigarette use. Those who attended a follow-up visit showed a high smoking abstinence rate. More work needs to be done on recruitment and retention to increase enrollment and engagement in a difficult-to-treat population.

ART IN ACUTE, FIRST- AND SECOND-LINE THERAPIES

PEB0229

THE BICSTAR PROSPECTIVE COHORT: REAL-WORLD EFFECTIVENESS, SAFETY AND TOLERABILITY OF BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (B/F/TAF) IN ROUTINE CLINICAL PRACTICE IN PEOPLE LIVING WITH HIV (PLWH)

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BACKGROUND: The purpose of this ongoing, observational cohort study in PLWH is to evaluate the effectiveness, safety and tolerability of B/F/TAF in routine clinical practice.

METHODS: Enrollment of antiretroviral treatment (ART)-naïve (TN) and ART-experienced (TE) PLWH is ongoing. This interim analysis at 6 months (6M) includes pooled data from sites in Germany (20), France (19), Canada (6), Netherlands (1) and Ireland (1). Study outcomes included HIV-1 RNA (missing data, B/F/TAF discontinuation=excluded analysis, no imputation), drug-related (DR) adverse events (AEs), weight changes and treatment persistence (% participants still on B/F/TAF at 6M).

RESULTS: A total of 613 HIV-1 infected participants (97 TN, 516 TE) started B/F/TAF and were included in the analysis at time of data cut-off. Most were male (90%), Caucasian (85%), and 43% aged ≥50 years. Prevalence of ongoing comorbidities at baseline was high (71% overall; 52%, TN; 75%, TE) including neuropsychiatric disorders (25%), arterial hypertension (18%), hyperlipidemia (18%) and cardiovascular disorders (10%). Main reasons for switch were ART simplification (60%), patient preference (35%) and side effects on previous ART (27%). Of those participants with available plasma viral load (VL) data at 6M (n=527), 89% (74/83) and 94% (418/444) TN and TE participants, respectively, had VL <50 copies/mL; 96% (80/83) and 98% (436/444) had VL <200 copies/mL. VL data were unavailable for n=86 participants. No participant developed treatment emergent resistance that reduced susceptibility to B/F/TAF. Persistence with B/F/TAF was high at 6M (95%), with 5% (n=28; 1 TN and 27 TE) discontinuing B/F/TAF prior to 6M (mostly due to DRAEs [n=19] which were neuropsychiatric symptoms in 12 participants [1 TN and 11 TE]). No participants discontinued B/F/TAF due to renal or bone DRAEs. Overall, DRAEs and DR serious AEs (DRSAEs) were reported in 11% (n=67) and 0.5% (n=3) participants, respectively. Most common DRAEs were gastrointestinal (4%) and psychiatric symptoms (3%); DRSAEs (all in TE) were depression (n=2), gastrointestinal (n=1). Median (Q1-Q3) weight change from baseline was +3kg (0-6) in TN (n=60), and +0.6kg (-0.8-3) in TE (n=338).

CONCLUSIONS: Real-world effectiveness, safety, tolerability and persistence of B/F/TAF at 6M were demonstrated in this observational cohort including older participants with ongoing comorbidities.

PEB0230

VERY HIGH BASELINE HIV VIREMIA IMPAIRS EFFICACY OF NNRTI-BASED ART: A LONG-TERM OBSERVATION IN TREATMENT-NAÏVE PATIENTS

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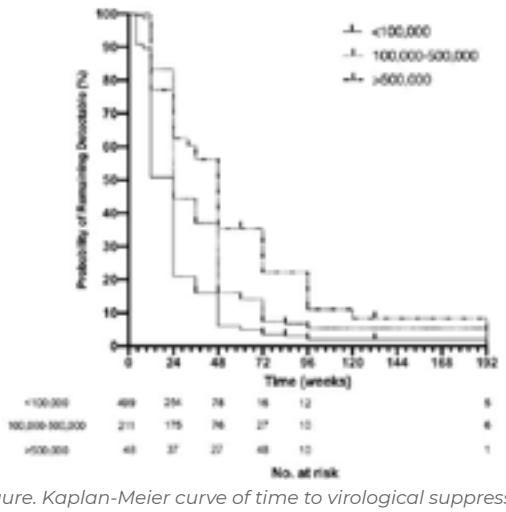
BACKGROUND: It was not completely clear whether a very high pre-therapy viral load (≥500,000 copies/ml) can further impair the virological response and risk of virological failure, especially in the long run.

METHODS: A retrospective study based on data from multicentral cohorts in China was performed. We enlisted untreated HIV-infected adults recruited between18 and 65 years old, who received China's first-line NNRTI-based regimen upon recruitment. All patients had baseline HIV-RNA levels over 500 copies/ml, showed good adherence, and were followed for at least 24 weeks. Patients were stratified according to their baseline HIV-RNA level: <100,000 copies/ml, 100,000-500,000 copies/ml and ≥500,000 copies/ml. Virological suppression was defined as the first HIV-RNA <50 copies/ml which lasted for six months. Virological failure included incomplete viral suppression (HIV-RNA ≥200 copies/mL with no recorded viral suppression within 24 weeks of treatment) and viral rebound (confirmed HIV RNA level ≥50 copies/mL after virologic suppression). Kaplan–Meier analysis and Cox proportional hazard model were used to compare time to virological suppression. Logistic regression was used to evaluate odds to virological failure.

RESULTS: 758 pre-treatment HIV patients were enlisted. The median follow-up time was 144 weeks (IQR 108-276 weeks). Most patients (68.2%) were given TDF+3TC+EFV regimen. By week 48, rates of virological suppression in three groups (<100,000, 100,000-500,000 and ≥500,000 copies/ml) were 94.1%, 85.0%, and 63.8%, respectively (p<0.001). Very high baseline HIV viremia over 500,000 copies/ml were found to be independently associated with delayed virological suppression (≥500,000 vs. <100,000, adjusted RH 0.455; 95% CI, 0.32-0.65; p <0.001) as well as incomplete viral suppression (≥500,000 vs. <100,000, adjusted OR 9.104, 95% CI, 3.050-27.175; p <0.001).



[Figure. Kaplan-Meier curve of time to virological suppression based on baseline HIV-RNA stratum. Log-rank p<0.05]

CONCLUSIONS: Very high levels of pre-treatment HIV-RNA were significantly related with delayed efficacy of NNRTI-based ART and increased risk of treatment failure. Those with high baseline viremia should be considered to start with more potent regimens.

PEB0231

CD4:CD8 RATIO NORMALIZATION WITH MODERN ANTIRETROVIRAL REGIMENS

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BACKGROUND: HIV infection leads to selective depletion of CD4+ T cells and an increase in CD8+ T cells resulting in an inverted CD4:CD8 ratio, which often persists despite antiretroviral therapy (ART) and is associated with AIDS and non-AIDS related morbidities. Studies previously reported <15% ratio normalization. Current treatment guidelines emphasize early initiation of ART, which is feasible given more tolerable drugs and single-tablet regimens; both of which improve treatment adherence. We hypothesize that treatment naïve patients starting ART in the modern era have shorter time to CD4:CD8 normalization relative to historical values.

METHODS: Retrospective analysis of the Canadian Observational Cohort (CANOC), a collaboration of HIV-infected individuals initiating combination ART between 2000 and 2016. Participants starting on 2 Nucleoside Reverse Transcriptase Inhibitors (NRTIs) with either Integrase Strand Transfer Inhibitor (INSTI), non-NRTI (NNRTI) or Protease Inhibitor (PI) on or after January 1, 2011 with a pre-treatment CD4:CD8 ratio <1.0 were included. Participants were censored if they switched to a different ART class for ≥2 months. Kaplan Meier estimates were used to describe time to CD4:CD8 ratio normalization (CD4:CD8 ratio ≥1.0 on 2 consecutive measures ≥30 days apart). Multivariable proportional hazards models were used to estimate the association between ART class and time to CD4:CD8 normalization.

RESULTS: 2519 participants were included and followed for a median [IQR] 1.99 [0.92, 3.45] years. Median [IQR] age was 39 [31, 48], 54.4% identified as Caucasian, 13% as Black and 32.7% as other. At the start of ART, median CD4 count was 340 [200, 490] with a CD4:CD8 ratio of 0.36 [0.21, 0.53]. 675 (26.8%) participants normalized their CD4:CD8 ratio with a 0.28 (95%CI 0.26, 0.30) probability of achieving normalization within 2 years. After adjusting for age, baseline CD4 count, viral load and risk factor, there was no significant difference in time to normalization based on ART class (HR [95%CI] = 1.03 [0.83, 1.28] for NNRTI and 1.02 [0.81, 1.28] for PI vs. INSTI).

CONCLUSIONS: In this large Canadian cohort, CD4:CD8 ratio normalization was higher than previously reported values, but no ART class effect was identified. Whether this is associated with lower rates of comorbidity or improved survival requires further study.

PEB0232

SECOND-LINE DOLUTEGRAVIR OR PROTEASE INHIBITOR FOR ADULTS WITH HIV IN RURAL HAITI WITH VIROLOGIC FAILURE ON A FIRST-LINE NNRTI-BASED REGIMEN WITHOUT AVAILABLE GENOTYPE

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BACKGROUND: In patients experiencing virologic failure on first-line NNRTI-based regimens, changing to dolutegravir is non-inferior to lopinavir/ritonavir (both with two NRTIs) if one of the NRTIs is known to be fully active. While boosted PIs combined with NRTIs have been shown to effectively suppress HIV even with no predicted NRTI activity, it is unknown whether this is the case for dolutegravir. Because of this, the optimal second-line ART strategy is unknown for patients failing first-line ART in settings where genotype is unavailable.

METHODS: We conducted a retrospective study of Haitian adults with HIV who had virologic failure on a first-line NNRTI-based regimen and were changed to either dolutegravir or a PI with two NRTIs at 11 rural Ministry of Health clinics supported by Partners In Health / Zanmi Lasante. We abstracted demographic and clinical information from the electronic record and used a multivariable logistic regression model to identify factors associated with subsequent virologic suppression.

RESULTS: We identified 378 patients who changed ART after experiencing virologic failure on a first-line NNRTI from 7/2015-10/2019, 212 (56%) of whom were female with a median age of 41 (IQR 30-50). 137 (33%) changed to DTG, and 241 (64%) to a PI. There were 96/137 (64%) changed to dolutegravir and 54/241 (22%) to a PI who did not change NRTIs, and among these 94% received TDF and 3TC. Only 4 patients (1%) were receiving tuberculosis treatment. Subsequent viral load testing was available for 279 patients (74%), with virologic suppression in 40/65 (62%) changed to dolutegravir and 75/214 (35%) to a PI. In our multivariable model, switching to dolutegravir and age were independently associated with subsequent virologic suppression (Table).

	Adjusted Odds Ratio	95% CI
Switch to DTG (vs PI)	2.91	1.53-5.54
Changing NRTIs	1.28	0.72-2.31
Age (per five year increase)	1.15	1.06-1.24
Female	1.24	0.75-2.09

Table. Multivariable model of factors associated with subsequent virologic suppression

CONCLUSIONS: This study suggests that changing to dolutegravir is a superior strategy compared to changing to a PI for patients experiencing virologic failure on a first-line NNRTI without an available genotype, even if NRTIs are not changed. This study is limited by differential subsequent viral load testing available between dolutegravir and PIs.

PEB0233

WEIGHT CHANGE AMONG TREATMENT NAIVE WOMEN INITIATING DOLUTEGRAVIR IN THE ARIA STUDY

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BACKGROUND: INSTIs and dolutegravir (DTG) have been associated with weight gain in recent studies, being more pronounced among women of African heritage and when combined with tenofovir alafenamide. We describe weight changes in HIV-1 infected women taking dolutegravir/abacavir/lamivudine (DTG/ABC/3TC) in the ARIA study.

METHODS: ARIA was a randomised, open-label, non-inferiority study conducted in 12 countries. Treatment-naive adult women were randomised to receive DTG/ABC/3TC (DTG group) or atazanavir/ritonavir + tenofovir disoproxil + emtricitabine (ATZ group). The primary endpoint was the proportion of participants with VL<50 c/ml. Utilising weight data retrospectively obtained from the central laboratory a post-hoc regression analysis, adjusted for baseline factors, was conducted for weight and BMI to Week 48.

RESULTS: 495 women were randomised and treated; 248 DTG, 247 ATZ. Median age was 37 years; 41% DTG group and 44% ATZ group were of African heritage. Mean baseline weight and BMI were similar; DTG: 70.1kg; 26.8 kg/m^2; ATZ: 71.8 kg, 27.3 kg/m^2. At week 48, adjusted mean change in weight: 2.61kg DTG group (n=208), 1.41kg ATZ group (n=192), difference = 1.20kg, 95% CI: 0.10, 2.30; p=0.0328. Adjusted mean change in BMI to week 48: 1.01kg/m^2 DTG group, 0.56kg/m^2 ATZ group, difference = 0.45kg/m^2, 95% CI: 0.02, 0.88; p=0.0388. Increases in weight of 10% or more were experienced by 18% of the DTG group and 15% of the ATZ group. Treatment emergent obesity was observed in 8% DTG group and in 6% ATZ group at week 48. Weight increase in the DTG group was significantly higher (p<0.05) as compared to the ATZ group in the following subgroups: baseline CD4<=350 cells/mm^3, baseline VL>100,000 copies, age ≥37 years, BMI>25kg/m^2 and women of white race. Among race subgroups, increases in weight were largest among women of African heritage in both groups, however the between group difference was relatively small (0.99kg) and not statistically significant (p=0.2594).

CONCLUSIONS: Initiation of DTG/ABC/3TC was associated with moderate (1.20kg) but significantly higher weight gain as compared to the ATZ group over 48 weeks. The proportion of women experiencing a 10% or more increase in weight or treatment emergent obesity was similar between treatment groups.

ART IN HIGHLY TREATMENT-EXPERIENCED PERSONS

PEB0234

CLINICAL OUTCOMES OF HEAVILY TREATMENT EXPERIENCED INDIVIDUALS IN THE OPERA COHORT

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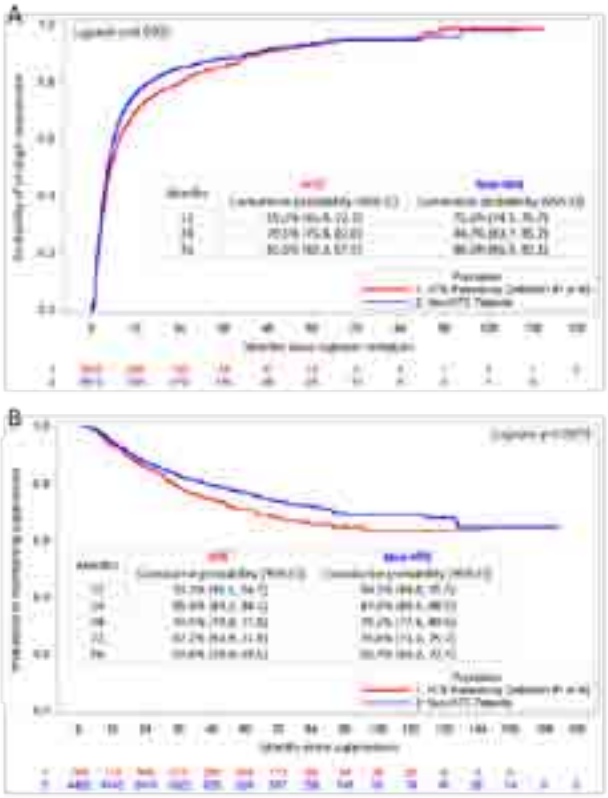
BACKGROUND: Multi-class resistance, intolerance, or interactions with long-term antiretroviral therapy (ART) results in unique ART combinations for the heavily treatment experienced (HTE) people living with HIV (PLWH). Few studies have evaluated long-term outcomes of HTE PLWH.

METHODS: PLWH in care in the OPERA Cohort on 12/31/2016 were identified as HTE (on their ≥3rd core agent class or on a regimen suggestive of HTE [Figure]) or non-HTE (ART-experienced on a three-drug regimen, not meeting the definition of HTE) and followed through study end (12/31/2018). Baseline was the start of the 12/31/2016 regimen. Baseline comparisons were made with Pearson Chi-Square or Wilcoxon Rank Sum tests. Time to virologic suppression, failure, regimen changes, and death were assessed using Kaplan-Meier methods and log-rank tests.

RESULTS: HTE PLWH (n=2,277) were older, with higher viral load, lower CD4 count, and more comorbidity than non-HTE (n=21,906) [Table]. Of individuals unsuppressed (≥50 copies/mL) at baseline, HTE PLWH were less likely to achieve suppression (24-month cumulative probability: 79.5%, 95% CI: 76.8, 82.0) than non-HTE PLWH (84.7%, 95% CI: 83.7, 85.7) [Figure A]. Among those who achieved suppression during follow-up, HTE PLWH were less likely to remain suppressed (24-month: 85.9%, 95% CI: 83.2, 88.2) than non-HTE PLWH (87.5%, 95% CI: 86.5, 88.5) [Figure B]. Death (1.6% HTE; 0.7% non-HTE p=0.0002) and changes in regimen discontinuation (45.3% HTE; 41.3% non-HTE p<0.0001) were more frequent among HTE.

	HTE Population N=2,277	Non-HTE Population N=21,906	p-value
Age, median (IQR)	49.5 (42.0, 55.8)	43.7 (32.9, 52.2)	**<.0001**
Female, n (%)	431 (18.9%)	3615 (16.5%)	**0.0068**
Black Race, n (%)	906 (39.8%)	8612 (39.3%)	0.0610
Hispanic Ethnicity, n (%)	572 (25.1%)	5626 (25.7%)	0.2142
MSM, n (%)	1190 (52.3%)	12798 (58.4%)	**<.0001**
Years since HIV Diagnosis, median (IQR)	15.3 (7.0, 21.8)	7.1 (2.5, 14.5)	**<.0001**
Viral Load log^{10} copies/mL, median (IQR)	2.0 (1.3, 4.2)	1.3 (1.3, 2.0)	**<.0001**
CD4 Count cells/uL, median (IQR)	412 (209, 636)	587 (396, 801)	**<.0001**
Any comorbid condition, n (%)	1823 (80.1%)	15132 (69.1%)	**<.0001**

[Table. Baseline characteristics of HTE vs. Non-HTE]



* HTE: heavily treatment experienced, defined as individuals on their 4th line of ART (discontinued agents from ≥3 core agent classes prior to current regimen) or on a regimen suggestive of HTE (dolutegravir BID, darunavir BID, etravirine, ENSTI+PI, maraviroc, or enfuvirtide

[Figure. Cumulative probability of (A) achieving suppression (<50 copies/mL) among viremic (VL≥50 copies/mL) at regimen initiation, and (B) maintaining suppression (<200 copies/mL) among PLWH who achieved suppression after regimen initiation]

CONCLUSIONS: HTE PLWH were at greater risk of virologic failure, changes in regimen and death than non-HTE PLWH, suggesting additional therapeutic options are needed for this vulnerable population.

REGIMEN SIMPLIFICATION AND SWITCH STUDIES

PEB0235

REAL LIFE STUDY WITH DUAL THERAPY IN A HIV-1 TREATMENT EXPERIENCED PORTUGUESE COHORT

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BACKGROUND: There are scarce data on dual therapies for HIV infection in real life clinical practice. We investigated the effectiveness and safety of the association of lamivudine with dolutegravir or with a protease inhibitor in virologically controlled patients treated with triple antiretroviral therapy (cART).

METHODS: This cohort of 149 HIV-1 infected Portuguese patients included all patients who changed their usual ART between July 2015 and July 2018 to dolutegravir with lamivudine (DTG/3TC) or to a boosted protease inhibitor with lamivudine (PI/b/3TC), regardless of reason, provided they were 18 years of age or older, without chronic hepatitis B or known resistance-conferring mutations for any of the antiretrovirals used, under stable cART for at least 6 months and with a viral load <50 copies/ml.

RESULTS: A total of 149 patients were included, 77 under DTG/3TC and 72 under PI/b/3TC. Overall 72% were men, aged between 23 and 84 years. Most (69%, n=89) had been on cART for at least 5 years and had a median TCD4 lymphocyte count of 593 cells/ml (IQR=67-1347). Approximately 90% of all patients completed 48 weeks of treatment successfully, 90.9% in the DTG/3TC group and 88.9% in the PI/b/3T group. Of five virological failures only one, in a patient under DRV/3TC, was attributed to a clinically significant mutation (M184V). Overall, the median LTCD4 increased significantly to 660 cells/ml (p<0.001) while the CD4/CD8 ratio remained unchanged when compared to baseline. Variations in alanine aminotransferase were not significant. Glomerular filtration rate had a significant initial decrease in patients who started dolutegravir but later stabilized.

CONCLUSIONS: Virological efficacy was maintained with the dual therapy regimens studied, with a slight improvement in immune status. These dual therapy regimens proved to be effective and safe in HIV-1 infected virologically controlled patients. This strategy reduces toxicities as well as costs associated with HIV treatment. These findings should be confirmed in larger randomized controlled trials.

PEB0236

PERSONS LIVING WITH HIV (PLWH) IN JAPAN ON 2-DRUG REGIMEN REVEAL MORE COMPLEX PATIENT PROFILES THAN THAT OF A 3-DRUG REGIMEN COHORT

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BACKGROUND: Regimen simplification to 2-drugs might address potential issues regarding tolerability, adherence, toxicity and drug-drug-interactions. Current treatment patterns/patient profiles of 2-drug regimens (2DR) are unclear and might identify areas of unmet need.

METHODS: We conducted a retrospective, observational database study using a Japanese hospital claims database extracting data from 2008 until 2019. Demographics, comorbidities, comedication and current antiretroviral treatment (ART) of patients >= 18 years receiving 2DR were assessed and compared to a 3-drug regimen (3DR) cohort.

RESULTS: 2% of PLWH on ART (n=4092) were identified on a 2DR (n=94, 87% male). They were older (mean 54.4 vs. 43 years), had a higher Charlson Comorbidity Score, higher percentage of AIDS and took more comedications compared to the 3DR cohort (n=3998, 93% male). The most utilized 2DR were PI+INSTI (33%), NNRTI+INSTI (32%), PI+NRTI(12%) and INSTI+NRTI (12%). 71% (n=67) of the 2DR cohort used an NRTI-sparing (complete avoidance of NRTI) approach. Over time there was a distribution shift from PI+INSTI to NNRTI+INSTI in the NRTI-sparing group and a shift from PI+1NRTI to INSTI+1NRTI in the partial-NRTI-sparing group. A slight decrease of NRTI-sparing regimens can be observed from 76% (2008-2014) to 70% (2016-2018).
Major observed chronic comorbidities are given in the table.

	2-Drug (n=94)		3-Drug (n=3998)		P-value
	N	%	N	%	
Hypertension	50	53.2%	765	19.1%	<0.0001
Any Diabetes	48	51.1%	874	21.9%	<0.0001
Mild liver disease	41	43.6%	1333	33.3%	0.0371
Lipid disorders	40	42.6%	712	17.8%	<0.0001
Psychiatric disorders**	39	41.5%	1448	36.2%	0.2936
Renal disease	32	34.0%	192	4.8%	<0.0001
Chronic pulmonary disease	28	29.8%	942	23.6%	0.1607
Bone Disorders	17	18.1%	251	6.3%	<0.0001

[Table]
**Mania, depression, anxiety, psychosis, insomnia

CONCLUSIONS: PLWH on 2DR have complex disease backgrounds and require attention by treating physicians.
The majority of patients on 2DR are on an NRTI-sparing regimen, and their very complex patient profiles indicate that reducing toxicities or avoiding DDI of current NRTIs is a current major treatment trend, when considering any 2DR. Recently NRTI-sparing strategy seems to decrease slightly driven by a decrease of PI-INSTI and whether this will decrease more with approval of new 2DR needs to be observed.

PEB0237

DURABILITY OF DUAL ANTIRETROVIRAL REGIMENS AND FACTORS ASSOCIATED WITH DISCONTINUATION IN THE CLINICAL PRACTICE

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BACKGROUND: Long-term data about dual antiretroviral regimens (DR) are scarce. We assessed the durability of switching to DR in people living with HIV.
METHODS: We prospectively analyzed individuals with HIV-RNA ≤50 copies/mL switching to DR during 2015-2019. The outcome of interest was treatment discontinuation (TD) due to treatment failure (TF; non-adherence/loss of follow-up or virological failure: HIV-RNA ≥200 copies/mL or 2 consecutive HIV-RNA >50 copies/mL), toxicity/intolerance, simplification, or drug-drug interactions.
RESULTS: Overall, 352 DR were initiated in 292 individuals (mean 53 years, female gender 29.5%). The main DR were dolutegravir plus rilpivirine (33%), boosted darunavir plus lamivudine (29%), and boosted darunavir plus dolutegravir (16%, Table).
The initial DR was discontinued in 102 (29%) cases during a median follow-up of 52 months (interquartile range 41-68, 1688 person-years). The main causes of TD were drug-drug interactions (10%), simplification (7%), toxicity/intolerance (5%; 3% gastrointestinal, 2% neurological), and TF [5%; 4.7% due to non-adherence, and only 0.3% (1 case) due to virological failure]. The probabilities of all-cause TD at 1, 3 and 5 years were 3%, 7%, and 12%, respectively. Furthermore, the probabilities of TF excluding non-virological reasons at 1, 3 and 5 years were 1%, 2%, and 4%, respectively. After discontinuing the DR, 22% switched to a single-tablet regimen. In a Cox multivariate analysis, male gender (hazard ratio, HR, 0.5, 95% confidence interval, CI, 0.3-0.9), a DR consisting of dolutegravir plus rilpivirine (HR 0.4, 95%CI 0.2-0.8), and a lower number of pills in current regimen (HR 0.6, 95%CI 0.4-0.8) were associated with lower hazard of TD.

	Total (n=352)	Dolutegravir + rilpivirine (n=117)	Boosted darunavir + dolutegravir (n=55)	Boosted protease inhibitor + raltegravir (n=41)	Boosted darunavir + non-nucleoside reverse transfer inhibitor (n=23)	Etravirine + raltegravir (n=14)	Boosted darunavir + lamivudine (n=102)
Age [years], mean (range)	53 (31-85)	55 (31-85)	52 (33-66)†	53 (36-73)	53 (35-73)	55 (46-78)*	52 (31-76)†
Female gender, n (%)	104 (29.5)	31 (27)	15 (27)	15 (36)	8 (35)	3 (21)	32 (31)
Intravenous drug use, n (%)	212 (60)	65 (56)	33 (60)	24 (58)	15 (65)	11 (79)†	64 (63)
Men who have sex with men, n (%)	71 (20)	26 (22)	11 (20)	7 (17)	4 (17)	2 (14)†	19 (19)
AIDS, n (%)	153 (43)	40 (34)	34 (62)†	23 (56)†	7 (30)	7 (50)	42 (41)
Nadir CD4+ T-cell count [cells/mm^3], median (interquartile range)	193 (79-300)	213 (74-303)	150 (63-295)	109 (61-261)	202 (136-312)	191 (103-251)	200 (90-312)
CD4+ T-cell count at inclusion [cells/mm^3], median (interquartile range)	557 (370-776)	610 (443-833)	551 (284-680)	425 (204-590)‡	669 (388-883)	476 (282-896)	563 (394-785)
Duration of HIV infection [months], median (interquartile range)	247 (177-298)	254 (175-298)	279 (223-323)	259 (204-298)	251 (159-317)	258 (207-346)	211 (160-279)
Total duration of antiretroviral therapy [months], median (interquartile range)	185 (138-235)	211 (152-241)	221 (155-262)	201 (127-252)	217 (125-252)	215 (176-250)	177 (117-211)‡

[Table]
†= P-value <0.05, and ‡ P-value <0.001 compared with dolutegravir + rilpivirine.

CONCLUSIONS: In this study in a clinical setting with long-term follow-up, DR were highly effective with only one case of virological failure (<1%). Indeed, 81% of TD were related to non-virological reasons, mainly due to drug-drug interactions or simplification.

PEB0238

COMPARISON OF VIRAL REPLICATION AT <40C/ML FOR 2-DRUG REGIMEN (2DR) OF DOLUTEGRAVIR/ LAMIVUDINE (DTG/3TC FDC) VERSUS 3-DRUG REGIMEN (3DR) BASED ON TENOFOVIR ALAFENAMIDE (TAF) (TBR) IN THE TANGO STUDY

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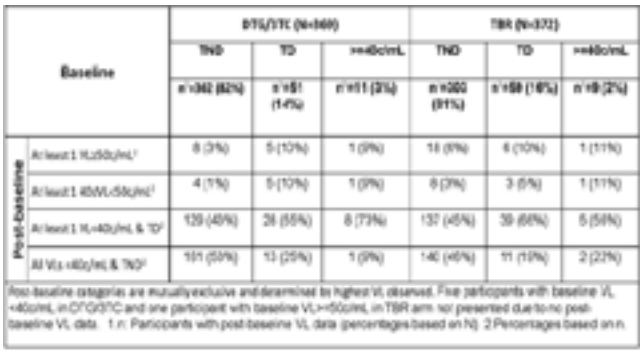
BACKGROUND: TANGO Week48 results for HIV-1-infected adults receiving TBR with HIV-1 RNA <50c/mL demonstrated switching to DTG/3TC was non-inferior to continuing TBR using a 4% non-inferiority margin for Snapshot virologic failure. The Abbott RealTime HIV-1 assay measures viral load (VL) from 40c/mL to 10,000,000c/mL, and provides qualitative target detected (TD) or target not detected (TND) outcomes for VL<40c/mL. We assessed the proportion of participants with TD/TND through Week48 for 2DR versus 3DR.

METHODS: Participants were randomized 1:1 to receive 2DR or 3DR. Participant proportions with VL<40c/mL and TND status were analysed by visit (Snapshot analysis) through Week48. Classification of participants into VL>=50c/mL, 40<=VL<50c/mL, or TD/TND (when VL<40c/mL) was performed on baseline and post-baseline outcomes.
RESULTS: At Week48, similar proportions of participants had TND in the 2DR and 3DR arms (79% [291/369] vs 76% [284/372], respectively, adjusted difference 2.5%, 95% CI -3.5%, 8.5%) by Snapshot, and at each visit: baseline (83% vs 81%), Weeks 4 (78% vs 78%), 8 (75% vs 79%), 12 (81% vs 77%), 24 (77% vs 81%), and 36 (79% vs 79%). Of the participants with TND at baseline, proportions with TND at all visits through Week48 were 53% in 2DR and 46% in 3DR arm, and similar between arms in other post-baseline VL categories (Table1). Seven participants had pre-existing, archived mutation mixture M184M/V or M184M/I, and all had Week48 VL<50c/mL, with 3/4 of these participants receiving 2DR vs 2/3 receiving 3DR having TND at baseline and through Week48.



[Table 1. Changes in quantifiable and non-quantifiable VL levels by baseline VL category through Week 48

CONCLUSIONS: Similar proportions of participants were TND at baseline and at all visits through Week48 (Snapshot analysis) for both arms, and across TD/TND categories per baseline VL classification. Post-baseline incident viremia (>=40c/mL) appeared more commonly associated with baseline TD than baseline TND. Using the more stringent TND threshold (Snapshot), there was no difference in proportions between DTG/3TC 2DR and TBR 3DR at Week48.

PEB0239

PATIENT'S SATISFACTION IN THE CONTEXT OF A DUAL THERAPY AND A SIMPLIFIED, PATIENT-CENTRED MONITORING STRATEGY FOR MANAGEMENT OF HIV INFECTION: A SWISS NON-INFERIORITY, RANDOMIZED, CONTROLLED, CLINICAL TRIAL (SIMPL'HIV)

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BACKGROUND: Treatment simplification can reduce pill burden and improve quality of life in HIV-infected patients, while minimizing costs and potential toxicity. Monitoring optimization and decentralization of health care can contribute to improve patient perception on the quality of services. We evaluated patient satisfaction in the Swiss randomized controlled clinical trial SIMPL'HIV by treatment arms.
METHODS: SIMPL'HIV is a non-inferiority, randomized, controlled, clinical trial conducted among treatment experienced HIV-infected adults in Switzerland. Participants were randomized 1:1:1:1 to switch to dolutegravir (DTG) + emtricitabine (FTC) or to continuing combination antiretroviral therapy (cART), and to patient-centred monitoring (PCM) vs continuation of 3-monthly surveillance. Patient-centred monitoring included annual immunological and safety monitoring, telephone calls, posting of medication, and decentralized venepuncture. We previously demonstrated non-inferiority of the dual therapy arm compared to cART by maintaining HIV-RNA below 100 copies through 48 weeks. Monitoring and treatment satisfaction were assessed using a visual analog scale (VAS) ranging from 0 to 100 points at week 48. Study satisfaction was evaluated by questionnaire at week 48.
RESULTS: Ninety-three participants were randomized to the DTG+FTC arm (48 to PCM and 45 to 3-monthly surveillance), and 94 to the cART arm (47 to the PCM and 47 to 3-montly surveillance). Mean nadir CD4 count was 259 cells/mm3 (SD 187); 17% were female. Monitoring and treatment satisfaction were above 80 points in both treatment arms, as was study satisfaction, with no significant difference between arms. Only 25.8% of patients in the DTG+FTC arm and 31.9% in the cART arm required additional visits outside of the study plan, majority of which consisted of non-HIV-related clinical visits. At study termination, 85.6% of participants in the dual therapy arm and 32.2% in the cART arm opted for DTG+FTC or the newly recommended EACS dual therapy of DTG/lamivudine.
CONCLUSIONS: Treatment simplification and patient-centred monitoring approach resulted in high patient's satisfaction in both treatment arms. Post-trial data was encouraging of simplified treatment with more than half of patients opting for dual therapy. Further studies should focus on collating evidence of cost-effectiveness and impact on Quality of Life of optimized monitoring and treatment strategies.

PEB0240

FACTORS ASSOCIATED WITH VIROLOGICAL FAILURE (VF) IN HIV-1 SUBJECTS RECEIVING DOLUTEGRAVIR MONOTHERAPY (DTG-M) AS MAINTENANCE THERAPY: A META-ANALYSIS OF INDIVIDUAL PATIENTS DATA (IPDMA)

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BACKGROUND: DTG-m is not recommended as a maintenance strategy in current antiretroviral therapy guidelines. However, most of the subjects receiving DTG-m in randomized controlled trials (RCTs) did not experience a VF. Thus, our aim was to determine independent predictors of VF with DTG-m maintenance and to evaluate DTG-m in subgroups stratified by these risk factors.
METHODS: A European collaboration was conducted to perform IPDMA. All RCTs where virologically controlled HIV-1 infected participants were randomized to receive DTG-m or combined antiretrovi-

ral therapy (cART) were included. The primary end-point was time to VF, defined as a confirmed viral load >50 copies/mL at or before week 48 (>200 copies/mL plasma before or at week 24 in DOMONO). We computed uni- and multivariate Cox models among subjects randomized to DTG-m. We then estimated the risk difference of VF and 95% confidence interval (CI) between DTG-m and cART by subgroups with available data.

RESULTS: IPD of 416 subjects enrolled in the Early-Simplified (n=101), DOMONO (n=95), DOLAM (n=62) and MONCAY (n=158) trials were collected. Overall, 16/227 (7.0%) in the DTG-m arm had VF versus 0/189 in cART arm, absolute difference 7.0%; 95% CI [-4% to -11%], p=0.007 by the log-rank test. In the DTG-m arm, independent predictors of VF were: CD4 cells nadir <350/mm^3 (Hazard Ratio, 14.2; 95% Confidence Interval [1.8 to 109.4]; p=0.01); baseline HIV DNA ≥2.7log/10^6 PBMCs (3.3; [1.2 to 9.4]; p=0.02) and the presence of a plasma PCR signal at baseline (3.9; [1.3 to 11.5]; p= 0.01). The subgroup analyses of the VF difference (D) are shown in the Table.

	Triple cART arm (n/N)	Monotherapy arm (n/N)	D [95%CI] ; Fisher exact test
Nadir CD4 <350/mm^3	0/95	13/110	-0.12 (-0.06;-0.19) ; p<0.001
Nadir CD4≥ 350/mm^3	0/63	1/86	-0.01 (0.05;-0.06) ; p>0.99
HIV DNA at baseline ≥ 2,7 log/10^6 PBMCs	0/14	11/36	-0.31 (-0.06;-0.47) ; p=0.022
HIV DNA at baseline <2.7 log/10^6 PBMCs	0/66	3/97	-0.03 (0.03; -0.09) ; p=0.28
Presence of a PCR signal at baseline	0/28	5/32	-0.16 (-0.01; -0.32) ; p=0.05
Absence of a PCR signal at baseline	0/130	8/64	-0.05 (-0.01; -0.09); p=0.01

[Table]

CONCLUSIONS: This is the first IPDMA of VF in DTG-m. Adjusting for HIV-DNA reservoir and presence of PCR signal at baseline, nadir CD4 <350/mm^3 was the strongest predictor of VF with DTG-m. Moreover, the efficacy of DTG-m versus cART maintenance differed according to the nadir CD4. A too low nadir CD4 for inclusion may explain the failure of DTG-m in some RCTs.

PEB0241

VIROLOGICAL EFFICACY AND TOLERABILITY OF DUAL THERAPY MAINTENANCE WITH DOLUTEGRAVIR PLUS LAMIVUDINE IN HEAVILY TREATMENT EXPERIENCED HIV-INFECTED PATIENTS: FOUR YEARS DATA FROM DOLULAM STUDY

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BACKGROUND: We evaluated the dual therapy with dolutegravir (DTG) and lamivudine (3TC) in virologically suppressed individuals with a long exposure to ARV and even with previous experience of resistance to 3TC. We present the data after 4 years of follow up.

METHODS: DOLULAM is a prospective cohort study. Patients on a stable antiretroviral regimen with plasma HIV RNA (VL) < 50 copies/mL, without resistance to integrase inhibitors, switched to DTG 50 mg plus 3TC 300 mg once daily. Reasons of therapy discontinuation included treatment-related adverse events, virological rebound (defined as persistent low level viremia (LLV) with VL between 50 and 200 c/mL), virological failure (defined as a single VL >200 c/mL) and patient's or physician's decision.

RESULTS: We enrolled 27 adults (20 men, 7 women; all whites). Baseline (BL) characteristics (median or %): age: 59 years, weight: 73 kg, zenith VL > 100 000 copies/ml: 56%, nadir CD4 :167/mm3, CD4 : 601/mm3 , HIV DNA load: 2,93 log10 copies/106 PBMC. Patients had been taking ARV for a median of 215 (range 22-329) months and the last regimen (TDF: 48%, PI/r : 81%, RAL : 26%) for a median of 51 (13-108) months. Ten (37%) patients had a history of genotypic test prior switch with M184V mutation.

After a follow up of 4 years, no patient experienced virological failure or severe adverse event, or was lost to follow-up. We observed 4 treatment discontinuations: 3 patients wanted to stop during the first 6 months (2 for fatigue, one for anxiety after blip), one patient interrupted at month 33 after 18 months of LLV without emergence of mutation of resistance.

Median changes between BL and 4 years were for weight : 0 kg (extremes -7, + 6 kg; no obesity), CD4: -47/mm3, ratio CD4/CD8: + 0,14, HIV DNA : -0,31 log10 copies/106 PBMC (IQR -0,01, -0,50), eGFR: - 2,5 mL/min/1,73 m2(IQR - 11,3 , + 1,7).

CONCLUSIONS: These results suggest that, in this population of heavily treatment-experienced patients without or with history of M184V mutation, dolutegravir plus lamivudine dual therapy is an effective and durable strategy of maintenance.

PHARMACOKINETICS/PHARMACODYNAMICS/ PHARMACOGENOMICS AND THERAPEUTIC DRUG MONITORING

PEB0242

SUFFICIENT PLASMA LEVELS WITHIN 24 WEEKS OF ANTIRETROVIRAL HIV THERAPY OF DOLUTEGRAVIR COMBINED WITH BOOSTED DARUNAVIR: A PHARMACOLOGIC SUBGROUP ANALYSIS OF THE DUALIS STUDY

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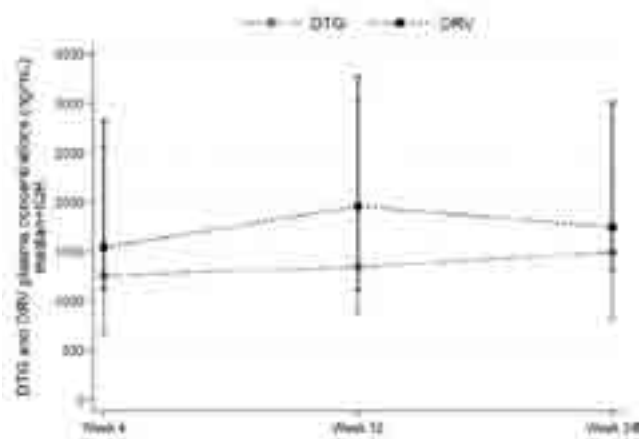
BACKGROUND: A combination of dolutegravir (DTG) and ritonavir-boosted darunavir (DRV/r) demonstrated non-inferiority as switch-option in virologically suppressed people-living-with-HIV (PLWH).

METHODS: We present a prespecified pharmacokinetic sub-analysis of a pharmacokinetic sub-study of the prospective, randomized, non-blinded DUALIS-study (Eudra-CT:2015-000360-34). Virologically suppressed PLWH were randomized and either remaining on DRV/r in combination with 2 NRTIs (3DR) or being switched to DTG 50 mg and DRV/r 800/100 mg once-daily (2DR). Samples for PK-analysis in the interventional 2DR arm were obtained after 4, 12 and 24 weeks at a single time-point. Plasma-levels were determined using high-performance-liquid-chromatography (HPLC).

RESULTS: A total of 57 subjects (50 male, 7 female) with a median (IQR) age of 45 (37-51) years and a body-mass-index of 24.3 (22.6-26.2) were included in the sub-study. HIV RNA was <50 cps/mL in 98.1%, 96.3% and 96.3% at week 4, 12 and 24 respectively. Full treatment compliance was reported for DRV in 75.4%, 87.5% and 89.3% and DTG in 78.9%, 87.5% and 89.3% at week 4, 12 and 24, respectively. The median (IQR, interquartile range) differences between last intake of the study medication and sampling at weeks 4, 12 and 24 were 20.6 (8.1-24.0), 18.3 (5.8-23.5) and 18.3 (8.9-23.0) hours, respectively. Median (IQR) levels at weeks 4, 12 and 24 were 1543 (1123-2832) ng/mL, 1961 (1111-3279) ng/mL and 1751 (1314-3008) ng/mL for DRV and 1258 (662-2256) ng/mL, 1345 (870-3021) ng/mL and 1494 (816-2274) ng/mL for DTG (Figure 1).



[Figure 1.]

Plasma concentrations were 0-82 -fold (week 4), 3-79 -fold (week 12) and 4-98 -fold (week 24) above the protein-adjusted IC90 (64 ng/mL) for DTG and 0-45 -fold (week 4), 2-33 -fold (week 12) and 1-42 -fold (week 24) above the protein-adjusted EC90 (200 ng/mL) for DRV, respectively.

CONCLUSIONS: The presented pharmacologic data support the suitability of the 2DR combination DTG plus DRV/r.

PEB0243

PHARMACOGENOMICS AND PHARMACOKINETICS OF EFAVIRENZ 400MG IN TREATMENT-NAIVE HIV-INFECTED PATIENTS: A 48-WEEKS OUTCOME OF A LOWER DOSE ART REGIME STUDY IN CHINA

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BACKGROUND: Pharmacogenomics and pharmacokinetics (PK) data of efavirenz (EFV) have been widely reported. However, the pharmacogenetics characters of a lower dose(400mg) efavirenz has rarely been reported.

METHODS: Treatment-naive HIV-Infected patients from 3 sites in China were randomly assigned(1:1) to receive either a lower dose anti-retroviral regimen comprised of TDF (200 mg) plus efavirenz (400 mg) and lamivudine, or the standard dose regimen. Relationships between single nucleotide polymorphisms (SNP: rs28399499, rs35303484, rs8192709, rs36118214, rs3745274, rs4803419, rs2279343, rs2279345, rs776746, rs3842, rs1045642 and rs2307424) and EFV PK with plasma HIV-RNA plasma viral load (pVL) and central nervous system (CNS) and rash adverse reactions (ADRs) at 48 weeks were explored. Blood samples were collected for detection of mid-dose interval concentration (C12) of EFV at 8 weeks after treatment.

RESULTS: Overall, 184 participants (14 women) received at least one dose of TDF+3TC+EFV and were included in the pharmacogenomics analysis. Allele frequency had no difference between the standard and lower dose groups. There was no significant relationship between EFV pharmacogenomics and ADRs of CNS. 171 blood samples were collected for plasma concentration detection. In the standard-dose group, CYP2B6 516G>T T/T(p=0.014) , CYP2B6 785A>G G/G(p<0.001), CYP2B6 18492C>T C/C(p<0.001) and ABCB1 3435C>T T/C(p=0.027) were all associated with higher plasma EFV levels. However, these were not seen in the lower dose group. 166 participants received HIV RNA pVL detection at week 48. No relationship was found between pharmacogenomics and antiviral efficacy. Patients with a bodyweight < 60 kg had significantly higher EFV C12 compared with those with weight ≥ 60 kg when using 600mg EFV but not 400mg EFV.

CONCLUSIONS: The effect of pharmacogenomics and body weight on the plasma concentration of EFV was significant in the 600mg group, but not in the 400mg group. The reduced dose of EFV is more suitable for people living with HIV.

PEB0244

PHARMACOKINETIC AND PHARMACOGENETIC ASSOCIATIONS BETWEEN EFAVIRENZ-BASED REGIMENS AND NEUROCOGNITIVE PERFORMANCE IN PEOPLE LIVING WITH HIV IN NIGERIA

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BACKGROUND: Efavirenz (EFV) is recommended as a component of alternative first-line regimens for HIV treatment and is commonly prescribed in Nigeria due to its efficacy and availability. EFV use is associated with neuropsychiatric side effects, which may include poor neurocognitive performance (NP).

Here, we evaluated single nucleotide polymorphisms (SNPs) in genes important for EFV disposition and examined them in association with plasma concentrations, hair concentration, and neurocognitive performance.

METHODS: HIV-positive adults receiving 600mg EFV (N=93, 70.3% female) were genotyped for 7 SNPs in CYP2B6, NRII3 and ABCB1. EFV was quantified in dried blood spots (DBS) and hair using liquid-chromatography-tandem-mass-spectrometry (LC-MS/MS). Plasma EFV concentrations were then calculated using a previously validated equation [DBS[EFV]/(1-hematocrit)*protein binding]. Participants were also administered a neurocognitive battery of 10 tests (7 domains) that assessed total neurocognitive functioning. Linear regression and Independent t-test were used to assess associations between SNPs, Log10 transformed EFV concentrations in hair and

plasma, as well as differences in mean concentrations by genotype. Associations between SNPs, EFV concentrations, and NP were also assessed using correlation.

RESULTS: Strong correlation (r = 0.64, P<0.001) was observed between plasma and hair EFV concentrations. The median (IQR) hair EFV concentrations was 6.85ng/mg (4.56-10.93). CYP2B6 516G>T, rs3745274 (P<0.001) and CYP2B6 983T>C, rs28399499 (P=0.001) were each associated with hair EFV concentrations. The median (IQR) hair concentrations was 5.80ng/mg (4.34-8.45) for those with 516GG, 6.38ng/mg (4.61-11.15) for 516GT and 11.0ng/mg (4.91-24.85) for 516TT. Similarly, 516G>T (P< 0.001) and 983T>C (P=0.009) were significantly associated with plasma EFV concentrations. The median (IQR) EFV plasma concentrations were 1790ng/ml (1423.59-2341.31) for 516GG and 5094ng/ml (4480.93-8506.28) for 516TT. Contrary to other findings, total neuropsychological performance was significantly associated with plasma EFV concentrations (r=0.23, P=0.043) and 983T>C genotype (r=0.38, P<0.0005). In addition, a weak positive correlation was observed between NP and hair concentration (r = 0.12, P=0.290). No other genetic associations were evident.

CONCLUSIONS: This study demonstrated an approximately 3-fold and 2-fold higher EFV plasma and hair concentrations respectively within CYP2B6 516T homozygotes compared to G homozygotes. Higher efavirenz concentrations were associated with better neurocognitive performance, requiring further study to elucidate the relationship between adherence, adverse effects and outcomes.

PEB0245

HAIR CONCENTRATION OF ANTIRETROVIRAL DRUGS, BUT NOT SELF-REPORTED ADHERENCE, IS ASSOCIATED WITH ONGOING VIROLOGIC FAILURE AMONG INDIVIDUALS IN RESOURCE LIMITED SETTINGS (RLS) ON SECOND LINE ANTIRETROVIRAL THERAPY (ART)

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BACKGROUND: ART adherence is necessary for virologic suppression (VS). Antiretroviral (ARV) hair concentrations reflect drug uptake from the systemic circulation over weeks-months, providing a time-averaged exposure measure. We previously reported results from ACTG-A5288, a strategy trial in RLS which included a cohort of individuals failing second-line PI-based ART, but with susceptibility to ≥1 NRTI and no LPV resistance, who remained on the PI-based regimen. We evaluated associations among hair ARV concentrations, self-reported adherence and virologic outcome in this cohort.

METHODS: Participants in the cohort on 2NRTIs with ATV (n=69) or LPV (n=112), each boosted with RTV, who provided hair samples for evaluating ARVconcentrations at 12, 24, 36 and 48 weeks, were included. Hair was analyzed for ATV, LPV and RTV using validated liquid-chromatography-tandem-mass-spectrometry assays. Participants self-reported percentage of doses taken in the month prior. Virologic Failure (VF) was confirmed HIV-1 RNA≥1000 copies/mL at 24 through 48 weeks.

RESULTS: Among 181 participants, 61% were female. Median age: 39y; CD4 count: 167 cells/uL; HIV-1 RNA: 18,648 copies/mL. Ninety-one (50%) experienced VF. At 12 weeks, median hair concentrations were 2.20 ng/mg for ATV, 2.78 for LPV, and 0.33 for RTV, with little change through 48 weeks. At weeks 12, 24, 36 and 48, 57% to 67% of participants self-reported 100% dosing, with weak correlation ($r_s \leq 0.10$) between self-reported adherence and hair concentrations of each ARV. Correlations between hair concentrations of each drug and HIV-1

RNA at weeks 24 and 48 ranged from −0.53 to −0.74, but correlations between self-reported adherence and HIV-1 RNA were weaker, ranging from −0.08 to −0.24. Individuals with VF had significantly lower ARV hair concentrations than those achieving suppression (Table).

Drug	Week	VF by 48 wks (n=91)	Suppressed: no VF by 48 wks (n=90)	p-value
RTV (n=181), ng/mg	12	0.22 (0.06-0.50)	0.58 (0.27-0.79)	<0.001
	24	0.12 (0.03-0.37)	0.69 (0.46-0.89)	<0.001
ATV (n=69), ng/mg	12	1.34 (0.34-2.64)	3.08 (1.33-4.45)	0.007
	24	0.83 (0.11-3.20)	3.70 (2.84-5.22)	<0.001
LPV (n=112), ng/mg	12	1.05 (0.23-3.18)	4.81 (2.39-6.69)	<0.001
	24	0.79 (0.13-2.66)	5.70 (2.75-8.61)	<0.001

[Table: Median (IQR) drug concentrations for people experiencing versus not experiencing VF]

CONCLUSIONS: Among people experiencing VF on second-line ART with limited resistance, PI concentrations in hair, but not self-reported adherence, were strongly associated with subsequent virologic outcome. These findings argue for incorporating objective adherence metrics into the evaluation of ART failure in RLS.

PEB0246

ROLE OF CYTOCHROME CYP2B6 POLYMORPHISMS ON NEVIRAPINE PLASMA LEVELS AND CLINICAL OUTCOMES. A PROSPECTIVE STUDY AMONG HIV-1 INFECTED PATIENTS RECEIVING ART TREATMENT IN NAIROBI KENYA

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BACKGROUND: Genetic variation in cytochrome P450 2B6 (CYP2B6) influences nevirapine (NVP) plasma levels and certain clinical parameters. In this prospective cohort study, we evaluated the role of CYP 516G>T and 983T>C on nevirapine plasma levels and clinical responses among HIV infected population in Nairobi Kenya

METHODS: Blood samples at baseline and month 6 were obtained from 228 consenting HIV- seropositive adult receiving nevirapine-based antiretroviral therapy (ART) in Nairobi and a detailed sociodemographic questionnaire was administered. The NVP plasma levels were determined at month 6 samples using liquid chromatography tandem mass spectrometry (LC/MS/MS). Selected clinical parameters were evaluated at baseline and month six. Associations between polymorphism at CYP 516G>T and 983T>C, plasma nevirapine concentration and clinical parameters were analysed by regression.

RESULTS: Participants with the homozygous mutant for CYP2B6 516TT had higher mean NVP plasma levels (5335.9ng/mL; n = 29) compared to those with heterozygous 516GT (4985.5 ng/mL; n= 74) and wild type 516GG (3725.8 ng/mL; n=104) genotypes (P = 0.001). Participants heterozygous for CYP2B6 983TC genotype had higher mean NVP plasma levels (4748.9ng/mL; n=80) compared to participants the wild-type CYP2B6 TC (4161.5 ng/mL; n=127) genotypes (p=0.046). Multiple linear regression analysis shows CYP2B6 516G>T polymorphism accounted for a significant reduction in viral load levels while increased CD4+ cell level (p=0.039). On the contrary CYP2B6 983T>C genotypes was not associated with significant change on NVP plasma, CD4+ cell and viral load levels. Both the CYP 2B6 516G>T and 983T>C genotypes did not affect virologic response or toxicity.

CONCLUSIONS: Our findings show CYP2B6 genotypes predicted NVP plasma levels as well as immunological and virological outcomes 6 months into ART treatment. Pharmacogenetic testing may be important in guiding individualization of HIV management aimed at improving treatment outcomes in Kenya.

PEB0247

MATERNAL AND NEONATAL EFFECTS OF ANTIRETROVIRAL THERAPY WITH EFAVIRENZ IN PREGNANT WOMEN WITH HUMAN IMMUNODEFICIENCY VIRUS

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BACKGROUND: Our aim was to determine the rate of adverse effects on antiretroviral therapy (ART) containing Efavirenz (EFV) both among pregnant women and their respective newborn, such as malformations, laboratory changes and prematurity.

METHODS: Observational, cohort, retrospective study. It consisted of a cohort of HIV-infected pregnant women and their exposed newborns attended at CAISM-UNICAMP from 2000 to 2018. We included 116 HIV-infected women who were divided in two groups: group 1, women who had their ART changed during pregnancy; and group 2, women who used ART containing EFV all pregnancy. The results of both groups were compaired in the end.

RESULTS: In group 1 was found no neural tube malformations, two cases of hemangioma, one of esophageal atresia and the other of pyelocalitic dilation. The average age of women was 31,2+-5,8 years; average parity was 1,6+-1,3 births and 81,7% of viral undetection. In group 2, one case of cerebral ventriculomegaly associated with congenital toxoplasmosis, two cases of macrocrania without CNS structural changes; the average age was 31,3+-5,7 years, average parity was 2,1+-1,3 births and 82% of viral undetection. Thus, we observed a low occurrence of malformations associated with medication, with data similar to the occurrence of the general population (~2 to 3%); and a low occurrence of maternal and neonatal adverse effects regarding hematological changes in group 2. In group 1, there was a higher occurrence of metabolic effects associated with the use of protease inhibitors rather than exposure to EFV, as the change was preferentially performed for use of Lopinavir / ritonavir, substances withdrawn from the ARV drug trade due to high occurrence of associated metabolic effects, but which was the preferred regimen recommended for pregnant women in Brazil until 2015.

CONCLUSIONS: Were observed a low occurance of maternal and neonatal adverse effects, mainly in group 2, since most of women of group 1 had their ART changed to a therapy containing protease inhibitors. Thus, the use of EFV in the ART regimen in pregnant women in our service was associated with low occurrence of malformations and other adverse effects, confirming it is a secure drug and still a possibility during pregnancy.

DRUG INTERACTIONS

PEB0248

POLYHERBACY AMONG PEOPLE LIVING WITH HIV IN RESOURCE LIMITED SETTINGS: IMPLICATION FOR DRUG-HERB INTERACTIONS

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BACKGROUND: Herbal medicine serves as the primary health care option for 70-90% of the African population due to limited access to mainstream health services. Currently, there is no evidence available on use of combined herbal medicines (polyherbacy) in people living with HIV and how this may impact treatment outcome including drug-herb interactions. As such, the aim of this study was to determine the prevalence of polyherbacy in people living with HIV in Ethiopia and motivations for consumption of these products.

METHODS: This study employed interviewer administered questionnaire for data collection. A sample of 412 participants living with HIV and aged 18 years or above were recruited from five primary hospitals located in Addis Ababa, between July and September 2019. Both descriptive statistics and logistic regression models were used to analyse the data and investigate the association between herbal medicine use and socio-demographic factors.

RESULTS: Four hundred participants (mean age 32.4 years) completed the questionnaire. Nearly all participants (n = 398, 99.5%) used herbal medicine in the past 12 months. The prevalence of polyherbacy among the respondents was 86% (n = 344), with 56.5% (n = 226) taking five or more concomitant herbal preparations in the past 12 months. Being female (OR, 3.1; 95%CI, 1.4-6.68; p=0.004), having no formal education (OR, 6.5; 95%CI, 3.4-13.44; p<0.001), and low income (OR, 3.0; 95%CI, 1.54-5.33; p<0.001) were associated with use of polyherbacy. Main reasons for herbal medicine use were to improve physical strength, immunity, sleep quality, appetite, and emotional wellbeing. Most participants (n = 376, 94%) did not disclose with the use of polyherbacy with health professionals. The main reason for non-disclosure was that they were not asked about the use of herbal medicine by health professionals.

CONCLUSIONS: The finding suggests that there might be risk of potential herb-herb and drug-herb interaction leading to adverse health outcomes among people living with HIV in poor settings. Providing health education about the consequences of polyherbacy will be imperative to reduce potential herb-antiretroviral medication interactions. However, further research is required to ascertain the potential herb-drug interactions and harmful health outcomes of polyherbacy in these patients.

PEB0249

OUTCOMES OF METHADONE MAINTENANCE THERAPY COMBINED WITH RIPIVIRINE/EFAVIRENZ IN TREATMENT-NAIVE HIV-INFECTED PATIENTS: A PILOT STUDY

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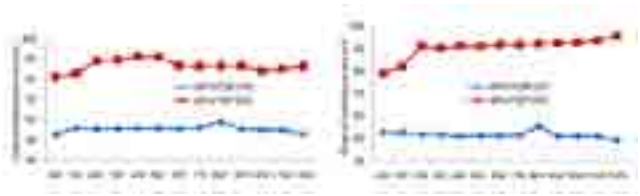
BACKGROUND: Methadone maintenance treatment (MMT) is one of the most effective therapies for opiate addiction, and significantly reduces the use of heroin and other opiates. IDUs enrolled in the MMT may show decreased criminal activities or risk of HIV acquisition, with more likely improved quality of life and socioeconomic status.To evaluate the effect of MMT combined with ripivirine (RPV) based regimens in drug use of HIV individuals.

METHODS: This study was conducted with prospective, open-label, controlled, drug-drug interaction trial in a single center for 24 weeks. Participants on stable MMT were randomly divided into two groups administered RPV/TDF/3TC (RPV-based) and EFV/TDF/3TC (EFV-based), respectively. Adjustment doses of methadone were monitored for 12 weeks, and HIV-1 RNA was used to evaluate the effects of antiretroviral therapy at week 24. Acute opioid withdrawal-, drug craving questionnaire- and MOS-HIV- scales were used to assess study outcomes.

RESULTS: 22 and 18 cases of HIV-infected drug users were recruited in RPV-based and EFV-based groups, respectively. 31 cases had completed monitoring and clinical evaluation at week 24. In RPV-based and EFV-based groups, 32% and 56% patients had methadone dose adjustment, respectively, indicating a significantly lower rate in RPV-based group. The rates of individuals with HIV RNA levels from 50-500 copies/ml were 94% (RPV-based group) and 90% (EFV-based group). The drug craving questionnaire scale scores decreased in both groups, with no change after 3 weeks of combination treatment. After one week of treatments, acute opioid withdrawal scale scores were increased in both groups, with no significant difference between the two groups.



[Figure 1. Methadone doses demands in the RPV and EFV-based groups]

CONCLUSIONS: Concomitant administration of RPV is not significantly affect methadone dose adjustment and could decrease withdrawal symptoms caused by methadone dose adjustment. These results indicate that the RPV-base regimen may be used as first line treatment in IDUs with HIV-infection.

ANTIRETROVIRAL DRUG RESISTANCE

PEB0250

INFLAMMATION, IMMUNE ACTIVATION AND MICROBIAL TRANSLOCATION IN PERSONS LIVING WITH FOUR-CLASS DRUG RESISTANT HIV: DATA FROM THE PRESTIGIO REGISTRY

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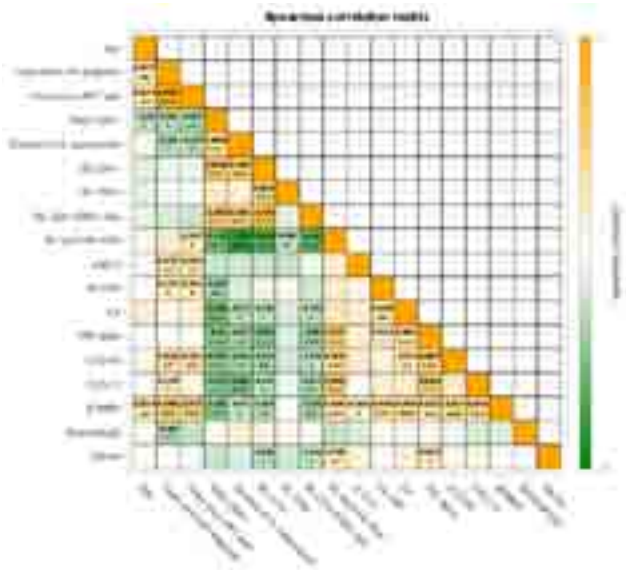
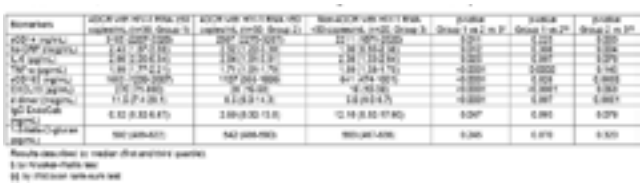
BACKGROUND: Four-class drug resistant (4DCR) persons living with HIV (PLWH) are a fragile population with a 22% probability of AIDS- or non-AIDS events or death for any cause over 48 months. No data on biomarkers of inflammation, immune activation and microbial translocation are available for this population.
METHODS: Cross-sectional study on three different groups of PLWH on antiretroviral therapy (ART):
- 4DCR (defined as harbouring a four-class drug resistant virus (NRTI, NNRTI, PI, INSTI)) with HIV-1 RNA ≥ 50 copies/mL (group-1; n=30);
- 4DCR with HIV-RNA <50 copies/mL (group-2; n=30);
- non-4DCR with HIV-RNA <50 copies/mL (group-3; n=20).
Groups were matched by age (±5 years), sex, smoking habit.
Markers of inflammation (hs-CRP, IL-6, TNF-alpha, d-dimer), immune activation (sCD163 and CXCL13) and microbial translocation (sCD14, endotoxin core IgG (EndoCAb IgG) and 1-3-β-D-glucan (BDG)) were measured using specific ELISA kits. Linear correlations were assessed by Spearman correlation analysis.



*[Figure 1. Correlation matrix of inflammation, immune activation and microbial translocation biomarkers and PLWH characteristics. Only significant correlation coefficients are reported (*p<0.05, **p<0.01, ***p<0.001). In the color bar, the yellow side denotes the positive correlations, while green represents the negative correlations.]*



[Table 1. Inflammation, immune activation and microbial translocation biomarkers among the 80 PLWH included in the analysis.]

RESULTS: Eighty subjects were evaluated: median age was 51.7 (IQR=45.9-55.2) years, 86% male, 60% smokers, on ART since 17.8 (IQR=8.0-23.7) years, 472 (IQR=237-766) CD4+cells/mm3, nadir CD4+ 156 (IQR=47-260) cells/mm3; HIV-1 RNA was 3.78 (IQR=2.1-4.69) log-10copies/mL in group-1. Multiple correlations (Figure 1) were detected among inflammation, immune activation and microbial translocation biomarkers (Table 1) and patient characteristics.
CONCLUSIONS: PLWH harbouring a multi-drug resistant virus, also when virologically undetectable, showed a higher degree of inflammation (hs-CRP, d-dimer), immune activation (sCD163, CXCL13) and microbial translocation (sCD14), compared to the non-4DCR group. A longer history of HIV infection and treatment and a worse immunovirological profile were associated with an increased inflammatory status.

PEB0251

VIRAL C-TERMINAL REGION P7 – P6GAG GAG POLYMORPHISMS AND PROTEASE DRUG RESISTANCE MUTATIONS PROFILE IN HIV-1 INFECTED PATIENTS FAILING PROTEASE INHIBITORS COMBINATION THERAPY

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BACKGROUND: HIV Gag mutations was reported to confer PI resistance in B subtypes but little is known about non-B. Understanding the role of P7–P6gag and characterize relevant mutational patterns, could help to reduce failures to PI.
METHODS: We conducted at CIRCB a cross-sectional study on 334 individuals (96 on PI). Resistance mutations (RMs) were analyzed in the protease using Stanford algorithm. Mutations were identified in P7–P6gag cleavage sites (CS) (P7/P1 and P1/P6gag) and non-CS of each sequence using HXB2 and BioEdit. Each Gag sequence was analyzed for the presence of P7–P6gag RMs known or not to be associated with resistance to PIs. Samples containing a mixture of wild type and mutant were scored as mutants. Statistical analysis was performed using GraphPad Prism 6 and p ≤ 0.05 was considered significant.
RESULTS: We compared PI exposed patients to not exposed in P7–P6gag CS and non-CS. In CS we found RMs given as exposed/not exposed frequencies: I437V 0%/0.84%; L449P 73.9%/ 80%; P453L 9.37%/3.36% with the respective p 0.861;0.675;0.04 in P7/P1 CS for the first RM and P1/P6gag CS for the others. In non-CS, we found V467E 84.37%/92.47% (p=0.607) and two new mutations with high entropies Q476K 79.16%/0.84% and E477Q 79.16%/0% (p< 0.0001). Among the 96 (44.31% men, Mean age [IR]=41.21±12.66 [7-70] yrs.), 76 were failing PI with RMs (38.63% M46I, 7.95% I47IV/V/A, 4.54% I50L, 12.5% I54IM/M, 14.77% L76V, 4.54%, V32F11.36% V82S/T/A/F, 21.59% I84V and 5.68%

L90M). We found the prevalence of RMs in P7– P6gag in patients with PI-RMs as compared to those with no PI-RMs. Mutations in term of PI-RMs/no PI-RMs were: P453L 55.5%/44.4%; Q476K 43%/55.26%; E477Q 42.10%/53.94% all with p>0.05. No P7–P6gag RMs was linked to a particular subtype: CRF02_AG (63%), G (4%), F2(4%), A (17%), D (2.63%), CRF11_cpx (11.3%) or CRF09_cpx (1.3%) (p≥0.05).

CONCLUSIONS: We revealed, two new, not yet described, potentially important mutations Q476K, E477Q in P7–P6gag non-CS of non-B Gag, that could have clinical implications. They showed no Subtypes or PI-RMs impact. However, further phenotypic analyses and clinical correlates of drug failure will be needed before such information is suitable for amending existing resistance algorithms..

PEB0252

USE OF BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (B/F/TAF) BEYOND THE PRESENCE OF THE M184V MUTATION

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BACKGROUND: While B/F/TAF is FDA approved for patients without known resistance to its components, recent data suggests that the presence of M184V/I may not affect its potency. There is little data, however, evaluating its role in patients with M184V in addition to other NRTI and/or INSTI mutations.

METHODS: We conducted a retrospective, observational study of patients receiving B/F/TAF at two inner-city clinics in Newark and Paterson, NJ. We reviewed available resistance testing that was taken prior to B/F/TAF initiation for clinically significant NRTI and or INSTI mutations. The Stanford University HIV Drug Resistance Database was utilized to identify such mutations. Patients were eligible if they were receiving only B/F/TAF for ART regimen, and if they were maintained on it for at least 24 weeks.

RESULTS: A total of 2478 patients were reviewed, 697 of which were receiving B/F/TAF; of those, 54 were eligible for analysis and had known M184V. Thirty-nine had the M184V mutation alone, 15 had M184V plus other clinically significant NRTI and/or INSTI mutations; eight Male and seven Female, the majority were Black (65%) and their mean age was 57 years (SD ± 11). All patients had an undetectable viral load (VL) at the time of B/F/TAF initiation. Baseline resistance mutations were as follows: M184V + TAM(s) (86%), M184V + other NRTI mutation (7%), M184V + INSTI mutation (7%). The method for resistance testing varied: proviral DNA genotype (53%) vs. traditional genotype (47%). The mean duration of B/F/TAF therapy was 12 months. All patients maintained virologic suppression (HIV RNA < 20 copies/mL), with the exception of one patient with a blip of 80 copies/mL, while on B/F/TAF therapy.

CONCLUSIONS: Because B/F/TAF is a convenient single tablet regimen, patients and providers may be tempted to use it as a switch regimen in those who may have had resistance in the past and currently have an undetectable VL on a regimen that requires a change due to drug-drug or drug-food interaction. Although our study is encouraging for those patients, it is critical to have long term follow up and a larger sample size before generalizing its use in patients with multiple NRTI and/or INSTI mutations.

PEB0253

HIGH EFFICACY AFTER SWITCHING TO INTEGRASE STRAND TRANSFER INHIBITORS (INSTI) IN PLWH WITH UNDETECTABLE VIREMIA AND PAST VIROLOGICAL FAILURE WITH OR WITHOUT RESISTANCE

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BACKGROUND: In PLWH with previous virological failures (VF) or resistance, data on optimisation of antiretroviral therapy (ART) with INSTI-regimens are limited. High virological efficacy was demonstrated with DTG+2NRTI in patients with residual NRTI activity and with BIC/TAF/FTC in patients suppressed; few data are available for other INSTI-based options.

METHODS: In this retrospective multi-centre study we analyzed ART-treated PLWH with virological suppression (<50 copies/ml) and at least a previous VF with an available genotype, who had switched to an INSTI-containing regimen. Primary endpoint: viral rebound (VR, confirmed HIV-RNA >=50 c/mL). We estimated incidence ratio (IR) of VR according to a) genotypic susceptibility score (GSS); b) high resistance level to NRTI [K65R/E/N, >= 3 TAM, insT69]. Weighted Cox regression model was fitted to estimate HR of VR, after controlling for confounding variables.

RESULTS: 654 patients included: 30% females, age 52 (IQR 47-56), nadir CD4 116 cells/mmc (40-227), years of viro-suppression 3.2 (1.3-7.4). VR was detected in 120 patients over 1,387 person-year-follow-up (PYFU). IR of VR was comparable throughout the stratifications: a) 8.2 x 100 PYFU (95%CI 5.9-11.3) in patients with GSS <2 and 8.9 x 100 PYFU (7.1-11.0) in patients with GSS >=2; b) 8.8 x 100 PYFU (7.2-10.8) in patients with high resistance level to NRTI and 8.2 x 100 PYFU (5.7-11.8) in patients with no/low resistance to NRTI. Patients in 1° generation INSTI-containing regimens had IR of VR of 10.1 x 100 PYFU (8.1-12.6), those in 2° generation INSTI 6.5 x 100 PYFU (4.7-8.9). By multivariate analysis, patients with GSS>=2 had a lower risk of VR (aHR 0.60, 0.31-1.14), but not statistically significant in the overall population (Table), except for INSTI+NRTI or NNRTI (aHR 0.18, 0.04-0.93, p=0.041). Similar results were obtained with the other definition of resistance.

Viral Rebound	HR 95%CI	p-value	AHR 95%CI	p-value
GSS>=2 vs <2, overall population	0.67 (0.39-1.14)	0.141	0.60 (0.31-1.14)	0.119
GSS>=2 vs <2, 1° generation INSTI + 2NRTI	0.93 (0.41-2.10)	0.852	0.68 (0.28-1.67)	0.399
GSS>=2 vs <2, 2° generation INSTI + 2NRTI	1.36 (0.57-3.25)	0.485	1.55 (0.47-5.08)	0.473
GSS>=2 vs <2, INSTI + NRTI or NNRTI	0.21 (0.05-0.84)	0.028	0.18 (0.04-0.93)	0.041
GSS>=2 vs <2, INSTI + boosted PI	0.58 (0.29-1.14)	0.114	1.15 (0.44-3.02)	0.772
GSS>=2 vs <2, 1° generation INSTI regimen	0.53 (0.27-1.03)	0.063	0.51 (0.21-1.20)	0.122
GSS>=2 vs <2, 2° generation INSTI regimen	1.01 (0.50-2.04)	0.986	0.87 (0.28-1.98)	0.742

[Table]

CONCLUSIONS: After switching during virological suppression, INSTI regimens maintained high rate of virological success even in heavily treatment-experienced patients and with low GSS and/or pre-existing NRTI resistance.

PEB0254

PREVALENCE AND RISK FACTORS OF PRE-EXISTING NNRTI RESISTANCE AMONG SUPPRESSED PLWH IN B/F/TAF SWITCH STUDIES

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BACKGROUND: Historical preference for NNRTIs as third agents in ART, low barrier to NNRTI resistance (-R) development, and persistence and transmission of relatively fit HIV containing NNRTI-R substitutions have resulted in a high prevalence of NNRTI-R in PLWH. Studies 1844, 1878, 4030, and 4580 demonstrated the safety and efficacy of switching stably suppressed HIV-1-infected adults to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) and assessed baseline drug resistance in study participants. In this analysis, we investigated the prevalence of pre-existing NNRTI-R and associated risk factors among participants in these four clinical trials.

METHODS: Pre-existing drug resistance was assessed by historical genotypes and/or retrospective proviral DNA genotyping (GenoSure Archive® assay, Monogram Biosciences). Stepwise selection was used to identify potential risk factors for NNRTI-R in a multivariate logistic regression model with variables including participant demographics and baseline characteristics, HIV disease measures, ART history, and other pre-existing HIV drug resistance substitutions.

RESULTS: Baseline genotypic data were available for 1995 participants. Primary NNRTI-R, NRTI-R, and PI-R substitutions were detected in 22% (448/1995), 17% (339/1995), and 10% (208/1995), respectively. The NNRTI-R substitution K103N was detected in 12% (232/1995), rilpivirine (RPV)-associated substitutions (L100I, K101E/P, E138A/G/K/Q/R, V179L, Y181C/I/V, Y188L, H221Y, F227C, or M320I/L) were detected in 10% (196/1995), and other NNRTI-R substitutions (V106A/M, V108I, Y188C/H, G190A/E/Q/S, or P225H) were detected in 7% (144/1995). Previously undocumented NNRTI-R was detected by proviral genotyping in 14% (289/1995). Altogether, 38% (754/1995) of participants were previously treated with NNRTIs, and 7% (145/1995) were on an NNRTI-based regimen at baseline. By multivariate model, factors independently associated with pre-existing NNRTI-R included black race, baseline age <50 years (versus ≥50 years), pre-existing NRTI-R, M184V/I, or PI-R, and prior treatment with protease inhibitors or raltegravir, but not prior NNRTI treatment (potentially due to transmitted resistance or incomplete medical history). Pre-existing RPV-R was associated with CD4 counts <500 cells/mL, prior raltegravir treatment, and pre-existing NRTI-R.

CONCLUSIONS: NNRTI-R was the most frequently observed resistance class in these studies. The high prevalence of NNRTI-R among suppressed PLWH and the risk factors associated with NNRTI-R underscore the importance of comprehensive resistance assessments and medical history prior to switching to RPV or other NNRTI containing regimens.

PEB0255

NRTI MUTATIONS SCENARIO IN EUROPE: HOW THEY HAVE CHANGED AND THEIR IMPLICATION IN HIV PREVENTION AND THERAPY

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BACKGROUND: In recent years, NRTIs-based strategies for both the prevention and dual therapy of the HIV infection have been spreading in Europe and worldwide.

Many clinicians have been skeptical about the widespread application of such protocols because of its unshielded use of NRTIs outside of the standard three-drug cART, thus exposing the patients to potential therapeutic failure or HIV acquisition due to NRTI-resistant strains.

Aim of the study is to explore the overall prevalence of NRTI mutations and its changes over the years.

METHODS: To explore the prevalence of NRTI mutations we analyzed a total of 29.547 sequences retrieved from the early 90s to 2018 from the EuResist Integrated Database. Mutations to NRTI consisting of major and minor ones were identified from the IAS-USA 2019 list.

RESULTS: We identified 9.090 isolates that showed at least one mutation to NRTIs, assessing the overall prevalence at 31%.NRTI mutations appeared early in the history of HIV with a prevalence of around 44%, gradually increasing over the first years of ART reaching a peak of 57% in the early 2000s, then progressively decreasing until reaching its lowest (7%) in 2015-2018.

When focusing on specific mutations, the M184V/I appeared to be the most frequent one with 5.795 isolates harboring it (20%); it showed a similar temporal trend with a peak in prevalence in 2003-2004 (36%) followed by a decrease in the recent period (4% in 2015-18). Specifically, 3.831 patients carried this specific mutation. When divided by countries, the same pattern has been found in all the participating centers (Italy, Spain, Luxemburg, Portugal, Sweden, and Germany).

An exiguous number (5,1%) of transmitted mutations were found while the majority of them were acquired (94,9%).

CONCLUSIONS: Prevalence of NRTI mutation has been declining over the years, showing a peak in the mid-2000s and reaching its minimum in recent years. As for the most frequent mutation, M184 appeared to be the most important one in terms of prevalence. A similar trend can be found in all of the countries included in the analysis, thus the application of new NRTI-based strategies both for prevention and treatment should not be actively discouraged.

PEB0256

DURABILITY OF SECOND-LINE ANTI-RETROVIRAL THERAPY AND PREDICTORS OF VIRAL REBOUND AMONG HIV PATIENTS ON SECOND-LINE ART IN AN HIV SPECIALIST CLINIC IN UGANDA: A 10-YEAR RETROSPECTIVE COHORT

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BACKGROUND: It is projected that up to 19.6% of patients on ART in Sub-Saharan Africa will need second-line treatment by 2030, but the durability of such therapy has not been well studied. This study investigated the durability of second-line ART and the factors associated with the viral rebound in patients on second-line ART in Uganda.

METHODS: A retrospective review of electronic records of patients initiated on second-line ART in an adult HIV clinic. Patients that had taken second-line for ≥6 months between 2007 and 2017 were included. Patients were followed until they experienced a viral rebound (Viral load ≥200copies/ml). Cumulative probability of viral rebounds and factors associated with viral rebound were determined using Kaplan-Meier methods and Cox proportional hazard models respectively.

RESULTS: 1101 participants were enrolled. At base-line, 96% reported good adherence, 64% were female, the median age was 37 years (IQR 31-43), median duration on first-line ART was 3.7 years (IQR 2.7-6.7), and the median CD4 and viral load were 128 cells/ul (IQR 58-244) and 45978 copies/ml (IQR 13827-139583) respectively. During the 4454.17 personal-years, the incidence density of viral rebound was 79.70 (95% CI 71.83- 88.44) per 1000 person-years. The probability of a viral round at 5 and 10 years was 0.34, 95% CI (0.31 -0.37) and 0.5250, 95% CI (0.46 -0.60) respectively. The durability of second-line ART estimated as the median survival without a viral rebound was 9.47 years. Older age categories were protective against viral rebound, but a high switch viral load ≥100,000copies/ml was associated with viral rebound aHR 1.5, p-value < 0.001, 95% CI (1.20- 1.86). Also, later calendar years were associated with viral rebound aHR1.51, 95% CI (1.15-1.99), p-value< 0.003 for 2011-2014 and aHR 2.83, p-value< 0.001, 95% CI (2.00-4.01) for 2015-2017.

CONCLUSIONS: The study affirms that among patients with good adherence in Uganda, second-line regimens are durable, and 50% of patients switched to second-line survive for 9.5 years without experiencing a viral rebound. Meanwhile, a high switch viral load and later calendar year are significantly associated with a viral rebound, suggesting a need for closer follow-up of at-risk individuals in order to maximise the durability of second-line ART.

PEB0257

BASELINE NRTI RESISTANCE IN SUPPRESSED PARTICIPANTS DID NOT LEAD TO VIRAL BLIPS ON BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (B/F/TAF) OR DOLUTEGRAVIR (DTG)+F/TAF THROUGH WEEK 48 IN STUDY 380-4030

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BACKGROUND: Study 4030 was the first study to prospectively investigate switching to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in virologically suppressed participants with a history of treatment failure and/or known or suspected pre-existing NRTI resistance (NRTI-R). In this study, switching to B/F/TAF was non-inferior to dolutegravir (DTG)+F/TAF, and high rates of virologic suppression were maintained with no treatment-emergent resistance, regardless of pre-existing NRTI-R. Here, we investigated viral blips through 48 weeks of treatment.

METHODS: 565 suppressed participants switched from DTG+F/TAF or DTG+F/tenofovir disoproxil fumarate to B/F/TAF or DTG+F/TAF. Pre-existing NRTI-R was classified into three groups: 1) K65R/E/N or ≥3 TAMs including M41L or L210W (±M184V), 2) any other NRTI-R, or 3) no known or suspected NRTI-R. A blip was a post-baseline HIV-1 RNA value ≥50 c/mL preceded and followed by HIV-1 RNA <50 c/mL. Participants with at least one on-treatment post-baseline HIV-1 RNA value were included in the blip analysis. HIV-1 RNA and last observation carried forward (LOCF) outcome data through week 48 were used.

RESULTS: Of the 562 participants in this analysis, 15 (2.7%) experienced a blip through week 48 with similar blip frequencies between treatment arms (8/283 B/F/TAF; 7/279 DTG+F/TAF). Of the 15 participants with blips, 13 were in the no NRTI-R category, 1 had 3 TAMs and M184I on B/F/TAF, and 1 had M184V on DTG+F/TAF. Only 1 participant had >1 blip (2 blips, B/F/TAF, and no pre-existing NRTI-R). Of the 16 total blip events in the study, 11 were low-level (50-199 c/mL) and 5 were ≥200 c/mL. The proportions of participants with blips <200 c/mL or ≥200 c/mL were similar between treatment arms. At week 48 by LOCF, 14 of the 15 participants with blips had HIV-1 RNA <50 c/mL, and 1 on B/F/TAF had HIV-1 RNA ≥50 c/mL but resuppressed at the next visit. No participant with blips qualified for genotypic and phenotypic testing for emergent resistance.

CONCLUSIONS: Viral blips were infrequent and similar among participants switching to B/F/TAF or DTG+F/TAF, and baseline NRTI-R did not result in a higher rate of blips. Blips did not lead to virologic failure or resistance development using these triple therapy regimens.

PEB0258

HIV DRUG RESISTANCE (HIVDR) IN HAITI: IMPACT ON FUTURE GUIDELINES

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BACKGROUND: We assessed drug resistance in a sample of adult patients at GHESKIO in Port-au-Prince, Haiti to inform treatment guidelines. Until November 2018, when dolutegravir became available, 92% of patients had been treated with non-nucleoside reverse transcriptase inhibitor (NNRTI)-based regimens.

METHODS: From September 2018 to July 2019, we conducted HIV genotypes for 817 patients ≥15 years of age using convenience sampling. Of these, 392 were presumably ART-naïve, 226 had failed first-line NNRTI, and 199 had failed a second-line regimen. The median age was 36 years (IQR: 29, 45) and 480 (58.8%) were female. Resistance of at least low level was defined by the Stanford HIV Drug Resistance Database score: ≥ 15.

RESULTS: Pre-treatment efavirenz (EFV) resistance was detected in 21.9% of ART-naïve patients (17.6% in males [n=148] and 24.6% in females [n=244]). Rilpivirine (RPV), doravirine (DOR), and etravirine (ETR) resistance were detected in 11.5%, 8.2%, and 6.4% (see Table 1). Among patients failing a first-line NNRTI regimen, EFV, RPV, and DOR resistance were detected in 81.4%, 46.5%, and 58.0%, respectively. Among patients failing a second-line regimen, EFV, RPV, and DOR resistance were detected in 65.8%, 38.2%, and 41.2%, respectively.
PI resistance was detected in 8.0% of patients failing second-line ART. DTG resistance was detected in 0.4% of first-line NNRTI failure patients.

Treatment Group (≥ 15 yo; n = 817)	EFV	DOR	RPV	ETR	Any NRTI	TDF	AZT	ABC	3TC/FTC	TDF & 3TC	Any PI	DTG
PDR (n = 392)	21.94%	8.16%	11.48%	6.38%	7.40%	3.57%	2.30%	6.12%	6.12%	3.57%	2.30%	0.00%
First-Line NNRTI Failure (n = 226)	81.42%	57.96%	46.46%	34.96%	49.56%	30.97%	4.42%	49.12%	48.67%	30.53%	2.65%	0.44%
Second-Line Failure (n = 199)	65.83%	41.21%	38.19%	23.62%	36.18%	14.57%	15.08%	33.67%	31.66%	12.56%	8.04%	0.00%

[Table. At Least Low-Level Resistance (Score of ≥15 by Stanford HIV Drug Resistance Database)]

CONCLUSIONS: Rates of efavirenz resistance in Haiti are among the highest in the world; thus, EFV should not be used unless ART resistance testing is available. Caution is necessary with the use of other NNRTIs, due to cross-resistance. This must be considered in the use of RPV for long-acting ART. The TDF/3TC/DTG regimen is likely to be effective for first-line ART, but close follow-up is necessary if this regimen is used for NNRTI failures, due to high rates of NRTI resistance. ART resistance testing would be optimal to guide therapy for patients failing second-line ART.

PEB0259

NON-NUCLEOSIDE INHIBITORS-ACQUIRED HIV RESISTANCE IN MEXICO: IS THERE DORAVIRINE CROSS-RESISTANCE?

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BACKGROUND: During the last decade, NNRTI (EFV and NVP) have been the most frequently used third component of first-line ART in Mexico´s roll-out national program. There is a need to assess potential benefits of new generation drugs as components of deep salvage regimens. We determined the rate of a new generation NNRTI doravirine (DOR) acquired resistance-associated mutations (DOR-RAM) among patients with background of virologic failure under exposure to NNRTI containing ART regimen in a national cohort in Mexico.

METHODS: A sample of HIV infected patients whose physician requested a salvage treatment recommendation from an official peer advisory comittee at the national program runned by the Ministry of Health was studied. Elegible patients were those with history of virologic failure under an NNRTI containing regimen and a HIV genotypic resistance test (gen-RT). Rate of DOR-RAM was determined, and the low, intermediate or high-level of resistance to DOR according to Stanford University HIV Drug Resistance Database algorithm was assessed.

RESULTS: A total of 1,397 cases with prior NNRTI history and an available gen-RT were analysed. 712 patients were under NN exposure during genRT performance (group 1) 680 were not (group 2) and 5 cases had incomplete data. The following Stanford Resistance scores for DOR were found: Low level (23.4% in Group 1, 15.1% in group 2), Intermediate (26.4% in group 1, 12.2% in group 2), High level (15.8% in group 1, 10% in group 2). Intermediate to High level resistance affecting both ETV and DOR were found in 19.8% in group 1, and 7.5% in Group 2. In the group 1: 17.5% were found to be fully susceptible to ETV but with high level resistance to DOR and 21.2% with low level resistance to DOR but high level resistance to ETV.

CONCLUSIONS: HIV variants harboring DOR-RAM are selected after virologic failure to EFV or NVP. Overall, high level resistance to DOR was found in less than 16%. Although there is no formal experience with Doravirine use as component of salvage regimens, this new NNRTI may have a potential beneficial role and could be used in patients with ETV compromise.

LONG-ACTING AGENTS AND OTHER DRUG DELIVERY SYSTEMS (E.G., INJECTABLES, IMPLANTS, MICRONEEDLE PATCHES)

PEB0260

FEASIBILITY OF IMPLEMENTING LONG-ACTING INJECTABLE ANTI-RETROVIRAL THERAPY TO TREAT HIV: A SURVEY OF HEALTH PROVIDERS FROM THE 13 COUNTRIES PARTICIPATING IN THE ATLAS-2M TRIAL

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BACKGROUND: Long-acting (LA) injectable antiretroviral therapy (ART), with cabotegravir (CAB) and rilpivirine (RPV), was found to be non-inferior to daily oral ART in Phase 3 trials for efficacy, with high levels of patient acceptability, tolerability and satisfaction. Limited information on provider experiences with LA ART exists, which is critical to inform real world implementation.

METHODS: An online survey was sent to 449 health providers from the 13 countries participating in the Phase 3b ATLAS-2M trial of the administration of CAB LA + RPV LA every 2 months (Q2M) compared to every month (Q1M). A total of 329 providers (73%) responded to the survey. Based on formative qualitative research conducted in prior Phase II trials, we developed aggregate measures of logistical barriers, clinical concerns and patient benefits related to LA ART. Multivariable regression models were developed to identify factors related to LA ART feasibility in the context of routine clinical care including the aforementioned aggregate measures, as well as geographic and provider related variables.

Multivariable logistic regression model of the overall feasibility of monthly LA ART	AOR	95% CI
Region (ref: Europe): North America Latin America Asia/Pacific Africa	 1.4 0.7 1.4 2.9***	 0.79, 2.30 0.22, 2.27 0.73, 2.84 1.87, 4.35
Role in clinic (ref: physician): Nurse/physician assistant Research staff/pharmacist	 1.1 0.8	 0.73, 1.55 0.51, 1.29
Prior trial involvement (ref: 1-2 trials): 3+ clinical trials	 1.6	 0.76, 3.32
Barriers score	0.8**	0.70, 0.94
Concerns score	1.0	0.95, 1.09
Benefits score	1.1**	1.03, 1.13
***=p<0.001; **=p<0.01; *=p<.05		

[Table. Multivariable logistic regression model of the overall feasibility of monthly LA ART]

RESULTS: A majority of providers indicated that it would be very feasible (62.8%) or somewhat feasible (32.1%) to administer monthly LA ART in their clinics. Feasibility scores were higher for delivering LA ART every 2 months versus every month (mean 28.3 vs. 26.9; p-value <0.001). In multivariable logistic regression, providers from sub-Saharan Africa had significantly higher odds of perceived overall feasibility of monthly LA ART (aOR 2.9, 95% CI 1.9-4.4) compared to those from other regions, as did those reporting a greater number of LA ART patient benefits (aOR 1.1, 95% CI 1.0-1.1) compared to those reporting less benefits. Providers reporting a greater number of logistical barriers associated with patients returning to clinic appointments had a significantly lower odds of perceived feasibility of LA ART (aOR 0.8, 95% CI 0.7-1.0) compared to those providers reporting less logistical barriers.

CONCLUSIONS: Clinical and operational guidelines, training, human and material resources, and patient support systems will be essential to optimize the implementation of LA ART outside of clinical trials in routine care settings.

PEB0261

PATIENT-REPORTED OUTCOMES THROUGH WEEK 48 OF ATLAS-2M: A STUDY OF LONG-ACTING CABOTEGRAVIR AND RILPIVIRINE ADMINISTERED EVERY FOUR OR EIGHT WEEKS

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BACKGROUND: ATLAS-2M (NCT03299049), a Phase 3b clinical study, demonstrated non-inferior antiviral activity of cabotegravir (CAB) long-acting (LA) + rilpivirine (RPV) LA dosed every 8 weeks (Q8W) versus every 4 weeks (Q4W) over 48 weeks in suppressed ART-experienced persons living with HIV. Patient-reported outcomes (PROs) from ATLAS-2M are presented.

METHODS: PRO endpoints included treatment satisfaction (HIV Treatment Satisfaction Questionnaire [HIVTSQs]), treatment acceptance (ACCEPT© questionnaire), treatment preference (preference questionnaire), and acceptability of injections (Perception of Injection questionnaire [PIN]). HIVTSQs and ACCEPT© results were stratified by prior CAB+RPV exposure (pre-planned analysis).

RESULTS: 391/1045 (37%) participants in ATLAS-2M had received CAB+RPV prior to study entry. In participants without prior CAB+RPV exposure, a large increase from baseline was reported in treatment satisfaction in both LA arms, with Q8W dosing statistically significantly favored at Weeks 24 and 48 (Table). Marked improvements from baseline were observed in the General Acceptance domain of the ACCEPT© questionnaire in both LA arms, but were not statistically significant between groups (Table). Participants with prior CAB+RPV exposure reported high treatment satisfaction (Table) and acceptance values at baseline that were maintained over time.
Statistically significant improvements in the Acceptance of Injection Site Reactions domain of the PIN questionnaire were observed from Week 8 to Weeks 24 and 48 for Q8W and Q4W (Table).
Participants without prior CAB+RPV exposure and with recorded preference responses who received Q8W dosing preferred this regimen over oral CAB+RPV (98%; 300/306). Among those with prior Q4W exposure, 94% (179/191) preferred Q8W dosing versus Q4W (3%; 6/191) or oral CAB+RPV (2%; 4/191). The most common reasons supporting their preference were administration frequency and convenience.

Outcome, Intent-to-treat–exposed population	Q8W without prior CAB+RPV exposure n=327	Q4W without prior CAB+RPV exposure n=327	Adjusted difference Q8W – Q4W	p-value for adjusted diff.	Q8W with prior CAB+RPV exposure n=195	Q4W with prior CAB+RPV exposure n=196	Adjusted difference Q8W – Q4W	p-value for adjusted diff.
Baseline total HIVTSQs score,* mean (SD)	57.7 (9.2)	56.7 (9.3)	N/A	N/A	62.2 (5.4)	62.0 (6.7)	N/A	N/A
Adjusted mean change from baseline in total HIVTSQs score by visit (95% CI adjusted mean):								
Week 24	5.1 (4.4, 5.8)	4.0 (3.3, 4.7)	1.1	**0.036**	0.6 (–0.0, 1.2)	0.5 (–0.1, 1.1)	0.1	0.871
Week 48	4.9 (4.0, 5.7)	3.1 (2.3, 4.0)	1.7	**0.004**	0.4 (–0.3, 1.2)	–0.1 (–0.8, 0.7)	0.5	0.344
Adjusted† mean change from baseline in General Acceptance score‡ (ACCEPT) by visit (95% CI adjusted mean):								
Week 24	5.8 (3.2, 8.5)	4.2 (1.5, 6.8)	1.7	0.379	–0.4 (–3.0, 2.2)	–1.0 (–3.5, 1.6)	0.5	0.772
Week 48	6.8 (4.3, 9.3)	5.7 (3.2, 8.1)	1.1	0.525	–1.0 (–3.9, 2.0)	–1.9 (–4.8, 1.1)	0.9	0.659
	Q8W N=522	**p-value for Week 24/48 vs. Week 8**			**Q4W N=523**	**p-value for Week 24/48 vs. Week 8**		
Acceptance of Injection Site Reactions,§ (PIN) mean (SD):								
Week 8	1.9 (0.9)				1.9 (0.9)			
Week 24	1.8 (0.8)	**0.004**			1.8 (0.8)	**0.002**		
Week 48	1.7 (0.9)	**<0.001**			1.8 (0.9)	**<0.001**		

*Scores can range from 0 (minimum; very dissatisfied) to 66 (maximum; very satisfied).
†Adjusted by baseline score, sex at birth, age, race (white, non-white).
‡The Acceptance/General score is based on participant responses to three items: overall treatment acceptance, the balance between advantages and disadvantages, and whether the treatment is worth taking in the long-term. All items are assessed on Likert-like scales.
§Scores can range from 1 to 5. Higher scores represent a lower acceptance of injection site reactions.

[PEB0261 Table. Outcome, intent-to-treat-exposed population.]

CONCLUSIONS: Q4W and Q8W LA dosing provided high treatment satisfaction and acceptance scores, with patients preferring Q8W dosing over both oral and Q4W therapies. The PRO data, along with safety and efficacy data, support the therapeutic potential of monthly or two-monthly CAB+RPV and highlight participants' preference for LA therapy over daily oral dosing.

PEB0262

WILLINGNESS TO USE INJECTABLE ANTIRETROVIRAL THERAPY (ART) AMONG WOMEN WHO DISENGAGE FROM PREVENTION OF MOTHER-TO-CHILD TRANSMISSION PROGRAMMES IN UGANDA

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BACKGROUND: Prevention of mother-to-child transmission (PMTCT) programmes in sub-Saharan Africa continue to have high rates of disengagement from HIV care. The fear of HIV status disclosure by discovering pill bottles at home is a major contributing factor to disengagement. Injectable ART (long acting cabotegravir/rilpivirine) has proven to be efficacious in clinical trials and is discreet, offering a potential solution to this problem. We investigated the knowledge and willingness to use injectable ART among women disengaged from the PMTCT programme in Uganda.

METHODS: Women were considered disengaged if they had not visited the HIV clinic within 90 days of the last scheduled appointment. Community tracing by trained nurse counselors used locator information obtained at enrollment in care. Using structured-questionnaires, opinions relating to injectable ART, including willingness to use it, were collected using a 3-point Likert scale. Logistic regression analysis was performed to determine predictors of willingness to use injectable ART.

RESULTS: Among a total of 1023 women registered between 2017 – 2019 under the PMTCT programmes in Kampala and Wakiso districts, 385 (38%) had disengaged from care and 22% (83/385) were successfully traced and interviewed. The median age was 26 years (IQR; 23-29), 88% (73/83) had a live infant and 66% (55/83) were living with their partner. Only 25% (21/83) had heard of injectable ART. However, 72% (60/83) of women had experience with using other injectable drugs/implants, mainly injectable contraceptives (70%; 42/60). The majority (69%; 57/83) felt that using ART tablets increased disclosure risk. Over half, (55%, 46/83) were very willing to use injectable ART, 40% (33/83) were somewhat willing and four (5%) were not willing. Those who did not associate ART tablets with disclosure risk were less willing to consider injectable ART (adjusted OR 0.21; 95% CI 0.06-0.71; P=0.013).

CONCLUSIONS: We report low levels of knowledge about injectable ART in our study population. There was high willingness to use injectable ART relating to fears that ART tablets caused potential for HIV status disclosure. Injectable ART could be a solution for women that have challenges with disclosure; it may potentially increase retention in care and warrants further investigation in this setting.

PEB0263

COMPASSIONATE USE OF LONG ACTING (LA) CABOTEGRAVIR (CAB) AND RILPIVIRINE (RPV) FOR PATIENTS IN NEED OF PARENTERAL ANTIRETROVIRAL THERAPY

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BACKGROUND: During the clinical development of CAB + RPV LA, physicians could apply for compassionate use (CU) under a global Named Patient Program supported and overseen by ViiV Healthcare and Janssen. Major entry criteria included need for parenteral therapy, absence of primary mutations in integrase or reverse transcriptase and established retention in care.

METHODS: Data were obtained from standardized CU application and quarterly clinical updates. Data were quality controlled by two ViiV physicians. Patients received a loading dose of CAB (600mg) + RPV (900mg) LA followed by monthly maintenance dosing of 400mg/600mg, respectively.

RESULTS: The first participant enrolled in February 2016. Data are available from 24 current participants through November 2019. Median age was 35.5 years (range 20-67), gender: 11 males/13 females, 7 perinatally infected. Fourteen participants had an AIDS diagnosis at enrollment. CU requests primarily involved chronic non-compliance due to pill phobia or other psychological conditions (11), malabsorption (7), or dysphagia (4). In total, seven participants proceeded directly to injection without oral lead-in (OLI). Seven entered receiving oral ART with suppressed plasma HIV-1 RNA [median CD4 count 340/mm^3 (145-918)] and remained undetectable at last visit. Of the seventeen starting with detectable viremia [median CD4 count of 53/mm^3 (<20-551)], 13 (76%, 4/13 without OLI) reported viral suppression below LLOQ at a median of 2 months (1-4 months). Injection site reactions (ISR) reported in ≥2 participants were mild pain (11/24) and nodule formation (2/24) with no withdrawals for ISR. Three serious adverse events were reported with one judged by the physician as possibly related to CU medications (loss of consciousness). One pregnancy occurred with continued LA dosing planned. Two additional participants developed virologic failure with emergent NNRTI mutations (Y181C) without INSTI mutations and were withdrawn.

CONCLUSIONS: CAB + RPV LA as part of a CU program was initiated for reasons related to compliance challenges or GI conditions. Many participants had advanced disease and detectable viremia at start of therapy with most patients achieving virologic suppression post entry (observed data). CAB + RPV LA CU access has been a valuable treatment option for participants with co-morbidities preventing enteral administration of antiretrovirals.

PEB0264

POPULATION PHARMACOKINETIC (POPPK) MODELING AND SIMULATION OF MONTHLY INTRAMUSCULAR (IM) LONG-ACTING RILPIVIRINE (RPV LA) TO INFORM STRATEGIES FOLLOWING DOSING INTERRUPTIONS IN HIV-1 INFECTED SUBJECTS

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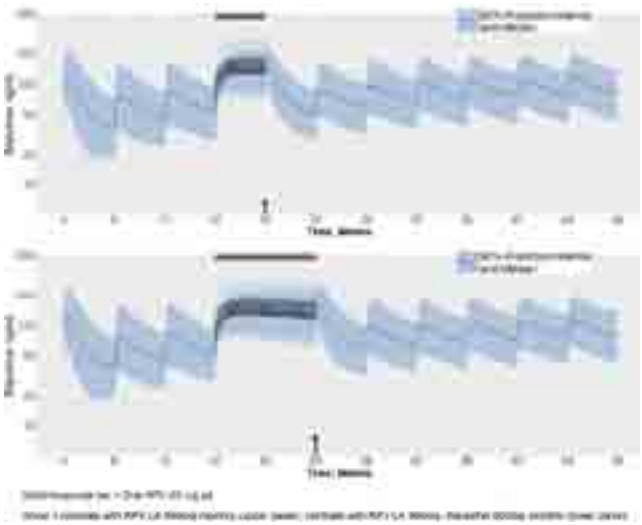
BACKGROUND: RPV LA is intended for coadministration with cabotegravir long-acting (CAB LA) as a complete 2-drug injectable regimen for HIV-1 treatment. Monthly RPV LA plus CAB LA was noninferior to standard oral therapy in maintaining HIV-1 suppression (ATLAS/FLAIR).

METHODS: Monthly RPV LA consists of 1-month oral RPV 25 mg qd (EDURANT) for tolerability assessment, an initial RPV LA 900mg (3mL) IM dose and subsequent 600mg (2mL) monthly IM doses. PopPK modeling and simulation was used to inform strategies for managing dosing interruptions, aimed at minimizing impact on the overall RPV LA PK profile. Simulations included effects on RPV concentrations of monthly vs 4-weekly dosing, of IM dosing delays, and of bridging with oral RPV to cover planned missed IM injections. Predicted RPV concentrations were compared to the 5th percentile of observed RPV concentrations 4 weeks after the initial RPV LA 900mg dose in ATLAS/FLAIR and to RPV concentrations observed in the oral RPV development program.

RESULTS: Monthly (vs 4-weekly) dosing with a 7-day window has minimal impact on the overall RPV PK profile. IM dosing delays of >7 days may have a larger impact, particularly in the first few months of therapy. If a patient plans to miss a scheduled injection by >7 days, oral RPV can provide coverage of up to 2 missed injections. If time since last injection is ≤2 months, continue with monthly 2mL injections. If time since last injection is >2 months, re-initiate dosing with a 3mL dose and then continue with monthly 2mL injections.



[Figure 1. Simulated RPV plasma concentration-time profiles of bridging with oral RPV 25mg qd during planned RPV LA dosing interruptions for 1 month (resuming with RPV LA 600mg, 2mL; upper panel) and 2 months (resuming with RPV LA 900mg, 3mL; lower panel)]

CONCLUSIONS: Adherence to the monthly RPV LA injection schedule is strongly recommended. Oral therapy to cover planned dosing interruptions of RPV LA injections is predicted to provide exposures within ranges observed in clinical studies. Recommendations for dealing with dosing interruptions are aligned for RPV LA and CAB LA, to facilitate dosing for the complete regimen.

PEB0265

GS-6207 SUSTAINED DELIVERY FORMULATION SUPPORTS 6-MONTH DOSING INTERVAL

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BACKGROUND: GS-6207, a potent, selective, first-in-class, multi-stage inhibitor of HIV-1 capsid is in development for treatment of HIV. Previously, we demonstrated that subcutaneous GS-6207 can be administered quarterly, or less frequently, and has potent antiviral activity (2.2 log decline) in people with HIV. In this study, the safety and single ascending dose (SAD) pharmacokinetics (PK) of a new sustained-delivery SC GS-6207 formulation were evaluated in HIV negative participants, to guide formulation and regimen selection in subsequent clinical trials.

METHODS: In this ongoing, randomized, blinded, placebo-controlled SAD Phase 1 study, participants were randomized (4:1) to receive 300 mg/mL SC GS-6207 (n=8/cohort) or placebo (N=2/cohort), at 300 (1x1.0 mL) or 900 mg (3x1.0 mL or 2x1.5 mL). PK and safety data were collected through ~64 weeks post dose. Single dose (SD) PK parameters were estimated with noncompartmental methods using available data; dose proportionality was assessed.

RESULTS: 30 of 30 participants completed dosing. Interim safety and PK data are available through 40 (300 mg), 28 (900 mg; 3x1.0 mL) and 20 weeks (900 mg; 2x1.5 mL) post-dose. SC GS-6207 was generally well tolerated. No serious or Grade 3 or 4 AEs related to study drug, or AEs leading to discontinuation occurred. The most common AEs were injection site induration (87%), erythema (70%), or pain (63%); all were mild. There were no clinically relevant ≥Grade 3 laboratory abnormalities.

GS-6207 exposures increased in a generally dose-proportional manner from 300 to 900 mg. Maximal concentrations of GS-6207 were achieved 11 to 14 weeks post-dose (T_{max}), and GS-6207 apparent $t_{1/2}$ was ~15 weeks. A slow initial release of GS-6207 was observed, and therapeutic plasma concentrations were sustained for at least 6 months following 900 mg SD. Similar PK was observed following a 900 mg dose administered as either 3 x 1.0 mL or 2 x 1.5 mL SC injections.

CONCLUSIONS: Preliminary PK and safety data suggest SC GS-6207 300 mg/mL (300 and 900 mg SD) is well-tolerated. 900 mg SD provides therapeutic concentrations for 6 months post-dose. These data support use of this formulation as an every 6 month agent (q6mon) in subsequent clinical trials.

ADHERENCE

PEB0266

ANTIRETROVIRAL THERAPY ADHERENCE IN INDIA (2012-18): A SYSTEMATIC REVIEW AND META-ANALYSIS

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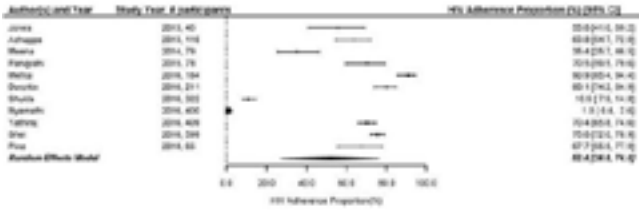
BACKGROUND: India has 2.1 million people living with HIV/AIDS (PLWHA). The objective of this study was to ascertain extent of ART adherence and reasons for non-adherence among PLWHA in India.

METHODS: We conducted a systematic review and meta-analysis using the following criteria: (1) Observational or experimental studies conducted in India (2) English language studies (2). Published during Jan. 2012-Jun. 2018 with data collection during the same period (3). 95% ART Adherence Rate (Primary outcome).

We reviewed bibliographic databases (PubMED, Scopus) and extracted data on study design, period, location, health facility, age-group, adherence rates, factors influencing adherence, etc. Forest plot was used to display the meta-analysis results. Analyses were performed in the R statistical programming language using the 'metafor' package.

RESULTS: A total of 511 records were identified after removing duplicates, 59 full-texts were screened of which 15 studies were included in the meta-analysis. Only one study was conducted in rural India, with <95% adherence reported by all its participants. Forgetfulness (8/15), running out of pills (3/15), distance from health center (2/15), concealment of HIV status from family (2/15, alcohol abuse (3/15), depression (2/15), felt stigma (2/15), side-effects (2/15), and large travel distances (2/15) were significant predictors of non-adherence to ART. The overall pooled estimate of ART adherence was 52.4% (26.8 – 76.8).



[Figure]

CONCLUSIONS: Despite the universal provision of free of cost ART to all PLWHA in government health facilities, suboptimal adherence to treatment persists in a large proportion of PLWHA, especially in rural India. Running out of pills and lack of accessibility of ART centers is a concern for the program suggesting the need for multi-month dispensation of drugs in public health facilities. There also exists paucity of ART adherence studies from high prevalence north eastern states, non-metro cities and most of rural India.

PEB0267

HIGH RATES OF NURSE-LED RAPID ART START AND SUBSEQUENT LINKAGE TO CARE/VIRAL SUPPRESSION AT A LARGE COMMUNITY-BASED HIV TESTING AND PREVENTION SITE IN SAN FRANCISCO, CALIFORNIA, USA

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BACKGROUND: U.S. Department of Health and Human Services guidelines recently endorsed initiation of antiretroviral therapy (ART) immediately at or shortly after HIV diagnosis. Little is known about the outcomes of patients who initiate ART at HIV testing and prevention sites without onsite primary care.

METHODS: The Test and Be Treated (TBT) study is evaluating the outcomes of individuals newly diagnosed with HIV and offered same-day ART at the testing sites of the San Francisco AIDS Foundation (SFAF)/Magnet, a large community-based sexual health and wellness organization in San Francisco. Data on socio-demographics, ART, linkage to care, and viral load (VL) measurements were abstracted from the medical chart and supplemented by data from the San Francisco Department of Public Health HIV surveillance section. We calculated the proportion of individuals who accepted same-day start, as well as overall rates of ART initiation and linkage to care. For those who initiated ART and had at least one follow-up VL with ≥90 days of follow-up time, we calculated the proportion achieving viral load <200 copies/mL. Kaplan-Meier curves summarized time to ART initiation, linkage to care, and viral suppression.

RESULTS: Between April 2018–November 2019, there were 98 new HIV diagnoses. Median age was 31 years and clients were 96% cismen, 78% MSM, 50% Latinx, 11% Black; 37% had residence outside San Francisco county. Same-day ART initiation occurred among 82% of clients, 91% started within one week, and 99% started overall. Of 84 clients with ≥90 days of follow-up, 83% linked to care outside of SFAF, 7% continue to follow at SFAF, 6% are lost to follow-up, and 4% have linkage in process. Median time to charted confirmation of linkage was 20 days (IQR 9-42 days). Viral suppression occurred in 89% and median time to suppression was 34 days (IQR 26-59 days). In those without documented suppression, just over two-thirds were from out of San Francisco, including from outside the U.S.

CONCLUSIONS: An HIV testing and prevention site can successfully initiate same-day ART and rapidly link patients to care. Our study will qualitatively investigate reasons for declining/delaying ART, preferences for follow-up, and the role of out-of-county residence on ART uptake/linkage.

PEB0268

HIGH TREATMENT RETENTION RATES AMONG PATIENTS WITH MULTI-MONTH ANTIRETROVIRAL THERAPY (ART) SUPPLY FROM HIV CLINIC SETTINGS IN NIGERIA

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BACKGROUND: Retention on antiretroviral therapy (ART) is a major challenge among HIV-infected patients even with the availability of free ART in resource limited settings. Frequent dispensing of ART places demand on HIV care providers and the health system. This can lead to suboptimal adherence and retention for patients due to time spent and cost on attending frequent clinic visits. This study was carried out to determine retention on ART among patients with multi-month ART supply from HIV clinics in Nigeria.

METHODS: We conducted a retrospective cohort analysis of 2089 adult HIV-infected patients >=15 years of age, initiated on ART at four HIV clinics in Nigeria from 2016-2017. Retention rate was measured as the proportion of patients alive and on treatment at least 12months after ART initiation. We constructed chi-square statistics and multivariable logistic regression model to measure associations between patient characteristics and retention.

RESULTS: Of the 2089 patients on ART, 1988 (95%) were retained on ART, 1,325 (67%) were female, duration on ART ranged from 12 –24 months; mean age was 38years. In bivariate analysis, factors strongly associated with retention on ART include patients' months of ART supply and Duration on ART. Sex, pregnancy, regimen type and age at ART initiation were not associated with retention on ART after the follow up period. The likelihood of being retained on ART was two times more (OR= 2.47, 95% CI 1.56 – 3.90) among patients with multi-month drug refill visits compared with those with one monthly drug refill visits after adjusting for other factors in the model. Patients on ART for more than 12 months with multi-drug supply were three times more likely to be retained on ART (OR= 3.15, 95% CI 2.04 – 6.04) compared to those with one month drug supply after adjusting for other factors in the model.

CONCLUSIONS: This study further reinforces the benefits of multi-month drug prescription on ART retention. Patients on one month supply with good adherence should be given 2-3 months ARV supply in order to ease the burden of monthly facility visits on the patients, health care workers and the health system in Nigeria.

PEB0269

RATES, PATTERNS AND PREDICTORS OF NON-ADHERENCE TO ART REGIMENS IN KENYA

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BACKGROUND: Near perfect adherence to ART is required to achieve viral suppression, prevent developing ART resistance and slower progression to AIDS. We sought to establish rates, patterns and predictors of non-adherence to ART regimens among patients enrolled in HIV care in Kenya.

METHODS: This was part of a case-control cross-sectional study to establish a cost-effective method to measure drug plasma levels and resistant mutations among patients in HIV care. Patients who had been on treatment for the last 12 months and categorized as either

failing treatment (HIV viral load >1000 copies/mL) and responding (HIV viral load <1000 copies/mL) were enrolled from three HIV clinics in Kisumu (western), Nairobi (central) and Malindi (coastal) caring for adult, youth and drug user populations, respectively. We collected data on socio-behavioral, clinic attendance and medication adherence. Data was analyzed using descriptive (count/percent, median/interquartile range(IQR)) as well as inferential (logistic regression) statistics.

RESULTS: One quarter (25%) of the participants reported missing their schedule HIV clinic visit within the preceding three months and 54% reported having missed taking their ARVs for a whole day or more in the preceding six months. Half reported missing ARVs at least once (IQR, 0-5) in the preceding three months. One third (34%) reported missing taking their ARVs continuously for more than three days. When asked the amount of ARVs they had taken for the preceding 30 days, 58% reported taking at least 95% of their ARVs. Overall, 34% of the participants reported that they had had a serious infection thought to be related to their HIV status in 8 days preceding the interview. One third of these (35%) were TB cases; followed by herpes zoster (15%) and pneumonia (8%). Factors independently associated with non-adherence to ARVs were: missing a scheduled visits AOR 0.43 (95%CI: 0.22-0.83), attending clinic in Nairobi AOR 5.72 (95%CI: 3.09-10.60) and increasing age AOR 0.97 (95%CI: 0.95-0.99).

CONCLUSIONS: More than half of patients enrolled in HIV clinics in Kenya miss taking their ARVs which may lead to ARV resistance and poor health outcomes. There is need for programs to ensure delivery of ARVs to young people missing their scheduled visits.

PEB0270

OUTCOMES OF SUSPECTED TREATMENT FAILURE IN A COHORT OF ART PATIENTS IN KENYATTA NATIONAL HOSPITAL, KENYA

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BACKGROUND: According to 2018 Kenya HIV treatment guidelines, treatment failure is suspected among HIV patients with VL≥1000 copies/mL of blood. Enhanced adherence counselling (EAC) is recommended to address poor adherence before switching patients to the next line of treatment. This was an evaluation of the outcomes of interventions after suspected treatment failure.

METHODS: Patients' chart reviews were done on patients enrolled on ART in Kenyatta National Hospital. Patients who had been on ART for at least 12 months and with viral load >=1000 copies per mL in the period between January 2017 and June 2019 were eligible for the study. Data was generated from the electronic medical records. Viral re-suppression and treatment switch indicators were presented as percentages. Associated factors were tested using chi-square test and odds ratios calculated using binary logistic regression. Statistical significance was interpreted at 5% level.

RESULTS: A total of 955 ART patients had suspected treatment failure in the 3-year period under review. The mean age was 39.3 years (SD 14 years); 114 (11.9%) were adolescents (15-19 years) and 92 (9.6%) were young people (20-24 years). Majority (60.7%) were females. Most patients (93.5%) were on first-line ART regimen with a median duration on ART of 61.9 months (IQR 41.6 – 90.0 months). Viral load test was repeated in 857 (90%) patients. Viral re-suppression rate after EAC intervention was 64.1% (549/857) which was achieved in a median duration of 6.1 months (IQR 4.4 – 8.9 months). Age and gender did not influence re-suppression rates. Treatment was changed in 37.4% (357/955) of the patients and 168 (47.1%) achieved viral suppression after switch of ART regimen. Compared to the 25+ years age group, there was a higher risk of switching treatment among adolescents [OR 2.1 (95% CI 1.5-3.2), p<0.001] and young people [OR 1.7 (95% CI 1.1-2.6), p=0.015].

CONCLUSIONS: Poor adherence is an important contributor to high viral load in ART patients thus a substantial proportion of those with suspected treatment failure re-suppressing after undergoing enhanced adherence counselling sessions.

ETHICAL ISSUES IN CLINICAL TRIALS AND TREATMENT STRATEGIES

PEB0271

PERCEPTION AND WILLINGNESS TO PARTICIPATE IN HIV CURE CLINICAL TRIALS AMONG PEOPLE WHO INITIATED TREATMENT DURING ACUTE HIV INFECTION IN AMSTERDAM

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BACKGROUND: People who initiate antiretroviral therapy (ART) during acute HIV infection (AHI) are potential candidates for HIV cure clinical trials, due to the early reduction in HIV reservoir size. However, these cure trials, which may include ART interruption (ATI), involve potential risks. Assessing views of potential participants is crucial and will provide indispensable information for trial design. Therefore, we explored knowledge and perception of HIV cure and willingness to participate in cure trials among potential trial participants.

METHODS: Between October-December 2018, we conducted 20 in-depth interviews with men who are participating in the Netherlands Cohort Study on Acute HIV infection (NOVA) and who had immediately initiated ART during AHI between 2014-2018. Topics discussed included knowledge and perceptions of cure and two brief standardised scenarios of potential cure trials: one involving brief ATI (re-initiation of ART immediately after viral rebound) and one involving extended ATI (re-initiation of ART one month after viral rebound). Interviews were audio recorded, transcribed, and analysed thematically.

RESULTS: Median age was 39 (interquartile range [IQR] 28-47) years. 18/20 participants were mostly or exclusively attracted to other men. Median years since AHI diagnosis was 1.7 (IQR 1.0-2.4). Most were not familiar with HIV cure, though when asked, described it as complete eradication. Most participants thought being cured would be positive to a greater or lesser extent, but some thought the positive aspects would be undermined by fear of re-infection. 11/20 participants considered participating in the brief ATI scenario versus 4/20 the extended ATI scenario. The predominant motivation for participation was to help others. Six participants mentioned hope of being cured themselves during the study. Main barriers to participation were dif-

ficulties combining study visits with work, fear of onward HIV transmission, possible health impact, and anxiety of interrupting a stable situation (e.g. because of satisfaction with the current ART regimen).
CONCLUSIONS: People with AHI were more willing to participate in brief ATI than extended ATI. Limited knowledge and understanding of cure as HIV eradication underscore the importance of educating potential cure trial participants. Researchers should offer realistic conceptions of HIV cure (i.e. long-term remission rather than eradication) during recruitment and consent processes.

CURE INTERVENTIONS

PEB0272

A LANDSCAPE ANALYSIS OF HIV CURE-RELATED CLINICAL RESEARCH IN 2019

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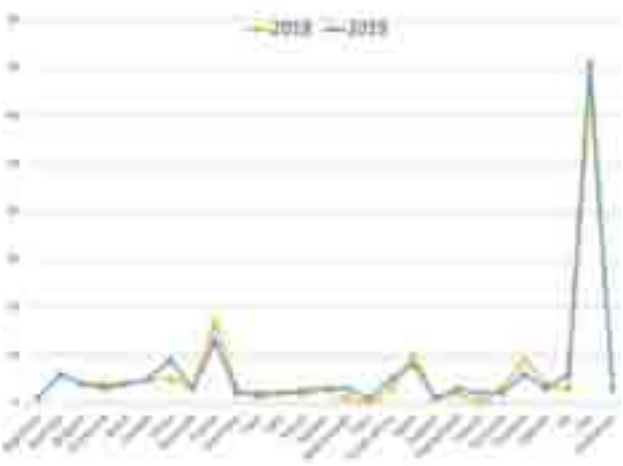
BACKGROUND: In 2018, we surveyed investigators conducting HIV cure-related clinical research, drawing on information from the online listing established by Treatment Action Group (TAG). The purpose was to perform a landscape analysis of the field. In 2019, we fielded a second survey in order to provide updated information and assess any shifts in the landscape.
METHODS: Trials and observational studies listed as of August 16, 2019 formed the sample set. Survey questions addressed funding, trial development, recruitment, enrollment, participant demographics, antiretroviral therapy status, HIV reservoir assays, invasive procedures, study completion, data sharing and dissemination plans. A survey was sent to the contact(s) for each study. Supplemental information was collected from clinicaltrials.gov and available presentations/publications of study results.
RESULTS: A total of 97 interventional trials and 36 observational studies were identified, with 30 including analytical treatment interruptions. Total projected enrollment is 13,732 participants, with observational studies contributing the majority (8,325). Most interventional trials are in early phases. The majority of current research is located in the USA, with a paucity of locations in settings with the highest burdens of HIV (see Figure 1).



[Figure 1. Study locations, TAG listing 2018 - 2019]

Completed surveys were received for 65 studies, 37 of which had also submitted information in 2018. Analysis of survey responses combined with data from 42 additional studies that presented results over the prior year shows that the research involves predominately (>80%) male participants and is limited in racial and ethnic diversity. Prespecified demographic enrollment targets are rare. Two-thirds of respondents to our previous survey reported that enrollment is progressing more slowly than anticipated.
CONCLUSIONS: A diverse range of interventions are being evaluated in HIV cure research, but participant diversity is far from optimal with a continuing underrepresentation of women. Broadening inclusion and geographic reach will be necessary to achieve the goal of developing widely effective, safe and accessible curative interventions.

NUTRITION

PEB0273

INFLUENCE OF A SUPPLEMENTED MEDITERRANEAN DIET ON THE GUT MICROBIOME PROFILE IN HIV-1 INFECTED INDIVIDUALS

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BACKGROUND: Supplemented Mediterranean Diet (SMD) with Extra Virgin Olive Oil (EVOO) and walnuts has been associated with a decrease in mortality in healthy population. We assessed whether a SMD can modify the gut microbiome profile and immune activation in ART treated, virologically suppressed HIV infected individuals.
METHODS: HIV-1 infected MSM (n=62) on ART were randomized to either a SMD with 50 g/day of EVOO and 30g/day of walnuts or continue their usual diet (UD) for 3 months. Individual's adherence to diet was monitored using the PREDIMED guidelines (Score: Low<7 points; Normal from 7 to 10; High>10 points). Clinical, metabolic, microbial translocation, inflammatory, immune system and microbiome parameters were assessed at baseline and 3 months after the initiation of SMD. Bioinformatic analysis: QIIME2, LefSe, R 3.5.2. (Selbal, Adonis, Permanova, Pearson's-correlation, Wilcoxon and Dunn's test).
RESULTS: IFNɣ-producing T cells significantly decreased at month 3 respect to baseline in SMD group (CD3+CD4+IFNɣ+: p=0.056; CD3+CD8+IFNɣ+: p=0.018; Tc17 IFNɣ+: p=0.036), but not in UD group. Regarding the microbiome composition, after SMD, less phylum diversity was observed in individuals with Low-adherence (p=0.06). The model distribution distances accepted that genus abundances were affected by the Adherence Score (PERMANOVA: Low-Normal, q=0.03, Low-High, q=0.015; Adonis: p=0.032, R2=0.021). Analyzing the relative abundances according to the SMD adherence Score, we found a substantial increase in High-adherence vs Low-adherence group in Bacteroides (p=0.013), Parabacteroides (p=0.002) and Butyricimonas

(p=0.020). Those differences were reflected in a dismissed Prevotella/Bacteroides ratio in Low-adherence group (P<0.05). LefSe analysis comparing the extreme groups showed substantial differences in the gut microbes at genus level. Particurlarly, Bacteroides in Low-adherence, and Succinivibrio in High-adherence group were the most relevant genus (Selbal: AUC=0.842). Interestingly, individuals who improved their Score more than 3 points presented an enrichment in Bifidobacterium genus after SMD. In these individuals, Bifidobacterium genus was correlated with tolerogenic CD4 T-cell populations: TregCD25+ (P < 0.05; R2 = -0.55).

CONCLUSIONS: The described results show that the intervention with a SMD improves and immune-activation parameters. It is likely that this could be mediated by the change in the composition of microbiome to a more beneficial profile.

SEX-SPECIFIC ISSUES OF ART EFFICACY, ADVERSE REACTIONS AND COMPLICATIONS

PEB0274

MAIN RESULTS OF THE ACTIVE PHARMACOVIGILANCE STRATEGY IN WOMEN LIVING WITH HIV ON DTG-CONTAINING REGIMENS IN BRAZIL

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BACKGROUND: In 2017, the Ministry of Health of Brazil incorporated dolutegravir (DTG) both for preferred first-line regimen and for switch/rescue regimens. At the same time, an active pharmacovigilance (PV) strategy was implemented for all people living with HIV (PL-HIV) using DTG-containing regimens (DTG-CR). Women has been underrepresented in clinical trials and there is a lack of information of adverse events related to antiretroviral (ARV) among them. In this study, we presented the main results of the PV strategy for women living with HIV (WL-HIV) using DTG-CR in Brazil.

METHODS: WLHIV aged more than 18yo who were using DTG-CR and filled the PV form from April 2017 and October 2019 were included in this analysis. We estimated the incidence of adverse event (AE) by per person year (PY), the prevalence of an AE stratified by some demographic and clinical variables and described the most common AE.

RESULTS: Out of 86,000 WLHIV on DTG-CR, 90% filled the PV form. Data on 77,792 WLHIV, 86,009 PY and 1,062 AE were included; overall incidence rate of AE was 1.23/100PY. Prevalence of AE was 1.4%(IC95%:1.28%-1.45%). The median age was 44yo(IQR:35-53), 47% were white/yellow, 35% were 25-39yo, 28% had 8-11 years of education, the most common region of residence were south and southeast (37% each), 58% were treatment naïve and 42% had a LT-CD4+> 350count/mm3. Most common AE were nausea (0.43%;333), headache (0.27%;212), diarrhea (0.18%;141), skin disorders (0.18%;140), balance disorders (0.15%;120) and insomnia (0.13%; 103). Twenty-one women reported weight gain and seven weight loss. Psychological disorders were reported by 48 women, and out of those 20 reported depression. Severe AE were reported by 72 women, a prevalence of 0.09%;IC95%:0.07%-0.11%.

CONCLUSIONS: This real-life cohort study in Brazil of WLHIV was consistent with randomized controlled trials worldwide, demonstrating low prevalence of self-reported AE associated with the use of DTG-CR and no unexpected symptoms were reported. Considering the difference in pharmacokinetics, use of contraceptive medications and concerns about conception, this study emphasizes the importance of a specific look to WLHIV, especially pregnant women living with HIV, regarding the safety data on the use of DTG.

PEB0275

WOMEN ON ART ARE LESS LIKELY TO ACHIEVE HIV RNA <50 COP/ML COMPARED TO MEN: REAL WORLD DATA FROM THE NATIONAL SWEDISH INFCARE COHORT

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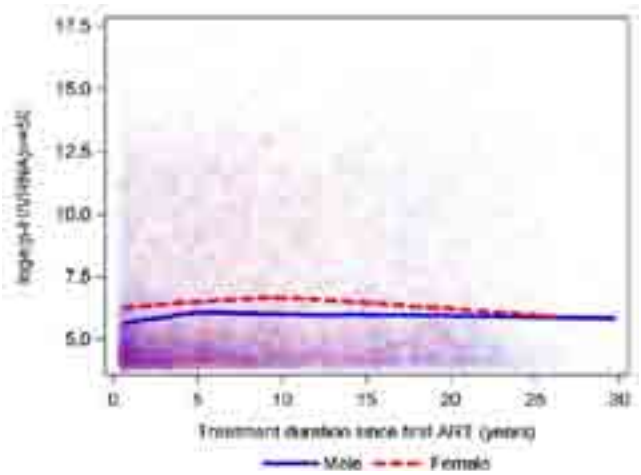
BACKGROUND: Women are underrepresented in clinical trials and Real World Data are needed to assess ART outcomes in different populations. The Swedish national quality registry InfCareHIV is following all people living with HIV (PLWH) in Sweden since 1999 including sociodemographic data, CD4-cell count, ART and HIV RNA levels. In 2011, a validated health questionnaire was added. The aim was to investigate gender differences in HIV RNA viral load (VL) in PLWH on ART ≥6 months and to assess results in relation to clinical parameters, sociodemographic data and patient-related outcomes.

METHODS: PLWH (≥18 years) on ART for ≥6 months during 2011-2017 were included. All HIV RNA measures were used. The association between VL ≥50 cop/ml and demographic characteristics and clinical data was investigated using binomial regression with log-link function, adjusting for within individual correlation, providing relative risks (RR) with 95% CI as effect size.

RESULTS:



[Figure]

8798 PLWH were followed in the InfCareHIV registry during 2011-2017. The study included 4915 men and 2981 women. Median number of HIV RNA measures were 13 (range 1-66), including 98105 HIV RNA

samples. Median ART duration was 3,2 years (range 0,5-23,6), with no gender difference. Women on ART were more likely to have VL ≥50 cop/ml compared to men with a RR of 1.20 (95%CI 1.10-1.31) p<0.001. Overall, in men 89% (52482/59001) of HIV RNA samples were <50 cop/ml compared to 86,6% (33868/39104) of HIV RNA samples in females. 1871 (38.1%) of men and 1285 (43.1%) of the women had had a HIV RNA ≥ 50 at any time p<0.0001.47,1% had performed health questionnaires (49,7% of men and 42,7% of women). In this subcohort, 89,6% of the men and 80,5% of the women reported optimal adherence.

CONCLUSIONS: National Swedish Real World Data demonstrate a significant difference in ART outcome between women and men. ART adherence may be one explanatory factor.

PREGNANCY (CLINICAL MANAGEMENT ISSUES AND PHARMACOKINETICS)

PEB0276

REVERSE TRANSCRIPTASE AND PROTEASE INHIBITORS MUTATIONAL VIRAL LOAD IN HIV INFECTED PREGNANT WOMEN WITH TRANSMITTED DRUG RESISTANCE IN ARGENTINA

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BACKGROUND: Argentina has reported moderate to high levels of transmitted drug resistance (TDR), mostly to NNRTIs, in HIV-infected patients including pregnant women by standard sequencing. However, the percentage of quasispecies harboring resistance mutations (RAMs) and mutational load (ML) remain unknown in those patients with TDR and could be of importance in guiding the selection of maternal antiretroviral therapy and neonatal prophylaxis.

METHODS: Retrospective study in a cohort of 40 naïve HIV-infected pregnant women, whose pretreatment samples had been genotyped by TRUGENE (period 2008-2014). Samples were re-sequenced with Ultra Deep Sequencing (UDS) using a Public Health Agency of Canada protocol on Miseq sequencer (Illumina) and bioinformatics analysis were performed by HyDRA software for a 1% sensibility threshold. TDR mutations were identified according to WHO guidelines. The ML was calculated in each patient considering baseline HIV-1 RNA load multiplied by the frequency of quasispecies harboring RAMs.

RESULTS: By UDS, TDR for NNRTIs, NRTIs and PIs was 17.5% (n=7 patients), 10% (n=4), 12.5% (n=5) respectively. Predominant NNRTI RAMs were K103N (n=4; 10%) and G190A/E/S (n=3; 7.5%). For NNRTIs, 78% of RAMs were present in >93.5% of viral population and ML was >1000 c/mL for 89% of them, with a median (IQR) of 8330 c/ml (7738-29796). The NRTI RAMs corresponded mostly to thymidine-analog associated mutations (7.5%) with a low prevalence of mutations in codon 184 (2.5%). The following NRTI RAMs were described (per patient: % of quasispecies, ML): T215I (99.7%, 11014 c/ml); D67G (1.28%, 502 c/mL); M41L (79.8%, 88578 c/mL) and M184I (1.02%, 173 c/mL). Most frequent PI-RAMS were I85V, M46I, I50V and L90M (n=2, 5% each). For PIs, quasispecies with RAMS corresponded to <2.3% of viral population and ML was <350 c/mL for 77.8% of them, with a median (IQR) of 191 c/ml (54-1274).

CONCLUSIONS: In this cohort of HIV-infected pregnant women, NNRTI-RAMs are predominant within the viral population, usually exceeding the threshold of 1000 c/mL, indicating potential higher risk of perinatal transmission. Conversely, PI mutations appear mostly as minority variants, with potential lower risk of transmission. Among NRTI, the percentage of quasispecies harboring RAMs and ML values were variable within the clinical samples.

PEB0277

EXTENT OF *IN UTERO* TRANSFER OF TENOFOVIR FROM MOTHER TO FETUS: A PAIRED ANALYSIS OF HAIR SPECIMENS COLLECTED AT BIRTH FROM A COHORT IN THE UNITED STATES

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BACKGROUND: As efforts intensify to eliminate vertical HIV transmission, and pre-exposure prophylaxis use burgeons among women of reproductive age, the likelihood of women receiving tenofovir (TFV)-based regimens during pregnancy increases. Understanding pharmacokinetics of *in-utero* TFV transfer is critical for interpreting safety. To evaluate *in-utero* TFV transfer, we measured TFV hair levels at delivery among women living with HIV (WLHIV) receiving tenofovir-disoproxil-fumarate (TDF)-based antiretroviral therapy (ART) and their infants in the United States.

METHODS: Hair samples were collected at or shortly after childbirth from WLHIV and infants enrolled in the Surveillance Monitoring for ART Toxicities Study of PHACS between 06/2014-07/2016. TFV hair levels from mother-infant pairs were analyzed using validated liquid chromatography/tandem mass spectrometry methods. The lower limit of quantification (LLOQ) was 0.00200 ng/mg. Weight-normalized TFV hair concentrations were log-transformed. We calculated individual ratios of infant-to-maternal hair TFV concentrations to determine degree of transfer and Spearman correlation coefficients.

RESULTS: We measured TFV hair levels among 76 mother-infant pairs with TDF-based ART exposure during pregnancy; within this group, 66 (87%) mothers had TFV levels >LLOQ and were included in the analysis with their infants. Median maternal age was 31 years (IQR 26-36); 70% self-identified as non-Hispanic black, and median gestational age at birth was 38 weeks (IQR 38-39). Median time from birth to hair collection was 5 days (IQR 1-15). Median concentration of TFV was 0.02 ng/mg (IQR 0.01-0.03) in maternal hair and 0.80 ng/mg (IQR 0.30-0.80) in infant hair. The mean $\log_{10}$ ratio of infant-to-maternal TFV levels was 1.27 (95% CI 1.08-1.45) and the correlation coefficient between maternal and infant TFV levels was 0.204 (p=0.10). TFV transfer was lower among mothers receiving protease inhibitors (PIs, n=33) compared to those who did not (mean log ratio 1.08 vs. 1.45, p=0.06) and mothers who only used TFV during the 1st trimester compared to 2nd/3rd (mean log ratio -0.58 vs. 1.32, p<0.001).

CONCLUSIONS: Similar to prior studies assessing TFV transfer in cord blood and maternal plasma, we found high rates of TFV transfer *in-utero* using hair levels with a modest positive correlation. Transfer was lower among mothers who received PIs and those with only 1st trimester TFV use.

PEB0279

RISK FACTORS ASSOCIATED WITH ADVERSE BIRTH OUTCOMES AMONG HIV POSITIVE WOMEN IN THE VOLTA REGION OF GHANA

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BACKGROUND: HIV in pregnancy negatively influences birth outcomes. Understanding the association between maternal HIV infection and adverse birth outcomes such as low birth weight, preterm delivery and stillbirth will help develop strategies to mitigate the challenge. Hence the study sought to determine risk factors associated with adverse birth outcomes among HIV positive women in the Volta Region of Ghana.

The hypothesis of this study was that, maternal HIV infection was not associated with low birth weight, preterm delivery and stillbirth in the Volta Region of Ghana.

METHODS: A facility-based unmatched case-control study design involving 340 cases and controls from four health facilities in the Volta Region was conducted. A pretested questionnaire was used to collect birth outcome information, socio-demographic characteristics, HIV status, obstetric characteristics and ART history information. EpiData manager and STATA were used for data entry and analysis respectively. Categorical variables were presented using proportions. Multivariate logistic regression was used to determine risk factors associated with birth outcomes. Statistical significance of association was determined at p value of less than 0.05.

RESULTS: :Overall, the prevalence of low birth weight was 15%, preterm delivery, 17.1% and stillbirth, 2.9%. Among cases, prevalence of low birth weight, preterm delivery and stillbirth was 16.6%, 20.6% and 3.5% respectively. For controls, it was 13.5%, 13.5% and 2.4% respectively. Risk factors associated with low birth weight included: primigravidity (AOR=3.36; 95% CI: 1.83-6.15), 4 or more doses of SP/IPTp (AOR=0.43; 95% CI: 0.19-0.99) anaemia (AOR=2.08; 95% CI: 1.15-3.75). More than four Antenatal Care (ANC) visits (AOR=0.37; 95% CI: 0.18-0.76) and malaria (AOR=2.08; 95% CI: 1.10-3.95) were significantly associated with preterm delivery. Predictors of stillbirth were hypertension (AOR=3.41; 95% CI: 1.27-9.19), malaria (AOR=3.75; 95% CI: 1.40-10.04) 4 or more ANC visits (AOR=0.25; 95% CI:0.09-0.71).

CONCLUSIONS: Adverse birth outcomes were more predominant among HIV infected women compared to those without HIV. Maternal HIV infection was not associated with any of these birth outcomes. However, gravidity, doses of SP/IPTp, anaemia, ANC visits, Hypertension and malaria infection were identified as risk factors associated with the reported birth outcomes.

PEB0280

INTEGRATION OF HIV AND OBSTETRIC CARE TO OPTIMIZE HIV MANAGEMENT DURING AND AFTER PREGNANCY

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BACKGROUND: Pregnancy is a pivotal opportunity to engage women in medical care and improve management of HIV. We evaluated if integrated HIV and obstetric care could improve HIV viral suppression during and after pregnancy.

METHODS: All pregnancies from 2005 to 2018 among HIV-infected women at a U.S. site offering obstetric and long-term family-centered HIV care were included. Antiretroviral treatment was available to all women. HIV viral suppression (i.e. HIV RNA ≤200 copies/mL) for each pregnancy was determined at 3 time points (using nearest available testing):

1) conception;
2) delivery; and
3) 9-12 months postpartum.

Factors associated with viral suppression at delivery and postpartum were evaluated using multivariable mixed effects logistic regression models.

RESULTS: There were 270 pregnancies among 179 HIV-infected women, resulting in 244 live births and 0 cases of HIV transmission to infant. Most women were African-American, publicly insured and in their late 20s. Median time from HIV diagnosis to conception was 2.9 years (interquartile range: 0–5.8). Among women with data at all timepoints, the proportion virally suppressed at conception, delivery, and postpartum, respectively, was 4%, 88%, and 61% for 46 newly diagnosed women and 52%, 93%, and 71% for 83 women with established HIV diagnosis prior to their first pregnancy. Trends in viral suppression over time are shown in the Table. Virally suppressed women at conception were 18-fold (adjusted Odds Ratio [aOR]: 18.4; 95% confidence interval: 3.34–101.5) more likely to have suppression at delivery. Postpartum suppression was associated with viral suppression at conception (aOR: 2.56; 95% CI: 1.07–6.11), suppression at delivery (aOR: 4.94, 95% CI: 1.53–16.0), and age (aOR: 1.13 per year increment; 95% CI: 1.04–1.22).

Viral Load Suppression At			Overall* (N=270)	New HIV Diagnosis	Established HIV Diagnosis (n=200)	
Pregnancy Conception	Delivery	9-12 Months Postpartum		First Pregnancy with HIV (n=69)	First Pregnancy with HIV, (n=109)	Subsequent Pregnancy (n=91)
Suppressed	Suppressed	Suppressed	83 (30.7%)	1 (1.4%)	38 (34.9%)	44 (48.4%)
Suppressed	Suppressed	Not Suppressed	10 (3.7%)	1 (1.4%)	4 (3.7%)	5 (5.5%)
Suppressed	Not Suppressed	Suppressed	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Suppressed	Not Suppressed	Not Suppressed	3 (1.1%)	0 (0%)	1 (0.9%)	2 (2.2%)
Not Suppressed	Suppressed	Suppressed	53 (19.6%)	24 (34.8%)	20 (18.3%)	9 (9.9%)
Not Suppressed	Suppressed	Not Suppressed	34 (12.6%)	12 (17.4%)	15 (13.8%)	7 (7.7%)
Not Suppressed	Not Suppressed	Suppressed	5 (1.9%)	3 (4.3%)	1 (0.9%)	1 (1.1%)
Not Suppressed	Not Suppressed	Not Suppressed	18 (6.7%)	5 (7.2%)	4 (3.7%)	9 (9.9%)
Missing ≥ 1 data point			64 (23.7%)	23 (33.3%)	26 (23.9%)	14 (15.4%)

[Table]

CONCLUSIONS: Viral suppression at conception or achieved during pregnancy both strongly predict sustained control nearly 1 year postpartum. Integration of HIV and obstetric care can help optimize management of both conditions.

PEB0281

LONGITUDINAL EVOLUTION OF MATERNAL VIRAL LOAD DURING PREGNANCY AND WITHIN 12 MONTHS POSTPARTUM AMONG PREGNANT WOMEN LIVING WITH HIV IN SOUTH AFRICA

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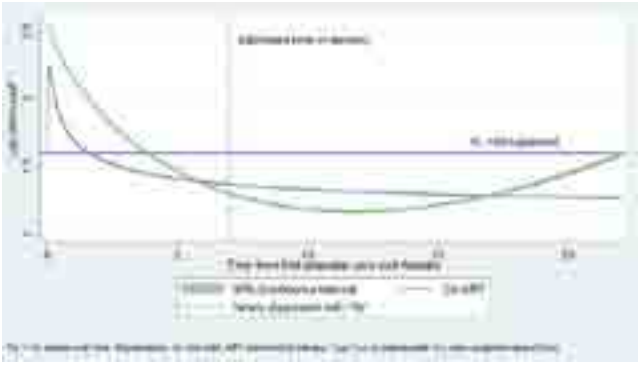
BACKGROUND: Maternal viraemia is associated with HIV-transmission to infants. Using a national laboratory dataset, we describe maternal viral load (VL) evolution during pregnancy, around delivery and 12-15 months postpartum among pregnant women living with HIV (WLHIV) within the public sector, South Africa.

METHODS: HIV-VLs and pregnancy-related tests performed January 2016-December 2017 from the National Health Laboratory Service's Corporate Data Warehouse were used to create a synthetic cohort of pregnant WLHIV aged 15-49 years. Syphilis screening was assumed to occur at first antenatal care visit (fANC). A syphilis-screening test without prior/ concurrent HIV-VL test identified newly diagnosed, pregnant WLHIV initiating antiretroviral therapy (ART). Cohort entry was at fANC and follow-up was 15months from estimated date-of-delivery. VL changes during follow-up were described using fractional polynomial models. Proportions of viraemic women at different time-points were calculated. Multivariable fractional polynomial models determined factors associated with VL decline during follow-up.

RESULTS: Of 178 319 pregnant WLHIV in the cohort, 85 545 (48.0%) were on-ART, 88 877 (49.8%) were newly diagnosed with HIV. The cohort contributed 345 174 VL measurements [median=2, interquartile range (2-3) VLs per woman] during follow-up. VLs were a median log10 VL 1.9 (0-3.5) at fANC, 1.3 (0-2.2) around delivery and < detectable limit 12-15months postpartum. Median log10 VLs were 3.0 (1.3-4.3) vs. 1.3 (0-2.7) at fANC and 1.3(0-2.3) vs. < detectable limit, 12-15months postpartum for WLHIV diagnosed during pregnancy and WLHIV conceiving on-ART respectively (Figure 1).



[Figure]

At delivery, 36.9% and 14.3% of pregnant WLHIV were viraemic at VL ≥50 and ≥1000 respectively. Being older (≥19 years), conceiving on-ART and having CD4 ≥200 at fANC was associated with sustained VL decline.

CONCLUSIONS: Despite decline in maternal VLs during pregnancy, only 63% reached VL <50 copies/mL by time-of-delivery. Women with VL ≥50 copies/mL in pregnancy and postpartum periods require prioritization for interventions to ensure VL suppression.

PEB0282

THE CHALLENGE OF PERINATALLY HIV-INFECTED WOMEN DURING PREGNANCY

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BACKGROUND: In countries with access to ART, an increasing number of perinatally HIV-infected adolescents and young women are reaching adulthood and becoming pregnant. In this unique population, with a complex social and psychological background and frequently exposed to a high number of antiretroviral regimens, achieving viral suppression might be challenging. The aim of this study was to describe a cohort of vertically HIV-infected mothers, analyzing strategies for PMTCT and describing pregnancy outcomes.

METHODS: A descriptive, retrospective study including perinatally HIV-infected women registered in the Madrid Cohort of HIV-infected children, which gave birth over a 20 years period (January 2000 and December 2019). Medical records were reviewed and clinical and immunovirological regarding infant-mother pairs were collected.

RESULTS: Fifty-nine pregnancies in 34 perinatally HIV-infected women were registered during the study period. Median age at first pregnancy was 21.6 (± 4.4) years, 78% Caucasian. 72,7% of women were on treatment; half of the study cohort had received six or more ART regimens [range 0-14]. Median CD4 T cell count was 561 (413-772) and 66,7% had an undetectable viral load. Reported smoking 38% and 6.8% other substance abuse. Mental disorders (borderline personality disorder, depression, anxiety) were present in 20.4% of women. All but one (who refused ART) were treated during pregnancy, and 88% were suppressed at delivery. Treatment regimen was changed due to pregnancy in 55% of women and included PI in 60%, NNRTI in 17.5% and INI 15.7%. In 16%, intensification of treatment with raltegravir was initiated in order to achieve viral suppression before delivery. 40% of babies were born by cesarean, and four were preterm (2.4%). AZT intrapartum was administered in 93% of cases, and all babies received prophylaxis (77% AZT, triple therapy 17%) and none were breastfed. There was one case of mother-to-child transmission, in a non-adherent mother with mental disorders in which PMTCT measures could not be implemented.

CONCLUSIONS: The unique population of vertically HIV-infected youths poses particular challenges for health care providers. Specific resources and a multidisciplinary approach are needed in order to secure adherence and minimize perinatal transmission risks in this population.

CONTRACEPTION

PEB0283

CONTRACEPTION UPTAKE AMONG HIV POSITIVE WOMEN ON DOLUTEGRAVIR BASED ANTIRETROVIRAL TREATMENT IN URBAN UGANDA: A CROSS SECTIONAL SURVEY

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BACKGROUND: In May 2018, the World Health Organization issued a teratogenicity alert for women using dolutegravir (DTG) and emphasized increased integration of sexual and reproductive services into HIV care to meet contraceptive needs of HIV positive women. However, there are scarce data on the impact of this guidance on contraceptive uptake. We assessed contraceptive uptake and factors associated with contraceptive services among HIV positive women on DTG-based regimen in Uganda.

METHODS: A cross-sectional survey was conducted between May 2019 to July 2019 in five government clinics in Kampala where DTG was offered as the preferred first-line ART regimen. We randomly selected non-pregnant participants (aged 15-49 years) using DTG-based regimens. We used interviewer administered questionnaires to collect data on demographics, contraceptive use, social and health system factors. We defined contraceptive uptake as the proportion of women using any method of contraception divided by the total number of women on DTG during the review period. We described patients' characteristics using descriptive statistics. Factors associated with contraceptive uptake were investigated using linear regression (STATA 13).

RESULTS: We enrolled 359 women; median (interquartile range, IQR) age was 38 (32-43) years. One half had attained up to primary education 182/359 (50.7%). The proportion of contraceptive uptake was 138/359 (38.4%). Majority 82/138 (58.6%) used injectable medroxyprogesterone but 15/138 (10.7%) used intrauterine device, 15/138 (10.7%) used condoms alone and 8/138 (5.7%) used contraceptive implants in the study period. Women who reported high affordability of contraceptives were more likely to use contraceptive services compared to women that reported low affordability (adjusted risk ratio (aRR) 1.54; 95% Confidence Interval (CI): 1.09-2.18). In contrast, women aged 40-49 years (aRR 0.59; 95% CI: 0.39-0.90) and those that did not discuss family planning with their partners (aRR 0.44; 95% CI: 0.33-0.59) were less likely to use contraceptive services.

CONCLUSIONS: Despite teratogenicity concerns during the study period, contraceptive uptake was low among women using DTG. Since partner involvement had an impact on contraceptive uptake, couple counseling on family planning could be explored to increase use of contraceptives. Also, integration of family planning services into HIV care should be strengthened.

PEB0284

CHANGUO LANGU: IS IT REALLY HER CHOICE? EXAMINING HEALTHCARE PROVIDER PERSPECTIVES ON DOLUTEGRAVIR AND CONTRACEPTIVE COUNSELLING FOR WOMEN OF REPRODUCTIVE AGE AT A TERTIARY REFERRAL CENTRE IN WESTERN KENYA

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BACKGROUND: In May 2018, the WHO announced a potential increased risk of neural tube defects in women using dolutegravir (DTG) peri-conception, halting roll-out of DTG and leading to confusion among HIV care providers (HCPs) about requirements for its use. Data around best practices to facilitate HCP and patient decision-making for antiretroviral therapy (ART) and contraceptive use are lacking. As part of the ongoing mixed methods Chaguo Langu-My choice study, we qualitatively explored factors facilitating HCP counseling around ART and contraceptive use among women living with HIV (WLHIV) already using DTG in Kenya.

METHODS: We conducted semi-structured, in-depth interviews in English with nine HCPs (eight clinical officers and one peer mentor) at one of Kenya's largest HIV treatment programs. The interviews covered four domains: (1) understanding about DTG and birth defects, (2) knowledge of effective contraception, (3) counselling practices around DTG use in WLHIV of reproductive potential, and (4) views on integrated HIV and family planning care. We used inductive coding and content analysis to identify dominant themes.

RESULTS: We highlight the following four dominant themes:
(1) HCPs reported better knowledge of the benefits of DTG than of its potential risks;
(2) variable knowledge of and comfort discussing contraceptive efficacy for WLHIV on ART prevented many HCPs from counselling effectively on ART and contraceptive options;
(3) HCPs wished to use the concept of informed choice to counsel, but interpreted that as offering either DTG with effective contraception or an alternative ART regimen, reflecting the then national guidelines; and
(4) HCPs want additional clinical decision support tools aligned with national guidelines to optimize contraceptive care for WLHIV on ART, and timely access to expert consultation for complex cases.

CONCLUSIONS: While especially knowledgeable about DTG benefits, HCPs felt uncomfortable with family planning counselling, including around the risks of neural tube defects and contraceptive efficacy with various ART regimens. HCPs desire more clinical decision support and guidance tools to facilitate their counseling on informed choice for ART and contraception among WLHIV; future work needs to explore the contextually appropriate definition of informed choice

PEB0285

CHAGUO LANGU - MY CHOICE: USE OF A NEW PREGNANCY PREFERENCE SCALE AMONG WOMEN OF REPRODUCTIVE POTENTIAL LIVING WITH HIV USING DOLUTEGRAVIR

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BACKGROUND: Women living with HIV (WLHIV) have higher maternal mortality and unintended pregnancy rates than their uninfected counterparts. Incorporating their pregnancy preferences in shared decision-making around reproductive care may improve outcomes, yet such tools are missing. The Desire to Avoid Pregnancy (DAP) scale, the only psychometrically evaluated instrument that captures multifaceted pregnancy preferences, has the potential to fill this gap.

METHODS: As part of the mixed methods study Chaguo Langu -- My Choice, 264 women aged 15-49 years who initiated dolutegravir from October 2017-April 2019 at clinical sites affiliated with the Academic Model Providing Access to Healthcare (AMPATH) program in western Kenya answered the DAP scale via telephone. The scale includes three domains: (1) cognitive self-evaluation of preferences; (2) affective feelings; and (3) anticipated practical consequences of pregnancy/childbearing. Item responses use a Likert scale with a final score of 0-4 (higher score reflects higher desire to avoid pregnancy). We also asked the single "standard" question: "Are you trying to get pregnant now?" and compared the responses via t-test.

RESULTS: The average DAP score in the overall group was 2.29 (range 0-4). Among the 14% of women who answered "yes," they were currently trying to get pregnant, the average score was 0.77 (range 0 to 3.43) compared to 2.53 (range 0.36 to 4) for those who answered "no" (absolute difference 1.76, 95% CI 1.44-2.07, p-value <0.001; Figure 1).

[Figure 1. Comparison of scores on the Desire to Avoid Pregnancy (DAP) scale to responses to the single question "Are you trying to get pregnant now?" among women living with HIV in western Kenya (N=264). This figure depicts a violin plot to show the distribution of data with an embedded box plot to show the minimum, maximum and quartile values.]

CONCLUSIONS: WLHIV who report currently trying to get pregnant have lower average scores on the DAP scale compared to those not currently trying to get pregnant. However, among women who report not currently trying to get pregnant, there is wide score range indicating that the DAP is able to better capture nuance and ambivalence about pregnancy preferences than standard one-item questions. These women may benefit from open-ended counseling, including for both contraception and preconceptual care.

PEB0286

CHAGUO LANGU - MY CHOICE: PATIENT PERSPECTIVES ON COUNSELING AND SHARED DECISION-MAKING AROUND ANTIRETROVIRAL THERAPY AND CONTRACEPTIVE CHOICES

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BACKGROUND: Efavirenz- or dolutegravir-containing antiretroviral therapy (ART) are commonly used among women living with HIV (WLHIV). Interactions between efavirenz and contraceptive implants may reduce implant effectiveness, and recent evidence suggests potential increased risk of neural tube defects when using dolutegravir peri-conception. These issues create challenges for WLHIV and providers when determining optimal ART, given individual pregnancy and contraceptive preferences. Little is known about the perceptions of WLHIV about their counseling and shared decision-making around ART and contraceptive choices.

METHODS: As part of the ongoing mixed methods study Chaguo Langu - My Choice, we conducted telephone surveys with 385 WLHIV aged 15-49 years who initiated dolutegravir from October 2017-April 2019 at clinical sites affiliated with the Academic Model Providing Access to Healthcare (AMPATH) program in western Kenya. Survey domains included:

1) counseling received about reproductive risks of dolutegravir and efavirenz; and

2) shared decision-making regarding ART and contraception. We report descriptive statistics of survey responses.

RESULTS: Less than half of women reported receiving counseling that dolutegravir could cause problems in pregnancy (46%) and few received counseling that efavirenz could cause problems with contraception (9%). About half (56%) reported receiving contraceptive counseling when initiating dolutegravir. Participants reported higher levels of shared decision-making around contraception compared with ART (e.g. 64% reported that her provider asked about her preferences for contraceptive initiation/change compared to 25% when her ART was changed; Table 1).

Antiretroviral Therapy (ART, n=100)	Agree n (%)	Disagree n (%)	Neither n (%)
I chose to change ART regimens myself	21 (21)	78 (78)	2 (2)
My provider forced me to change ART regimens	42 (42)	49 (45)	9 (9)
My provider did not ask about my preferences when my ART regimen was changed	75 (75)	25 (25)	0 (0)
My provider took time to explain different ART options and their risks/benefits to me	7 (7)	92 (92)	1 (1.0)
Contraception (n=27)	**Agree n (%)**	**Disagree n (%)**	**Neither n (%)**
I chose to change/start contraception myself	15 (68)	7 (32)	0 (0)
My provider forced me to change/start contraception	2 (9)	20 (91)	0 (0)
My provider did not ask about my preferences when my contraception was changed/started	8 (36)	14 (64)	0 (0)
My provider took time to explain different contraceptive options and their risks/benefits to me	10 (46)	12 (54)	0 (0)

[Table 1. Patient perceptions of shared decision-making around antiretroviral therapy and contraceptive use among women living with HIV in western Kenya.

CONCLUSIONS: WLHIV report low levels of counseling and shared decision-making around ART use, including potential ART-contraceptive interactions and teratogenic risks. However, they do report higher levels of shared decision-making around contraceptive use in the same health system, often with the same providers. Given recent outcries from WLHIV to have more agency in ART decision-making, efforts should build on existing paradigms for contraceptive decision-making to improve shared decision-making around ART.

DIAGNOSIS OF HIV DISEASE IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0287

CLINICAL OUTCOME AMONG HIV DIAGNOSED CHILDREN UNDER EARLY INFANT DIAGNOSIS (EID) PROGRAMME IN INDIA: ADDRESSING THE GAPS FOR FURTHER IMPROVEMENT

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BACKGROUND: In India, HIV diagnosis is confirmed among new born babies of HIV positive mothers through HIV DNA PCR test under Early Infant Diagnosis (EID) programme. After diagnosis they are linked to ART treatment for improved survival. Gaps in linking of these HIV diagnosed babies for ART treatment were studied along with clinical outcome among them after ART initiation.

METHODS: ART treatment records (n=474) of these children were assessed at 30 ART centres in India. Recorded clinical parameters during baseline and follow up visits were studied and In Depth Interviews (IDI) were conducted among different service providers.

RESULTS: HIV diagnosis was confirmed among 38.4% children before six months of age and delayed beyond one year among 29.5%. Median time (Q1, Q3) to initiate ART after HIV diagnosis was 43 (14,119) days. ART was initiated within 14 days of HIV confirmation only among 1/4th children while 62% were initiated beyond one month of diagnosis.

Proportion of children with lower CD4 count (CD4 percentage for age) was declined from 75% to 28% after 41 months of ART. Improvement from WHO clinical stage 3/4 was noted among all children after 26 months of median ART duration. Proportion of low Weight for Age reduced from 64% to 23% after 41 months of median ART and only 13 opportunistic infections (3 tuberculosis, 3 Pneumocystis jirovecii) were detected during follow up period. In all 23 (7.4%) deaths were reported after 24 months of ART initiation of which 20 occurred during first 6 months of ART initiation, while 11.6% (36) children were lost to follow up.

Illiteracy, unawareness, poor financial conditions, migration, overcrowding at centre, unavailability of identity documents, deaths of parents, perception about child's death, social stigma, long distance to travel were identified barriers for delayed or non-enrolment into ART treatment. Unavailability of full time paediatricians, unavailability or limited paediatric drugs and its formulation and lack of 2nd line Paediatric ART Guideline were system level gaps for delayed ART treatment.

CONCLUSIONS: There is improved clinical outcome among HIV diagnosed children under EID. Accessibility of paediatric ART services should be improved and medical officers should be adequately trained for paediatric ART.

PEB0288

SHARED RISK PROFILES FOR VERTICALLY HIV-INFECTED INFANTS AND HIV-EXPOSED INFANTS WITHOUT EARLY INFANT DIAGNOSTIC (EID) TEST RESULTS - UNRECOGNIZED HIV TRANSMISSION TO INFANTS IN ETHIOPIAN PREVENTION-OF-MOTHER-TO-CHILD TRANSMISSION (PMTCT) PROGRAMS?

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BACKGROUND: Early detection of HIV infection by PCR testing (early infant diagnostic testing; EID) is recommended for HIV-exposed infants within two months of age. We analysed prevalence and associated characteristics of mother-to-child-transmission (MTCT), as well as characteristics of pregnancies with absent EID, to estimate MTCT prevalence among infants lacking EID in prevention-of-MTCT (PMTCT) programs in Ethiopia.

METHODS: HIV-positive pregnant women were identified from PMTCT registers from 2013 to 2017 at five public health facilities in central Ethiopia. Missing data was handled using multiple imputations by chained equations (MICE), imputing missing data points by multiple regression in an iterative process, generating 25 complete datasets.

Factors associated with MTCT detected through EID, and with absent EID, were analysed with logistic regression which was performed on each dataset, and the results were pooled. For pregnancies without EID, MTCT prevalence was estimated using MICE.

RESULTS: EID results were available for 880/1012 (87.0%) pregnancies without record of fetal or neonatal death; 15/880 (1.7%) infants were HIV-positive. MTCT was independently associated with maternal HIV diagnosis at delivery (adjusted odds ratio [AOR] 32.6, p=0.007), WHO clinical stage 2 (AOR 8.10, p=0.010), mixed (AOR 23.3, p=0.011) or replacement (AOR 7.01, p=0.034) infant feeding, and lack of infant nevirapine prophylaxis (AOR 21.5, p=0.0007). Absence of EID was independently associated with maternal HIV diagnosis during the pregnancy (AOR 3.30, p<0.0001), or delivery (AOR 4.81, p=0.034), WHO clinical stage 3 (AOR 4.76, p=0.0022), mixed infant feeding (AOR 12.8, p=0.0009), and delivery at another facility (AOR 2.94, p<0.0001) or at home (AOR 4.16, p=0.014).

Using these predictor variables, 1.8% and 7.5% of data was imputed to allow 56/880 and 180/1012 cases to remain in multivariate analysis of MTCT and absent EID, respectively. The estimated HIV prevalence among infants without EID was 14.4/132 (10.9%, AOR=7.09, p=0.0080).

CONCLUSIONS: The rate of MTCT was low in pregnancies with timely EID results among women receiving PMTCT care in Ethiopia. However, EID results were absent in 13.0% of pregnancies. Cases without EID had similar characteristics as those with confirmed MTCT, suggesting high rates of MTCT among infants lost from PMTCT follow-up. Intensified tracing of such infants should be considered.

PEB0289

ASSESSMENT, FEASIBILITY, AND ACCEPTABILITY OF AN ADAPTED HIV RISK SCREENING TOOL TO IDENTIFY UNDIAGNOSED CHILDREN LIVING WITH HIV IN BURUNDI

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BACKGROUND: Identifying children living with HIV (CLHIV) is difficult in very low prevalence settings, such as Burundi. The study purpose was to assess the performance of an HIV risk screening tool to target testing to high-risk children at ambulatory/outpatient consultation in Burundi. The objective was to validate the tool in this setting, and to assess feasibility and acceptability of the tool among health providers.

METHODS: A cross-sectional study of 24,601 children aged 1-14 years seeking ambulatory services was implemented at 23 health facilities in five provinces of Burundi over 6 months. All eligible children and caregivers were administered the nine-question screening tool, and all children were referred for HIV testing. Descriptive and exploratory bivariate analyses were performed on quantitative data. Qualitative data were collected through focus group interviews of 43 providers from nine study sites and summarized to identify themes.

RESULTS: The study was stopped early for futility after interim data analyses found a lower than expected positivity rate. Of 16,786 children enrolled, 8,403 (50%) were female. Eighteen children (0.11%) were HIV-positive including 0.07% (9/12,607) < 5 years old and 0.22% (9/4,179) 5-14 years old. A higher positivity rate was found in females 5-14 years old compared to males 5-14 years old (0.4%, 9/2,178 females vs 0%, 0/2,001 males). Positivity rates varied by province, from 0% to 0.39%. Bivariate analyses revealed associations between a positive HIV test and: 1) one or both parents of the child deceased (p=0.046), and 2) recurring diarrhea or ≥2 episodes of diarrhea in the past three months (p=0.097). Providers found the screening tool to be feasible and acceptable, with major themes including: commodity and human resources constraints, and maintaining efficiency in clinic flow.

CONCLUSIONS: While validation of the screening tool was not possible, this is the largest analysis of HIV positivity rates among children at the ambulatory entry point in Burundi. Our findings suggest that whereas a pediatric screening tool may be feasible and acceptable to providers, routine ambulatory index testing is not an effective case finding strategy. Therefore, we recommend implementation of more targeted case-finding approaches for children <15, especially within the 5-14 age group.

PEB0290

NEGATIVE DIAGNOSTIC PCR RESULTS AMONG VERY EARLY TREATED INFANTS IN JOHANNESBURG, SOUTH AFRICA

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BACKGROUND: Early antiretroviral treatment (ART) in neonates may lead to smaller HIV reservoirs. We investigated frequency of and risk factors for testing negative on diagnostic PCR tests in early-treated neonates. Diagnostic PCR tests, which detect total HIV nucleic acids, have been shown to be excellent biomarkers of the quantity of HIV DNA in peripheral blood when the viral load (VL) is undetectable.

METHODS: At Rahima Moosa Mother and Child Hospital, Johannesburg, South Africa, we recruited 73 neonates with confirmed HIV intrauterine infection within <48 hours of life who started ART ≤14 days of birth. Treatment was nevirapine with lamivudine and zidovudine until lopinavir-ritonavir could be used. Infants were followed on ART with repeat VL testing at 1, 2 and 4 weeks of age, every 4 weeks to 24 weeks and then every 8 weeks to 104 weeks. Diagnostic HIV PCR tests were repeated at 24, 48, 72 and 104 weeks. CD4+ T-cell count and percentage was measured at baseline, 24, 48, 72 and 104 weeks.

RESULTS: Of 61 infants surviving on study, 46 (75.4%) attained VL <50 copies/mL and 14/46 (30.4%) who suppressed to <50 copies/mL ever tested diagnostic PCR negative after ART start. Among infants who suppressed, those who ever tested PCR negative on ART had higher CD4 T-cell percentages and higher cycle threshold (CT) values on their birth PCR pre-ART. Sex, age at ART start, birthweight, and pre-ART VL were not significantly different by PCR status (Table). In 10/14 infants, the last available PCR test on ART was still negative.

Infant Characteristics	Total (N=46)	Ever PCR negative (N=14)	Never PCR negative (N=32)	p-value
Sex, N (%) Male Female	 23 (50.0) 23 (50.0)	 6 (42.9) 8 (57.1)	 17 (53.1) 15 (46.9)	0.75
Age at ART start, N (%) 0 to <= 48 hours >48 hours to 14 days	 29 (63.0) 17 (37.0)	 10 (71.4) 4 (28.6)	 19 (59.4) 13 (40.6)	0.52
Birth Weight (grams), Median (IQR)	2,750 (2,425 – 3,180)	2,673 (2,120 – 3,160)	2,750 (2,530 – 3,265)	0.45
Pre-ART HIV RNA (copies/ml), Median (IQR)	11,908 (901 – 116,138)	11,910 (901 – 31,445)	10,725 (910 – 317,660)	0.75
Pre-ART CD4+ T-cell percentage, Median (IQR)	38.30 (28.84 – 49.81)	48.90 (40.62 – 55.86)	32.66 (27.17 – 48.68)	0.01
Diagnostic birth PCR Cycle Threshold (CT), Median (IQR)	26.8 (24.3 – 28.2)	27.8 (27.2 – 30.3)	25.6 (22.9 – 27.9)	<0.01

[Table]

CONCLUSIONS: Almost a third of infants started on ART within 14 days of life and who suppress test negative on diagnostic PCR tests while remaining on ART. This proportion is higher than observed in infants starting ART in the first few months of life. Clinicians should be alert to these false negative results to avoid unnecessary confusion about the infant's HIV status.

PHARMACOKINETICS/PHARMACODYNAMICS/ PHARMACOGENOMICS AND THERAPEUTIC DRUG MONITORING IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0291

MODEL-BASED APPROACH OF DOSE SELECTION AND OPTIMAL PK SAMPLING OF FOSTEMSAVIR FOR PEDIATRIC PATIENTS WITH MULTIDRUG RESISTANT HIV-1 INFECTION

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BACKGROUND: Fostemsavir (FTR) is a human immunodeficiency virus type 1 (HIV-1) attachment inhibitor in Phase 3 development for the treatment of adults with multidrug resistant HIV-1 infection. FTR is an extended release prodrug and is hydrolyzed by alkaline phosphatase in the gastrointestinal lumen to its active moiety, temsavir (TMR). TMR is primarily metabolized by esterase-mediated hydrolysis with contributions from cytochrome P450 (CYP) 3A4. The current analysis demonstrates the application of a model-based approach to design an efficient clinical trial of FTR in pediatric patients leveraging the comprehensive data from the adult program.

METHODS: The TMR adult population (POP) PK model with weight-based allometric scaling was used for simulations with parameter uncertainty using the mrgsolve package in R. 500 trials were simulated using different doses by weight bands, and scenarios accounting for both the presence and absence of CYP3A inducer or inhibitor to evaluate the probability of success (PoS) based on Cmax and Ctau-defined criteria to maintain exposures comparable to those observed in adult population. Trial simulations were also conducted to assess optimal PK sampling schemes and subject numbers. The final TMR POP PK model was used for parameter estimation and compared to the true value for each subject to calculate the precision of PK parameter estimates.

RESULTS: Dosing simulations demonstrated the adult dose of FTR 600 mg BID for pediatric subjects ≥ 35 kg and FTR 400 mg BID for subjects ≥ 20 to <35 kg meet defined criteria by providing comparable adult TMR exposure that established FTR safety and efficacy. For intense sampling portion of the study, 6 PK sampling times in a dosing interval (1, 2, 4, 6, 8, 12 hours post-dose) ±30 min in at least 12 of 50 subjects were identified to provide adequate precision in PK parameter estimates.

CONCLUSIONS: The analyses demonstrated that the proposed model-based approach allows implementation of an efficient pediatric study design. It informs critical study aspects such as dosing regimen, PK sampling scheme and number of subjects required for PK sampling while providing targeted drug exposure levels that are safe and efficacious.

DRUG FORMULATIONS FOR INFANTS AND CHILDREN

PEB0292

IMPLEMENTATION OF LOPINAVIR-BOOSTED RITONAVIR AS PREFERRED FIRST-LINE IN CHILDREN LIVING WITH HIV IN SIX REGIONS-TANZANIA

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BACKGROUND: In 2015, Tanzania adopted the 2013 WHO recommendations to use lopinavir-boosted ritonavir (LPV/r)-based regimen as the preferred first-line antiretroviral threapy (ART) for children aged <3 year, and from 2015 extended to all children age <15 years. We evaluated implementation status and associated viral suppression for different ART regimens as a new drug dolutegravir (DTG), emerged and is now recommended as first-line ART in children ≥ 20 kilograms.

METHODS: A retrospective, cross-sectional review of program data from six regions (Arusha, Dodoma, Kilimanjaro, Manyara, Singida and Tabora) was conducted to describe ART regimens initiated and transitioned to children age 0-14 years, by September 2019. The analysis aimed to show the proportion of children current in care receiving efavirenz (EFV), nevirapine (NVP), LPV/r and DTG-based first-line ART. "optimal regimen" refers to those receiving LPV/r- or DTG-based regimens.

RESULTS: A total of 9,465 children 0-14 years from 363 health facilities were recorded as currently on ART by September 2019; 8,752 (92%) on first-line ART: 1,662 (18%) aged 0-4 years, 3,505 (37%) 5-9 years and 4,298 (45%) 10-14 years. The proportion of children receiving first-line LPV/r-based ART was 10% (n=630) and overall proportion on an optimal regimen was 34% (n=2,122). Most children aged 0-4 years were receiving NVP-based ART (39%, n=251), followed by LPV/r (33%, n=212) and EFV ART (26%, n=166); for children aged 5-14 years, first-line regimens were LPVr in 7% (n=418), NVP 32% (n=1798), EFV 34% (n=1943) and DTG 26% (n=1479). For children 0-4 years, viral suppression (<1,000 copies/mL) on the optimal regimen (LPV/r) was 66% compared to 61% on NVP and 60% on EFV. Viral suppression on optimal regimens (LPV/r or DTG) in children 5-14 years was 65% compared to 67% receiving NVP and 63% on EFV.

CONCLUSIONS: Four years after adoption of LPV/r as preferred first-line for children <15 years, only 10% are receiving LPV/r-based regimen, and one-third are on optimal regimens, indicating very slow adoption of guideline recommendations. Viral suppression for young children receiving NVP or EFV based regimen is low suggesting that this age group needs more vigilant oversight to enhance early uptake of optimized ARV regimens.

CLINICAL TRIALS IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0293

TWENTY-FOUR WEEK SAFETY, TOLERABILITY AND EFFICACY OF DOLUTEGRAVIR DISPERSIBLE TABLETS IN CHILDREN 4 WEEKS TO <6 YEARS OLD WITH HIV: RESULTS FROM IMPAACT P1093

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BACKGROUND: Dolutegravir (DTG) is recommended for first-line treatment of adults and children with HIV-1 due to its potency, high barrier to resistance, and tolerability. A 5mg dispersible tablet (DTG-DT) pediatric formulation is being evaluated in IMPAACT P1093, an ongoing phase I/II open-label dose-finding study. Here we present 24-week safety, tolerability and efficacy results among participants 4 weeks to <6 years old.

METHODS: After initial 4-week dose evaluation with an intensive pharmacokinetic cohort, additional participants were enrolled to assess long term outcomes at proposed dosing. DTG-DT was dosed according to age and WHO weight-band (3 to <6 kg: 5 mg; 6 to <10kg: if <6 months 10mg, if ≥6 months 15mg; 10 to <14kg: 20mg, 14 to <20kg: 25mg), and given with a background antiretroviral (ARV) regimen including ≥ one active agent based on genotype. Clinical and laboratory assessments occurred between day 5 and 13, and at weeks 4, 8, 12, 16, 24, 32, 40 and 48 (+/- 3 days). Safety analysis included cumulative data to April 30, 2019.

RESULTS: Among 51 children enrolled from 9 countries (55% female, 75% Black), baseline median (interquartile range) HIV RNA [log10(c/ml)] was 4.3 (3.3;5.8), CD4 count (cells/mm3) was 1866 (1189;2384) and CD4% was 24.2(20.0;31.0); 86% were ARV-experienced. Thirty-four (67%) had HIV RNA data at week 24. While 25 (49%) experienced an adverse event of Grade 3 or higher, none were assessed as related to DTG, and no events led to permanent discontinuation. One death was reported from gastroenteritis and not considered drug-related. DTG-DT palatability was rated average, good, or very good for 98% of respondents..

Age Group	4 wk to <6 mo (n=17)	6 mo to <2 yr (n= 9)	2 to <6 yr (n=8)
HIV RNA <50c/mL*	41% (18, 67)	67% (30, 93)	63% (25, 92)
HIV RNA <400c/mL*	88% (64, 99)	89% (52, 100)	75% (35, 97)
CD4+ cells(cells/mm3)~	351 (-189, 926)	-221 (-962, 150)	76 (-173, 458)
CD4 percent~	5 (3, 9)	3 (-10, 7)	5 (-2, 9)

**Proportion (95% confidence interval); ~Median (interquartile range) change from baseline*

[Table. Virologic and Immunologic Efficacy at Week 24]

CONCLUSIONS: In IMPAACT P1093, once-daily weight-band dosing of DTG-DT was well-tolerated in children 4 weeks to <6 years old, with a robust antiviral effect and improvement in CD4 parameters.

PEB0294

SAFETY OF EARLY INFANT MALE CIRCUMCISION (EIMC) IN A TRIAL OF THE SHANGRING VERSUS THE MOGEN CLAMP IN RAKAI, UGANDA

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BACKGROUND: Circumcision reduces male HIV acquisition by up to 60%. Early Infant Male Circumcision (EIMC) has several advantages over adult and adolescent circumcision including lower cost, no risk of an early resumption of sex, and faster wound healing. In this randomized trial, we compared the safety of the ShangRing device with the Mogen Clamp, and maternal satisfaction with the appearance of the infants healed penis.

METHODS: We recruited and randomized a total of 460 infants aged 0-60 days at five health facilities to receive EIMC by Mogen or ShangRing in a 1:1 ratio. Following parental consent, the procedures were conducted by trained clinical officers or registered nurses/ midwives under topical anesthesia using topical (EMLA) cream and rectal paracetamol. Infants were followed-up to day 42 or until complete wound healing. We compared frequency of adverse events, NIPS pain scores, healing time (clean intact circumcision scar), and maternal satisfaction for the two devices using chi-square or Fisher exact tests of proportions and the Mann-Whitney test for medians, as appropriate.

RESULTS: A total of 36 adverse events were observed as definitely or probably related to the procedure. Among these, five were moderate (rate = 1.1%) and did not differ by device (1 bleeding and 2 adhesions for the Mogen clamp versus 1 wound infection and 1 adhesion for the ShangRing, p=0.685). Most mild adverse events were groin rashes (n=15, 3.3%) and adhesions (n=13, 2.8 %), which were more common in the Mogen's arm. Median time (IQR) to wound healing was 15 (14-21) days for both groups, p= 0.182. However, maternal satisfaction was higher for the Mogen clamp compared to the ShangRing (97.8% versus 92.1%, p=0.009). Moderate to severe pain scores were lower in the Mogen compared to the ShangRing arm (14.8% vs 25.2%, p=0.007).

CONCLUSIONS: The ShangRing device has comparable safety and wound healing time to the Mogen clamp but relatively lower maternal satisfaction and slightly higher pain scores.

ARV MANAGEMENT STRATEGIES IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0295

WHERE ARE WE ON THE OPTIMIZATION OF PEDIATRIC ART SERVICES? REVIEW OF CARE PACKAGES IN CHILDREN UNDER 10, TANZANIA

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BACKGROUND: After identifying successes and challenges in the provision of optimal care to children, EGPAF-Tanzania implemented a special program to assess antiretroviral (ARV) drug administration to children aged 0-9 years and reviewed results from this program to recommend areas for improvement.

DESCRIPTION: Parents and guardians of children under age 10 years were invited to a special clinic day to meet with pediatric antiretroviral therapy (ART) experts, one-on-one, to explain and demonstrate how ARVs and other drugs are administered. Caregivers were asked to come with all prescribed medications to be assessed on administration and recommendations on areas to improve. To evaluate the adequacy of drug administration, we conducted a retrospective cross-sectional review of children's clinical notes from all children aged <10 years who were receiving ART by June 2019 and attended the expert clinical sessions in 38 high-volume health facilities in two regions (Dodoma and Kilimanjaro) from July–September 2019.

LESSONS LEARNED: 648 children's records were reviewed; 55% were girls. At the time of evaluation, 35% were underweight, 16% had an active opportunistic infection, and 44% had received TB prophylaxis; 61% of children age >6 years had their HIV status fully/partially disclosed to them. A total of 430 (66%) children were receiving an optimal regimen (e.g. LPV/r if weight <10kg, EFV if >=10kg, and DTG if >=20kg). However, only 55% were receiving the correct ARV dosage and 66% the correct dosing frequency. For those receiving LPV/r tablets (which should be swallowed whole), 61% were either crushing or splitting them before administration. Of those eligible for viral load testing, only 59% had results documented.

CONCLUSIONS/NEXT STEPS: Through intensive case management review, we learned more than half of the all-high risk children (aged <10 years) on ART are having sub-optimal drug administration. To improve the quality of care and provide recurring mentorship to providers with little specialized training in pediatric ART/care services, we recommend health facilities to conduct special pediatric clinic days led by expert service providers. This intervention should enable building capacity of guardians on how to properly administer ARVs through observation and on-site teaching.

PEB0296

VIROLOGICAL CHARACTERIZATION IN NEWLY HIV DIAGNOSED ADOLESCENTS IN SPAIN DURING 1980-2017

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BACKGROUND: Adolescents account for over 30% of all new HIV infections globally. There are scarce reports focused on virological status in adolescents and no published data from Spain. Virological characterization of newly HIV-1 infected adolescents could help to define and improve their specific needs. The objective is to describe the virological features in adolescents with a new HIV diagnosis in Spain.

METHODS: Retrospective multicenter study performed in adolescents with a new HIV-1diagnosis between 12 and 19 years old, until December 2017 in Spain, and enrolled in the Spanish Paediatric HIV Cohort (CoRISpe) or the Spanish adult HIV cohort (CoRIS). Patients with available resistance pol (protease and/or retrotranscriptase) genotypes prior to ART were included. We analyzed demographical-clinical features and the prevalence of transmitted drug resistance mutations (TDR) by both Stanford algorithm v8.9-1 and the Calibrated Population Resistance (CPR) tool v8.0 for nucleoside analogs retrotranscriptase analogs (NRTI), non-NRTI (NNRTI) and protease inhibitors (PI).

RESULTS: Among the 357 HIV-1-diagnosed adolescents, 108 (30.2%) had available ART-naïve genotypes, being 18.5% diagnosed at 12-17 years old and 81.4% at 18-19 years old. They were mostly male (83.3%), Spanish (65.4%) and a quarter late presenters (<350 CD4 cells/µl or AIDS at diagnosis). The most common HIV transmission route was behavioral (94.4%) and mainly by men who have sex with men (62.9%). The global major TDR rate assessed by Stanford was 15.7% (10.2 % for NNRTIs, 3.7% for NRTIs and 2.7% for PI), being lower (8.3%) using the WHO TDR list (2.8% for NNRTIs, 3.7% for NRTIs and 2.7% for PI). Among these, the most prevalent TDR was E138A (5.5%) at retrotranscriptase, which may reduce the antiviral activity of NNRTI-rilpivirine. Finally, the prevalence of HIV-1 non-B variants was 17.5% (36.8% pure non-B subtypes, 57.9% CRF, 5.3% URF variant at pol), similar rates compared to Spanish adult HIV cohort CoRIS.

CONCLUSIONS: Our data suggest a relative high TDR prevalence in newly HIV-diagnosed adolescents and the need of WHO TDR list update. These findings could have implications for first-line regimen election in ART-naïve adolescents, especially those NNRTI-based.

PEB0297

THE "D.T.G.S" OF DTG FOR CHILDREN AND ADOLESCENTS LIVING WITH HIV (CALHIV): DESCRIPTIONS, TRENDS, AND GAPS OF ROLLING OUT DOLUTEGRAVIR IN CALHIV IN MBEYA, TANZANIA

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BACKGROUND: In 2019, Tanzania procured and rolled out dolutegravir (DTG) for use in new antiretroviral therapy (ART) initiations and shifting exisiting patients to DTG regimens. We describe characteristics and outcomes of this DTG rollout for children and adolescents living with HIV (CALHIV) in Mbeya, Tanzania.

METHODS: Retrospective chart review was done extracting characteristics and outcomes of CALHIV who received DTG at the Baylor College of Medicine Children's Foundation – Tanzania Centre of Excellence (COE) in Mbeya, Tanzania between 1 March 2019 (when DTG became available) and 31 December 2019. HIV viral load (VL) suppression was defined as VL<1000 copies/mL.

RESULTS: In 2019, 681 CALHIV received DTG, representing 46.0% (681/1497) of all CALHIV on ART and 59.6% (681/1142) of CALHIV eligible for DTG by weight (>20kg) at the COE. TLD was used in 66.0% (449/681), followed by 23.9% (163/681) on ABC-3TC-DTG and 10.1% (69/681) on AZT-3TC-DTG. New ART initiations comprised of 12.6% (86/681), while 62.4% (425/681) were shifted from a NNRTI regimen, and 25.0% (170/681) were shifted from a PI regimen.

Among the cohort, 50.0% (341/681) were female, average age was 13.9 years (range 5.0-19.9 years), average time on ART prior to DTG was 5.4 years (range 0-14.4 years), initial WHO stage 3 or 4 was 67.1% (457/681), and 97.8% (624/638) were now WHO T-stage 1. Nutrition status by BMI revealed 22.9% (156/681) with severe malnutrition, 37.9% (258/681) with moderate malnutrition, and 39.1% (266/681) with normal nutrition.

Outcomes revealed no severe drug toxicity and no discontinuations of DTG, and 94.9% (646/681) remained active in care with 5.1% (35/681) transferred out. Multi-month prescriptions were used in 77.2% (526/681) of patients. At the end of the study period, 84.1% (499/593) of patients on DTG with documented VL were suppressed, compared to 76.1% (448/589) of VLs prior to DTG. Among those with pre- and post-DTG VLs (n=117), 63.6% (42/66) of unsuppressed became virally suppressed, and 94.1% (48/51) of suppressed remained suppressed.

CONCLUSIONS: DTG was well tolerated and effective in our clinically diverse cohort of CALHIV, and resulted in viral suppression for many previously unsuppressed CALHIV. These results encourage continued use and scale up of DTG among eligible CALHIV.

PEB0298

EARLY TRENDS IN HIV DRUG RESISTANCE AMONG CHILDREN AND YOUNG PEOPLE (0-24 YEARS) IN ESWATINI

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BACKGROUND: As treatment-experienced patients continue to fail antiretroviral therapy (ART) throughout Sub-Saharan Africa, there is a growing need for genotyping to not only provide adequate individualized ART, but also to address population level resistance patterns that inform national policy. Long acting and injectable ART is the future for people living with HIV (PLWH) in resource rich countries where Non-nucleoside reverse transcriptase inhibitors (NNRTIs) are no longer being used. This abstract looks at early trends from treatment experienced pediatric and young adult clients in Eswatini.

METHODS: Retrospective review of electronic medical records and genotypes at Baylor Clinic in Mbabane, Eswatini. All genotypes are from treatment-experienced clients, 0-24 years old, failing on a protease inhibitor (PI)-based regimen (at least two detectable viral loads on PI based ART).

RESULTS: 105 genotypes were performed on pediatric patients failing PI based regimens between January 2014 and November 2019 (64.7% males, 35.2% females). Overall, 30% (32/105) show PI resistance needing a change of regimen (9 changed to DRV/r, 15 needed DRV/r plus an integrase inhibitor (INSTI)). Most common PI mutations were M46I/L (25), V82A/T (21) and I54V (23). Most common NNRTI mutations were Y181C/I/V (26), K103N/S (21), E138 A/K/Q (16) and K101E/H/Q/I (15). Rilpivirine is not yet available in Eswatini, yet 37% of genotypes (39/105) had intermediate level or higher resistance to Rilpivirine by Stanford score. Most common nucleoside reverse transcriptase inhibitor (NRTI) mutations were M184V (56), T215F/Y (15), D67N (15) and M41L (15). 36 genotypes were done on children <10 years old. Of those, 81% (29/36) had low level or greater resistance to Abacavir (ABC), mainly due to M184V.

CONCLUSIONS: Early trends from the pediatric HIV drug resistance (DR) program give insight into DR trends in the country and shed light on the future options for our treatment-experienced clients. Due to heavy NNRTI treatment experience, caution will be needed before transitioning toward injectable regimens including long acting Rilpivirine. For clients <10 years, transitioning them to dolutegravir based regimens with ABC may pose a risk of putting them on monotherapy. It is time to advocate for pediatric resistance surveillance testing in Eswatini and other similar settings.

PEB0299

PREVALENCE OF M184V AND K65R IN PROVIRAL DNA FROM PBMCS IN HIV-INFECTED ADOLESCENTS WITH 3TC/FTC EXPOSURE

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BACKGROUND: HIV treatment simplification improves adherence and quality of life in virologically suppressed patients, being a key aspect in the management of HIV infected adolescents. Simplification strategies with 2-drug combinations based on lamivudine (3TC) or emtricitabine (FTC) are widely used. However, the impact of M184V/I and/or K65R/E/N changes archived in proviral DNA (pDNA) on the risk for virologic failure to 3TC or FTC in a drug simplification context is not well known. We analyzed the prevalence of these resistance changes to 3TC and FTC in pDNA in vertically HIV-infected adolescents who carried M184V/I and/or K65R/E/N in historic plasma samples but reached virological control.

METHODS: The eligible participants were under follow-up in public hospitals in Madrid (Spain). They were aged ≥10 years, 3TC and/or FTC experienced, carried M184V/I and/or K65R/E/N in historic plasma samples, under ART and virologically suppressed (HIV-1 RNA <50 copies/mL) for ≥ 1 years before sampling. Genomic DNA was extracted from PMBCs obtained from The Spanish HIV BioBank. The HIV-1 retrotranscriptase (RT) was amplified and sequenced for resistance testing using Stanford.

RESULTS: Among the 388 patients under follow-up in the Madrid study cohort, 13 (3.3%) met selection criteria. The mean age was 21 years old (range 10-33), all of them were Spaniards, HIV-infected with subtype B, presented good immune status (>500 CD4/mm3) at sampling and had been virologically suppressed an average of 5.7 years (range 1.86-11). The mean time between the 3TC/FTC experience and the first M184V and/or K65E detection in plasma was 6.5 years. RT sequences of the integrated virus were obtained in 12 (92.3%) patients. Among them, only two (16.7%) adolescents harbored M184V in their pDNA after 5.1 and 7 years under viral suppression, respectively, disappearing in the last case after 11 years under suppressed viral load. No pDNA presented the K65R/N/E changes.

CONCLUSIONS: Most (83.3%) adolescents previously infected with resistant viruses carrying M184V/I and/or K65R/E/N in plasma, did not present these changes in pDNA after at least one year of viral suppression. These results suggest that simplification therapies including 3TC and/or FTC could be successful in patients with previous experience and resistance to these drugs.

PEB0300

OPTIMISATION OF FIRST-LINE ANTIRETROVIRAL THERAPY (ART) FOR CHILDREN LIVING WITH HIV IN UGANDA: TRANSLATION FROM POLICY TO ACTION

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BACKGROUND: Uganda has been optimising ART for children: in 2014 the Nucleoside Reverse Transcriptase Inhibitor(NRTI) backbone changed from Zidovudine/Lamivudine(AZT/3TC) to Abacavir/Lamivudine (ABC/3TC); introduction of Lopinavir/ritonavir pellets (LPV/r) in 2016 and Dolutegravir in 2018 for children ≥20kg. Despite these efforts, 52.2% of children aged 3-10 years were still receiving AZT/3TC/NVP(Nevirapine) as first-line ART by June 2018. The aim of the current optimisation strategy (July 2018 to date) is to transition children with viral load < 1000 copies/ml from AZT/3TC to ABC/3TC, and Nevirapine or Efavirenz(high burden of pretreatment drug resistance) to LPV/r pellets/tablets or Dolutegravir-containing first-line ART. Children with viral load > 1000 copies/ml on Nevirapine or Efavirenz are immediately switched to second line ART without a repeat viral load result. We describe below, lessons learned during implementation of the ongoing strategy.

DESCRIPTION: Between June-2018 to September-2019; an optimisation checklist, line-listing tool, standard operating procedures and job aides were developed. The check-list was used to identify eligible children for optimisation at the health facilities. These were transferred to the line listing tool for tracking. Using data from the national reporting system(DHIS-2) and web-based ART ordering system(WAOS), supply chain planning was done. Weekly national planning meetings, cascaded trainings and post-training mentorships were conducted. ART optimisation indicators were incorporated into the weekly PEPFAR surge dashboard to monitor implementation.

LESSONS LEARNED: 71%(6,085/8486) children 3months to <3 years were initiated on LPV/r pellets. Due to global shortage, 1.14%(250/21,898) children 3-<10 years were transitioned to LPV/r tablets from June 2018 to September 2019. 64.7%(6,381/9854) children < 15 years weighing ≥20 Kgs were initiated on Dolutegravir in the same period. Proportions of children on AZT/3TC backbone reduced from 76.8% to 48% by June 2019. At patient level, changing regimens comes with additional challenges of effectively communicating changes in dosing schedules or administration procedures. A real-time reporting platform has been instrumental in monitoring the process.

CONCLUSIONS/NEXT STEPS: The key barrier to ART optimisation for children was inadequate stock of antiretroviral drugs. Dispensing messages for health care workers and a caregiver literacy manual are being developed to address the communication challenges. Continuous mentorship is needed to operationalise changes in guidelines at facility level.

PEB0301

LOW VIRAL SUPPRESSION AMONG CHILDREN RECEIVING ANTIRETROVIRAL THERAPY IN NIGERIA

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BACKGROUND: The Human Immunodeficiency Virus (HIV) Antiretroviral Therapy (ART) program began in Nigeria in 2002 and scaled-up access to ART among children and adults began in 2016. A key measure of treatment efficacy among people living with HIV receiving ART is viral load suppression (VLS; defined as viral load <1000 copies/ml). Among the few facility-based viral suppression studies in children in Nigeria, none was nationally representative. This study provides national and regional estimates of viral suppression among Children Living with HIV (CLHIV); <15 years) receiving ART.

METHODS: This was a cross-sectional study of CLHIV receiving ART for 12 - 48 months in 67 randomly selected ART facilities across the geopolitical zones in Nigeria. CLHIV were consecutively recruited across facilities. Data was abstracted from patient charts, followed with sample collection and viral load test on ROCHE CAP/CTM instruments. Viral suppression rates were weighted for the study design at 95% confidence limit.

RESULTS: Most of the 280 participating children were on first-line treatment (98.9%), with the remainder on second-line. Overall, viral suppression was 43%. Viral suppression among males and females was 46 and 50% respectively. Viral suppression was highest among the 10-14 age group (51%, CI 95%), and lower among the 1-5 and 6-9 age groups (42%, CI 95%; and 41%, CI 95% respectively). Viral suppression varied significantly by zone (P0.04), with the highest rate in the North Central zone (53%, CI 95%) followed by South East (46%, CI 95%) with the South South zone having the lowest (32%, CI 95%). Viral suppression among those who did not miss appointment was 50% and those who missed appointments was 35%. Viral suppression was indirectly proportional to duration on ART. Pediatrics on TDF+3TC+EFV achieved 71% others 48% and AZT+3TC+NVP 45% viral suppression.

CONCLUSIONS: Viral suppression among children is suboptimal nationwide and differs by age, sex, geographic zone, missed appointments, duration of treatment and Antiretroviral ARV type. Low viral suppression among children is a threat to Nigeria efforts achieving the 3rd 90.

ADHERENCE IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0302

TANZANIA'S SECOND ACT: TO SUPPRESS OR NOT TO SUPPRESS? VIRAL LOAD SUPPRESSION AND ADHERENCE AFTER SWITCHING TO SECOND-LINE ART AT BAYLOR CHILDREN'S CENTER OF EXCELLENCE IN MWANZA, TANZANIA

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BACKGROUND: In 2015, nationwide viral load (VL) testing was made available in Tanzania making the monitoring of treatment failure in people living with HIV and switching to second-line antiretroviral therapy (ART) simpler. We reviewed the relationship between adherence and VL when clients are started on second-line ART due to treatment failure at Baylor Center of Excellence (COE) in Mwanza, Tanzania.

METHODS: We retrospectively reviewed charts of 98 clients switched to second-line ART between March 2012 and December 2018 at the Mwanza COE. Data collected from the electronic medical record included: age, sex, time between ART initiation to starting second-line, adherence pre- and post-second-line, reasons for therapy switching, second-line regimen, and follow-up VLs. Poor adherence was defined as pill count </> 95-105% at any visit during the 6 months before or 6 months after switching to second-line. Data was analyzed with Chi-Square and T-tests.

RESULTS: The study included 98 clients (43 female); mean age at starting second-line was 10.6 years. Average time to start second-line after ART initiation was 5 years. The majority of clients were switched to second-line due to virological failure (46/98, 46.9%) and the most common second-line regimen was ABC-3TC-LPV/r (63/98, 64.3%). Most clients had poor adherence 6 months before and after starting second-line (61/98, 62.2% and 55/98, 56.1%, respectively; p=.38). Most clients had VL <1000 copies/ml (79/98, 80.6%) after switching to second-line across 3 age groups (<5 years, 5-12 years, ≥ 12 years), and 67.3% (66/98) had VL < 50. Although there was a statistically significant association between VL suppression and the three age categories (p=.012), in all age groups, there was no significant difference in the mean VLs between those with good versus poor adherence.

CONCLUSIONS: Most clients achieved VLs <1000 after switching to second-line ART, regardless of having good or poor adherence. Interestingly, adherence by pill counts has been an unreliable predictor of viral suppression at our COE. Tanzania would benefit from nationwide resistance testing so only necessary regimen switches are made to preserve future ARV options. Until then, our COE continues to rely on psychosocial counseling and support to address issues of adherence and treatment failure.

PEB0303

ACHIEVING VIRAL SUPPRESSION AMONG NON-SUPPRESSED ADOLESCENTS ON ART IN TANZANIA: EFFECTS OF A TARGETED INTERVENTION

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BACKGROUND: Many adolescents on ART are not virally suppressed for multiple reasons, such as adherence challenges or not being on optimal ARV regimens. This review aims to determine the effect of an intervention targeting non- virally suppressed adolescents in Tanzania.

METHODS: An intervention was designed for adolescents 10-19 years who had high viral load (VL, >1000 cp/ml) in 27 adolescent-focused, high-volume facilities. Between May-June 2019, adolescent clients were invited to attend a full one-day workshop with their guardians for intensive group adherence action-planning. Each family unit developed and implemented a personalized three-month plan to address barriers to ART adherence as well as planning for transitioning to Tenofovir/Lamivudine/Dolutegravir (TLD), per national policy. The non-intervention sites continued with the standard of care monthly enhanced adherence counseling. The effects of the intervention on secondary viral suppression are estimated through logistic regression analysis.

RESULTS: Adolescents from the intervention sites (n=293) and non-intervention sites (n=377), who had follow-up VL test results from July-September 2019, were included in the analysis. 55% of the intervention adolescents were on ART for over six years, compared to 42% of non-intervention adolescents (p<.002); 51% were female in both groups. Secondary suppression was 61% (95% CI: 56,67) among adolescents attending interventions sites and 49% (95% CI: 44,54) at non-intervention sites (p=.001). In regression analysis, adolescents attending an intervention site were 60% more likely to achieve secondary viral suppression (OR 1.6, 95% CI: 1.1,2.3) compared to those at non-intervention sites. Transitioning to TLD was independently associated with more than two times the likelihood of viral suppression (OR 2.2; 95% CI: 1.6,3.1).

CONCLUSIONS: ARV regimen optimization, coupled with engaging guardians and peers in directed and individualized action-planning that tackles barriers to adherence in group settings showed significant promise in managing adolescents with unsuppressed viral loads. Although a one-day meeting with guardians, peers, and providers carries some additional costs, it significantly affected secondary viral suppression as compared to the standard of care of three individual adherence sessions.

PEB0304

HIGH HIV VIREMIA AMONG ADOLESCENTS AGED 10-19 YEARS ON ANTIRETROVIRAL THERAPY RECEIVING A SCALED UP DIFFERENTIATED SERVICE DELIVERY IN MALAWI: TEEN CLUB EXPERIENCE

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BACKGROUND: Viral suppression is lower in adolescents living with HIV (ALHIV) compared to adults. In Malawi, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) established monthly "Ariel teen clubs" to provide a psychosocial and care package to ALHIV to improve clinical outcomes. We evaluated the factors associated with high viral load (VL) in ALHIV enrolled in these clubs.

METHODS: This cross-sectional study used program data from 38 health facilities in four districts in Malawi. The inclusion criteria were all ALHIV aged 10-19 years who attended Ariel teen clubs between September 2018-July 2019, who were on antiretroviral therapy (ART), and had a documented routine VL result. High VL was defined as >1000 copies/mL, and optimal ART adherence was defined as having a pill count of 95%-105%.

Descriptive analysis, chi-square tests and backward elimination multivariable logistic regression modelling was used to identify factors associated with high VL, adjusting for sex, age, district and disclosure of one's HIV status.

RESULTS: Our analysis included 1,345 ALHIV, with a median age of 15 years. More than half of the ALHIV were females (n=712, 53%). High VL was identified in 30% of the ALHIV. ALHIV with poor ART adherence had higher odds of high HIV viremia (adjusted odds ratio [aOR] 1.98, 95% confidence interval [CI] 1.46-2.98) compared to those with optimal ART adherence. ALHIV on second line regimen (Lopinavir-based tail) had increased odds of high viremia (aOR 3.15, 95% CI 1.03-9.6) compared with those on first line (Nevirapine-based tail), while there was no statistically significant difference within the nucleoside backbone of the ART regimen. ALHIV in secondary school were less likely to be virally unsuppressed (aOR 0.5, 95% CI 0.33-0.78) compared to those still in primary school.

CONCLUSIONS: The study noted a substantial proportion of ALHIV with high VL. Factors associated with high VL included a low or high pill count suggestive of adherence problems; being transitioned to second line regimen; and primary school education. A continual focus on adolescents is required to identify interventions that can improve consistent ART treatment adherence. Furthermore, interventions to improve the proportion of youth progressing from primary to secondary school could benefit HIV-related health

PEB0305

RETENTION OF CHILDREN COMPARED TO RETENTION OF WOMEN LIVING WITH HIV IN SUB-SAHARAN AFRICA

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BACKGROUND: It is important to understand family structures while ensuring optimal retention in care for all people living with HIV. Children are more likely to be adherent to care if their caregivers are adherent to care for multiple logistical and psychosocial reasons. This study compares retention of children living with HIV (CLHIV) (<15) to women living with HIV (20-49) from October 1, 2018 to September 30, 2019 (FY19) by country.

METHODS: PEPFAR program data from FY19 was analyzed for five countries in sub-Saharan Africa that had the largest number of children on treatment. Within each country, CLHIV <15 and women living with HIV (20-49) were included based on reproductive age range. A limitation was that pediatric data was not linked to their mother's data. Retention was assessed by determining the actual number of clients on treatment compared to the expected number on treatment (sum of 97% retention of clients on treatment at the end of September 30, 2018 and 97% of new patients enrolled on treatment throughout FY19) at the end of FY19. The Chi2 test was used to assess retention by population group.

RESULTS: All countries fell short of reaching the expected number of clients on treatment at the end of FY19. The degree in which countries lost clients ranged from 9%-24% for children and 7%-18% for women. When comparing retention of children to women within a particular country, there were significant differences in retention by age range in all five countries. All countries had significantly lower retention among children compared to women.

Kenya	Population <15 (All sexes)	Actual 73,888	Expected 81,496	P > |t| p<0.0001	% clients lost 9%
	20+ Female	563,327	607,984		7%
Mozambique	<15 (All sexes)	67,555	88,945	p<0.0001	24%
	20+ Female	614,899	747,706		18%
South Africa	<15 (All sexes)	149,763	166,145	p<0.0001	10%
	20+ Female	2,626,459	2,819,245		7%
Tanzania	<15 (All sexes)	59,576	69,693	p<0.0001	15%
	20+ Female	591,394	669,731		12%
Uganda	<15 (All sexes)	62,439	70,288	p<0.004	11%
	20+ Female	594,469	658,179		10%

[Table: Actual versus Expected Treatment Populations and % clients Lost from Care]

CONCLUSIONS: Retention varied by country and, in most countries, children had lower retention compared to women. For mother child pairs, interventions need to prioritize coupling appointments of women and their children.

PEB0306

LEAVING NO TEEN BEHIND: RESULTS FROM TANZANIA'S FIRST CLINICAL HIV CASCADE ANALYSIS FOR ADOLESCENTS

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BACKGROUND: Adolescents bear a disproportionate burden of new HIV infections. In Tanzania, about 93,000 adolescents between 10-19 years are living with HIV. Adolescents have limited access to friendly health services to achieve optimal adherence, retention and HIV viral suppression. The cascade analysis aimed at understanding the magnitude and determinants of loss to follow up from the cascade of HIV care among adolescent on ART.

METHODS: The retrospective cohort analysis/study of client's data from the HIV clinical cascade for 3,145 adolescent boys and girls attending 32 health facilities in 4 regions of Mbeya, Iringa, Njombe and Songwe in 2018 for a period of 12 months. These regions have high burden of HIV in Tanzania. Routine client HIV data were analyzed using Stata program, results were presented in chi-square tests.

RESULTS: A total of 3,145 adolescent boys (735) and girls (2,410) on ART were reviewed. Older adolescents (age 15 -19 years) had lower ART initiation rate (61%) compared to younger adolescent 10 – 14 years (85%). Only 39% of adolescent boys aged 15 – 19 years newly identified HIV positive started ART. Viral load testing among adolescents eligible for HIV viral load (HVL) was low ranging between 49% - 58%. Older adolescents had a lower rate of HVL sample collected for HVL testing, and both groups of adolescents had low viral load suppression rates. Older adolescents were 2.24 times more likely of becoming lost to follow-up. Adolescents on ART earlier than 7 days of diagnosis were more likely to be lost to follow up. There is higher risk of becoming lost to follow-up for clients on shorter period on ART compared to beyond 12 months.

CONCLUSIONS: The Government and partners to conduct regular HIV clinical cascade analysis for adolescents to determine if the programme gaps are being closed. Stronger emphasis on client-centered services that differentiate between younger and older adolescents is urgently required. Design focused age specific retention interventions for adolescent's case management. Stronger community-based support to address early patient tracking and tracing practices for all adolescent missing appointments/lost to follow up, scale up of peer support services to improve adherence to medication and viral suppression.

PEB0307

ADOLESCENTS DISENGAGED FROM HIV CARE IN KENYA: QUALITATIVE INSIGHTS

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BACKGROUND: Adolescents living with HIV (ALHIV, ages 10-19) experience poor retention in care. Limited detailed qualitative data exist on factors underlying disengagement. We examined reasons for disengagement among ALHIV that were lost to program (LTP).

METHODS: This qualitative study included ALHIV from two large HIV clinics in the AMPATH program in western Kenya who had attended ≥1 visit in the 18 months prior to data collection, but who had not attended clinic ≥60 days past their last scheduled visit. ALHIV and their caregivers were traced in the community and invited to complete semi-structured interviews informed by a socioecological framework.

RESULTS: Interviews were conducted with 32 LTP ALHIV and 25 caregivers. Adolescents averaged age 17.2. Most were female (69%), orphaned (mother/father deceased, 63%), and cared for by someone that was not a biological parent (53%). Twelve (38%) were food-insecure. Reasons for disengagement varied, but centered on family-level factors, particularly when adolescents were orphaned and/or newly living with caregivers who lacked the knowledge or resources to support them in care. Stigma within families resulted in failure to disclose to family members and dropping out of care to avoid disclosure. ("I couldn't come because I never wanted them to know"). Enacted stigma also resulted in situations of neglect of the adolescent's care. ("The family abandoned her"). Transportation time and costs were a frequent challenge, one made more difficult when new caregivers were responsible for orphaned adolescents. Adolescents also anticipated stigma and feared disclosure of their status at clinic or school. ("The school refused me permission to come [to clinic] and I always fear disclosing my status to them"). Mental health issues also led to disengagement. ("I just gave up with life") Poor experiences with clinic staff deterred some from returning to care. ("I feared coming back because I will be quarreled with by the nurses").

CONCLUSIONS: Reasons for LTP centered on family-level factors, stigma, and financial challenges. Adolescents who were orphaned or experience other family-level challenges or financial hardships may require targeted interventions to remain engaged in care. Stigma presents a central barrier to retention.

PEB0308

NON-ADHERENCE AND LOW DRUG LEVELS IMPACT VIRAL OUTCOMES IN HIV-INFECTED KENYAN YOUTH

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BACKGROUND: In sub-Saharan Africa (SSA) settings, children living with HIV rarely have comprehensive adherence monitoring or drug resistance genotyping. We longitudinally assessed adherence and its impact on viral outcomes in Kenyan children.

METHODS: We enrolled children ≤15 years on NNRTI-based 1st line ART in AMPATH (Academic Model Providing Access to Healthcare). Adherence was monitored prospectively by caregiver-reported questionnaires, electronic dose monitors (MEMS) and NNRTI levels at 1 month (TP1) and 4 months (TP2) and defined as: (1) any caregiver-reported non-adherence, (2) % MEMS openings, (3) MEMS interruptions ³48 hours, and (4) NNRTI low, therapeutic or high levels. Viral failure (VF) was viral load >1,000 copies/mL, with drug resistance (DR) evaluated in those with VF. VF was modeled with logistic regression (odds ratio (OR) and 95% confidence interval (CI)) for each adherence measure, adjusted for age, CD4%, ART duration and sex. Interaction terms were examined if adherence effect on TP2 VF differed by TP1 VF status. Poisson regression modeled DR mutations.

RESULTS: At enrollment, 227 participants (55% female; median age 8 years; median CD4% 26) were median 2 years on ART (77% NVP-based). VF was 32% (TP1) and 19% (TP2). In 154 TP1 suppressed, 8% had VF at TP2; among 73 VF at TP1, 42% had VF at TP2. There was extensive non-adherence at both TPs by all four adherence measurement strategies. By MEMS, 39% had <90% of doses taken on time at TP1 and 30% had <90% at TP2. MEMS 90-95% were associated with less TP1 VF (OR 0.3; CI 0.1-0.8) compared to MEMS<80%. In TP1-suppressed, therapeutic TP2 drug levels were associated with less VF at TP2 (OR 0.1, CI 0.0-0.7). Genotyping in VFs (n=60 at TP1) showed extensive DR (95% at TP1; 93% at TP2). Low TP1 drug levels were associated with DR accumulation (OR 10.5, CI 1.0-107.2). MEMS adherence <90%, any interruption, and reported non-adherence were empirically associated with DR accumulation but statistical uncertainty was not conclusive [respective OR (CI): 3.4 (0.3-39.3); 5.5 (0.5-65.2); 1.8 (0.1-23.5)].

CONCLUSIONS: Extensive non-adherence, VF and DR were seen in Kenyan children with HIV, outcomes assumed - but seldom documented - in SSA.

PEB0309

SEX-SPECIFIC FACTORS ASSOCIATED WITH SUBOPTIMAL ADHERENCE TO ANTIRETROVIRALS AND DETECTABLE VIRAL LOAD AMONG YOUTH LIVING WITH PERINATAL HIV IN THE UNITED STATES (US)

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BACKGROUND: Suboptimal adherence and detectable viral load (DVL) are common challenges among youth living with perinatal HIV (YPHIV), yet few studies examine sex differences in associated characteristics. We compared factors associated with suboptimal adherence and DVL by sex among YPHIV in the Pediatric HIV/AIDS Cohort Study Adolescent Master Protocol.

METHODS: At 15 US clinical sites, we obtained data from medical records and in-person assessments. DVL (VL>400 copies/mL) and suboptimal adherence (self- or caregiver report of ≥1 missed antiretroviral dose in the past week) were assessed annually. Associations of individual, social and structural factors with suboptimal adherence and DVL were examined, fitting separate generalized linear mixed effects models stratified by sex, controlling for age.

RESULTS: Girls/young women (GYW) (N=203) completed 625 visits and boys/young men (BYM) (N=178) completed 565 visits between ages 8-21. The proportions of GYW's vs. BYM's visits with suboptimal adherence (37% vs. 34%) and DVL (31% vs. 25%) were similar and increased with age. For GYW and BYM, perceived antiretroviral side effects and stigma/concern about inadvertent disclosure of HIV status were associated with suboptimal adherence. Among GYW only, distressing physical symptoms, recent alcohol use, and exposure to violence and among BYM, having a boyfriend or girlfriend and using a buddy system to support adherence were associated with suboptimal adherence (Table).

	Suboptimal Adherence OR (95% CI)		Detectable Viral Load OR (95%CI)	
	Girls/Young Women	Boys/Young Men	Girls/Young Women	Boys/Young Men
Perceived antiretroviral side effects	4.04 (2.55, 7.84)	3.50 (1.83, 8.74)	4.11 (2.56, 7.82)	2.68 (1.04, 6.34)
Distressing physical symptoms	1.73 (1.01, 2.85)	1.13 (0.66, 1.94)	1.80 (1.09, 3.00)	1.38 (0.74, 2.58)
Alcohol use	2.04 (1.32, 3.03)	0.96 (0.56, 1.67)	1.95 (1.09, 3.50)	1.05 (0.56, 1.95)
Income (ref: >$40,000)				
>$10,000-40,000	2.02 (1.08, 3.78)	1.04 (0.57, 1.88)	2.87 (1.38, 5.94)	2.11 (0.99, 4.50)
≤$10,000	1.55 (0.71, 3.30)	1.13 (0.52, 2.43)	3.09 (1.57, 6.04)	4.29 (1.70, 10.8)
Caregiver Status (ref: Married)				
Separated/divorced/widowed	1.45 (0.81, 2.62)	1.34 (0.62, 2.31)	2.35 (1.30, 4.22)	1.77 (0.87, 3.61)
Never married	1.84 (1.01, 3.35)	1.87 (1.05, 3.30)	2.60 (1.32, 5.10)	1.64 (0.82, 3.26)
Youth has boyfriend/girlfriend	1.57 (0.96, 2.75)	2.12 (1.16, 3.90)	1.78 (0.96, 3.29)	0.87 (0.45, 1.67)
Buddy system	1.43 (0.89, 2.35)	2.35 (1.38, 4.01)	0.53 (0.30, 0.94)	0.69 (0.34, 1.41)
Stigma/Concern about inadvertent disclosure of HIV	2.33 (1.23, 4.43)	2.74 (1.29, 5.81)	1.93 (0.97, 3.86)	2.79 (1.23, 6.34)
Violence exposure	3.34 (2.00, 5.58)	1.44 (0.87, 2.37)	1.93 (1.10, 3.33)	0.98 (0.56, 1.72)

*Separate linear mixed effects models adjusted for age. OR=Odds Ratio, CI=Confidence Interval

[Table: Associations of selected characteristics with suboptimal adherence and detectable viral load]*

Similar to adherence findings, associations with DVL among GYW included perceived antiretroviral side effects, distressing physical symptoms, recent alcohol use, unmarried caregiver, and exposure to violence, while use of a buddy system to support adherence was associated with virologic suppression. For GYW and BYM, lower income, and for BYM, stigma/concern about inadvertent disclosure of HIV were associated with DVL.

CONCLUSIONS: Multi-level factors were associated with suboptimal adherence and DVL and varied by sex, informing adherence interventions. Efforts to reduce antiretroviral side effects and stigma warrant special consideration for YPHIV.

PEB0310

IMPROVING VIRAL LOAD SUPPRESSION RATES AMONG HIV POSITIVE CHILDREN ON ART IN A LARGE VOLUME HIV CLINIC IN WESTERN UGANDA

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BACKGROUND: Achieving the UNAIDS global target of 95% viral suppression among HIV clients on ART is critical to ending HIV/AIDS by 2030. In March-2018, viral load suppression rate (VLS) among children living with HIV (CLHV) 0-15yrs at Fort Portal Regional Referral Hospital (FPRRH) was 74%. Unsuppressed viral load delays growth and development, increases the risk of opportunistic infections and death. The objective of the project was to increase VLS among CLHIV (0-15 years) from 74% in March-2018 to 85% in April-2019.

DESCRIPTION: In March-2108, a quality improvement team led by the clinic manager, and comprising of health workers, adolescents and PLHIV held a 2-hour brainstorming session for root causes of low VLS at FPRRH among CLHIV. Interventions were identified in a driver diagram, prioritized using a focusing matrix, and monitored in Plan-Do-Study-Act cycle. Monthly VL tests were extracted from the national VL dashboard and we computed the proportion of children with suppressed VL between Apr-18 and Apr-19.

LESSONS LEARNED: Reasons for low VLS included: caregivers factors (non-disclosure, inadequately informed multiple caregivers, difficulty administering pellets, missing appointments, and representing children during clinic visits); health systems factors (long waiting time, lack of family centered care, partial differentiation of care, loss of records due to disorganized filing system), and unclear policies for differentiated HIV services for families. Prioritized interventions that were implemented included; Filing charts in serial order and by category(child, adolescent, adult), fast tracking lopinavir/ritonavir pellets for the < 3 years, scheduling children for weekly child-friendly clinics, conducting facility-based peer-group meetings for 10-15 year olds, mobilizing school going children for facility-based viral load campaigns during holidays, and conducting home based psychosocial support by social workers to address viral non-suppression. Between Apr-18 and Apr-19, 734 children had valid VL test result, of whom 52% were female. The mean monthly number of VL tests conducted was 62(SD 11). The proportion of CLHIV with suppressed VL test increased from 74% in March-2018 to 85% in April-2019.

CONCLUSIONS/NEXT STEPS: VLS among children improved through stakeholder involvement to provide patient-centered interventions that bridge the gap to reach UNAIDS targets. Low availability and difficulty administering lopinavir/ritonavir require innovative solutions.

TB/HIV CO-INFECTION IN PAEDIATRIC AND ADOLESCENT POPULATIONS (INCLUDING TREATMENT AND PREVENTION)

PEB0311

ISONIAZID PROPHYLAXIS THERAPY COMPLETION RATE AND SIDE EFFECTS AMONG CHILDREN ON CARE AND TREATMENT IN MWANZA, TANZANIA

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BACKGROUND: WHO and NTLP recommends that all children who are living with HIV need to receive isoniazid preventive therapy (IPT) once screened negative for tuberculosis. When on IPT, pyridoxine (vitamin B6) is recommended as a supplement, however, pyridoxine availability remains a challenge in Tanzania affecting IPT completion rate. This study assesses IPT completion rate in absence of pyridoxine supplementation among children on care and treatment in Mwanza, Tanzania.

METHODS: This is a retrospective cohort study from July, 2014 and May, 2018. Information on date of IPT initiation, completion, discontinuation, nutritional status, weight, and ART regimen, reported or experienced side effects was collected. Cohort characteristics are presented as medians and interquartile ranges, means and standard deviations (SD), or percentages as appropriate. Chi-square tests were used to compare different characteristics between those who completed and did not complete IPT.

RESULTS: A total of 548 children were recruited on IPT, 278 (50.7%) were male, mean age was 10 years (SD 4.2), 11 (2%) had a TB contact, 452 (82.5%) were on NVP/EFV, 96 (17.5%) on LPV/r-based regimen and 13 (2.4%) malnourished. Mortality rate was low (n=1, 0.2%) and 10 (1.8%) were transferred out before IPT completion. IPT completion rate was 88.9% (487/548) at the end of six months as per guidelines. 11.3% (62/548) reported to experience side effects to isoniazid. Reported side effects included skin lesions (54.8%, 34/62) (Figure 1), peripheral neuropathy (21%, 13/62), vomiting and weight loss (14.5%, 9/62), poor energy and depression (9.7%, 6/62), and anemia (6.5%, 4/62). The major reasons for not completing IPT were due to side effects (32.8%, 20/61) and poor adherence (19.7%, 12/61).

Variables	Completed IPT Number (%)	Not Completed IPT Number (%)	P Value
Side effects(all)	22 (35%)	40 (65%)	
Peripheral Neuropathy	1 (0.2%)	8 (13.1%)	<0.01
Rashes	2 (0.4%)	8 (13.1%)	<0.01
Weight loss	11 (2.3%)	22 (78.6%)	<0.01
Average weight change	1.4 SD 1.6	- 0.7 SD 2.3	<0.01

[Table 1. Comparison between those completing vs. not completing IPT.]

CONCLUSIONS: Overall IPT completion rate was good, however, amongst children who experienced side effects it was poor. Major side effects such as peripheral neuropathy, rashes, and weight loss are significant contributors to IPT non-completion. We propose that donor and governmental agencies should increase pyridoxine availability and distribution.

HIV COMPLICATIONS AND CO-MORBIDITIES IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0312

LONGITUDINAL CHANGES IN EPIGENETIC AGE IN YOUTH WITH PERINATALLY-ACQUIRED HIV (YPHIV) AND YOUTH WHO ARE PERINATALLY HIV-EXPOSED UNINFECTED (YPHEU)

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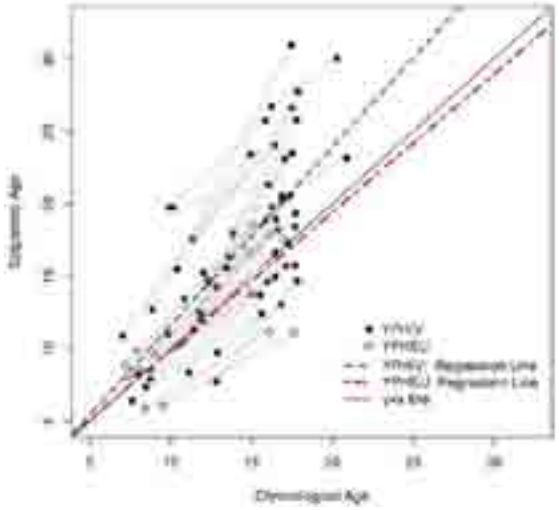
BACKGROUND: Cross-sectional studies have reported epigenetic age acceleration in people living with HIV on antiretroviral therapy (ART), including youth with perinatally-acquired HIV (YPHIV); however, longitudinal evidence is limited. We quantified the rate of change in epigenetic age compared to chronological age over time in YPHIV and youth who are perinatally HIV-exposed uninfected (YPHEU), and among YPHIV, examined associations with cumulative viral load (VL) and CD4 count.

METHODS: 32 YPHIV and 8 YPHEU with peripheral blood mononuclear cell (PBMC) samples collected at two timepoints ≥3 years apart were selected from the US-based PHACS Adolescent Master Protocol. DNA methylation was measured using the Illumina MethylationEPIC (850K) array and epigenetic age was calculated using the Horvath method (353 CpGs). Linear mixed effects models were used to estimate the rate of change in epigenetic age and 95% confidence intervals (95%CI) separately for YPHIV and YPHEU per year increase in chronological age.



[Figure 1. Epigenetic age by chronological age for youth with perinatally-acquired HIV (YPHIV) and HIV-exposed uninfected youth (YPHEU)]

RESULTS: Median age was 11 (range 7-17) and 17 (range 15-21) years at time 1 and 2, respectively. Groups were balanced by sex (51% male) and race/ethnicity (56% non-Hispanic Black). Epigenetic age increased for all YPHIV and YPHEU from time 1 to 2 (Figure 1). Predicted epigenetic age increased by 1.22 years (95%CI: 1.03,1.42) for YPHIV and 0.95 years (95%CI: 0.74,1.17) for YPHEU per year increase in chronological age. In a multivariable model that included chronological age, higher cumulative log10 VL was associated with higher epigenetic age [2.19, (95%CI: 0.65,3.74)], whereas higher cumulative CD4 count/100 cells/mm3 was associated with lower epigenetic age [-0.34, (95%CI: -0.63,-0.056)] in YPHIV.

CONCLUSIONS: We observed an increase in the rate of epigenetic age over time in YPHIV, but not in YPHEU. In YPHIV, higher VL and lower CD4 count were associated with higher epigenetic age, emphasizing the importance of early and sustained suppressive treatment for YPHIV, who will age on lifelong ART.

PEB0313

YOUTH LIVING WITH PERINATALLY-ACQUIRED HIV HAVE LOWER PHYSICAL ACTIVITY LEVELS AS THEY AGE COMPARED TO HIV-EXPOSED UNINFECTED YOUTH

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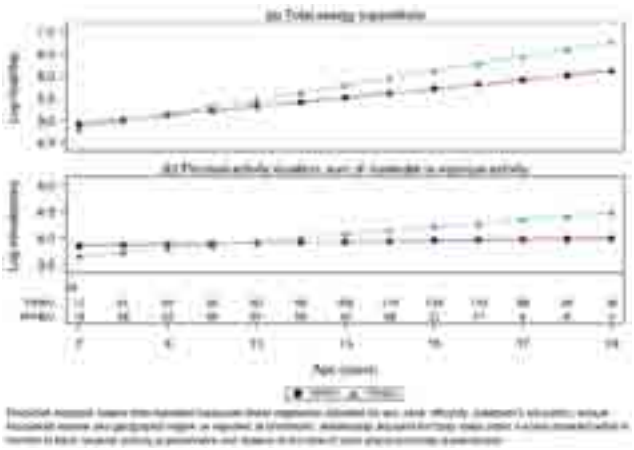
BACKGROUND: Low physical activity levels decrease life expectancy. Few studies have evaluated physical activity patterns or their association with vascular inflammation among youth living with perinatally-acquired HIV (YPHIV).

METHODS: We assessed YPHIV and youth perinatally HIV-exposed but uninfected (YPHEU) in the PHACS Adolescent Master Protocol with at least one Block physical activity questionnaire (PAQ) completed between ages 7-19 years. Physical activity metrics were: 1) daily total energy expenditure (TEE); 2) physical activity duration (PAD) defined as the minutes of daily moderate and vigorous activity. Sufficient daily physical activity was defined as having ≥ 60 minutes/day of physical activity, as recommended. In a subgroup, we measured serum biomarkers of coagulation (fibrinogen, P-selectin) and endothelial dysfunction (sICAM, sVCAM, E-selectin) obtained within 3 months of a single PAQ. Repeated measures linear regression models were used to compare the trajectories of log-transformed TEE and PAD by HIV status, adjusting for confounders. Spearman correlations were calculated to assess the relationship of TEE and PAD with vascular biomarkers.

RESULTS: 596 youth (387 YPHIV, 209 YPHEU) completed 1528 PAQs (median PAQs completed=3). Median age at enrollment (Q1, Q3) was 11 (9, 13) years, 51% were female, and 69% were black. TEE and PAD increased with age in both YPHIV and YPHEU. However, even after adjusting for confounders, YPHIV had significantly less increase per year than YPHEU for TEE (6.1% [95% Confidence Interval (CI): 1.9%, 10.2%] less) and PAD (5.5% [95%CI: 1.4%, 9.5%] less) (Figure). At age 14, 44% of YPHIV vs 70% of YPHEU met criteria for sufficient daily physical activity. Among 302 youth with biomarker measures (187 YPHIV, 114 YPHEU), we observed little correlation with TEE or PAD.



[Figure. Predicted adjusted mean physical activity measures by age and cohort]

CONCLUSIONS: YPHIV have lower physical activity levels compared to YPHEU which may negatively impact long-term health. Further research is needed to identify strategies to promote exercise in YPHIV.

PEB0314

THIRD-LINE COMPROMISE: CHARACTERIZATION OF DRUG RESISTANCE IN UGANDAN CHILDREN AND ADOLESCENTS FAILING SECOND-LINE ANTIRETROVIRAL THERAPY

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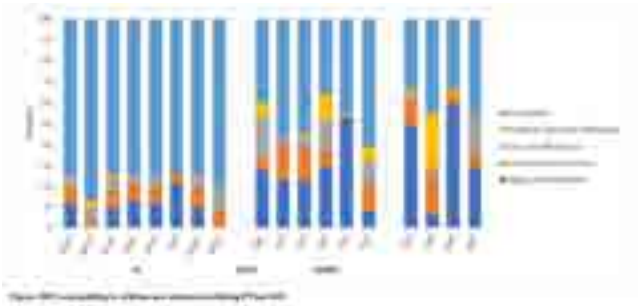
BACKGROUND: Development of drug resistant mutations (DRM) is a significant hurdle to epidemic control, particularly for children and adolescents living with HIV, groups with high risk of virologic failure. Here, we characterize resistance patterns of children and adolescents failing second-line ART in an urban Ugandan clinic.

METHODS: In a retrospective cross-sectional study, patients aged ≤ 20 years with drug resistance testing after failing second-line ART between January 2010 and September 2019 were analyzed. Second-line failure was defined as a viral load >1000 copies/mL at least 6 months after initiating PI-based ART with documented failure on a NNRTI-based 1st-line regimen. One patient with major PI mutations after 3 months of second-line ART was included in the analysis. Stanford University HIVdb Program version 8.9-1 was used for mutation reporting and interpretation. For each ART class, a composite genotype susceptibility score (GSS) was calculated. Composite GSS scores ≤1, ≤2.5, and ≤5 indicated significant ART class resistance for NRTI, NNRTI and PI, respectively.

RESULTS: Sixty-two patients were included in the study: 51% female, median age 16 years, median time on 2nd-line therapy 34 months, and median CD4 count 166 cells/mm3. The most common DRM per class was M184V (49%; 31/63), K103N (24%; 15/63) and M46I/L (16%; 10/63). Sixty-nine percent of patients (43/62) had significant resistance to at least one ART class. Of these, 16% (7/43) had significant dual-class resistance and 26% (11/43) had significant resistance to all three classes. Intermediate and high-level resistance was observed in 19% (12/62) of patients to ATV/r and 19% (12/62) to LPV/r. At least low-level resistance was present in 29% (18/62) of patients to ETR and 10% (6/62) to DRV/r.



[Figure. ART susceptibility in children and adolescents failing 2nd line ART.]

CONCLUSIONS: The frequency of significant dual-class ART resistance and compromise of third-line agents in our cohort may have implications for optimal DRM testing in children and adolescents failing second-line ART in Uganda.

PEB0315

A MACHINE LEARNING APPROACH FOR PREDICTING PROBABILITY OF DEATH OR DISEASE PROGRESSION IN AN EARLY-TREATED PEDIATRIC AFRICAN COHORT

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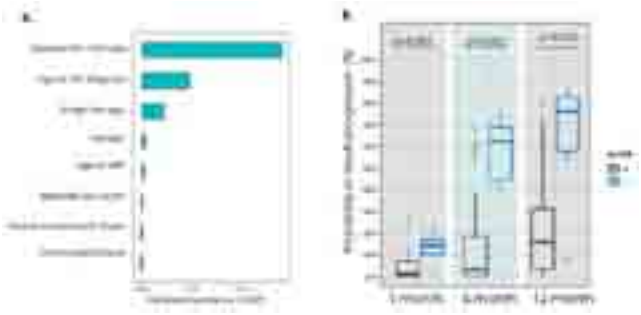
BACKGROUND: In perinatally HIV infected children, mortality and morbidity are highest in the first months after ART initiation and is linked to advanced disease and late diagnosis. The random forest approach can deal with more predictors than classical models and has no model assumptions such as normality, linearity or hazard proportionality. The aim of this study was to predict the probability of death or clinical progression at a specific time of follow-up.

METHODS: EARTH (EPIICAL consortium) is an African multi-centre cohort enrolling HIV-infected infants treated within 3 months of life (n=151). A total of 134 infants with >1 follow-up visit were included in this analysis. The primary endpoint was the right-censored time to death or progression to AIDS. To predict the outcome, a log-rank random survival forest with imbalance correction was performed in a training subset (n=95, 70%). The algorithm was validated on the remaining 30% (n=39).

RESULTS: A total of 22 infants reached the primary endpoint with 13 (10%) patients dead and 9 (7%) with an AIDS defining condition. A total of 10000 trees were built with an error rate of 20%. The most important predictors of reaching the primary endpoint were baseline HIV viral load, age at diagnosis, weight-for-age, gender, age at ART initiation, and baseline CD4 count. In the validation, the model predicted a higher probability of reaching the primary endpoint among children who did indeed die or progress to AIDS, as compared to the group of children who did well (1-month: 14% vs. 0.01%, p-value=0.045; 6-months: 62% vs. 0.03%, p-value=0.019; 12-months: 76% vs. 16%, p-value=0.012). The AUC for predicting survival or progression was 0.83, 0.84, and 0.72 for 1-month, 6-months, and 1-year respectively.



[Figure]

CONCLUSIONS: This model helps clinicians individualize the probability of death or progression to AIDS at diagnosis and may be useful for the early identification of high-risk patients.

HIV-ASSOCIATED CO-INFECTIONS AND MALIGNANCIES IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0316

PACLITAXEL-ING A PUNCH: SUCCESSFUL TREATMENT OF CHILDREN, ADOLESCENTS, AND YOUNG ADULTS WITH RELAPSED OR REFRACTORY KAPOSI SARCOMA WITH PACLITAXEL IN MBEYA, TANZANIA

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BACKGROUND: While many young patients with Kaposi sarcoma (KS) can be treated with a combination of bleomycin, vincristine and doxorubicin (ABV) chemotherapy, favorable outcomes can be challenging to attain in resource limited settings. We describe a cohort of pediatric, adolescent and young adult (AYA) patients with KS treated with paclitaxel in Mbeya, Tanzania.

METHODS: Retrospective chart review was conducted of patients with KS who received paclitaxel at the Baylor Tanzania Centre of Excellence in Mbeya, Tanzania between 1 March 2011 and 31 Dec 2019. Paclitaxel was selected for patients with refractory disease after treatment with ABV, KS relapse or contraindication to ABV. Paclitaxel was given at 100-135mg/m2 every 3-4 weeks for 6 cycles; patients who did not achieve complete clinical remission (CCR) were given additional cycles.

RESULTS: 17 patients met criteria and received paclitaxel, or 24% (17/71) of all patients treated for KS during the study period. Among these patients, 88% (15/17) had received prior chemotherapy (ABV), but had refractory disease (9/15), relapsed after ABV (4/15), or had allergic reaction to ABV (2/15). Two patients had pre-existing con-

traindications to ABV and received initial paclitaxel. All HIV+ patients (16/17) received ART and 88% (14/16) achieved VL <1000 cp/mL.

At time of paclitaxel initiation this cohort was 41% (7/17) female, median age 13.5 years (range 5.1-21.3), 94% (16/17) HIV +, all (16/16) on ART for a median of 64.5 months (range 4.4 - 138). 50% (8/16) had WHO severe immunosuppression.

At censure, 82% (14/17) of patients were alive – 71% (10/14) achieved CCR, 29% (4/14) had partial response. None were lost to follow up, median follow up was 37.3 months (range 8-83.5). All deaths (n=3) were due to complications of severe acute malnutrition. No significant differences in presentation or outcomes were seen based on Lilongwe KS stage (Table 1).

Clinical Characteristic	Stage 1: Mild and Moderate Cutaneous/Oral KS (n = 0)	Stage 2: Lymphadenopathic Predominant KS (n = 5)	Stage 3: Woody Edema KS (n = 4)	Stage 4: Visceral or Disseminated KS (n = 8)	p-value
Previously Failed Chemotherapy Regimen	NA	60% (3/5)	100% (4/4)	75% (6/8)	0.6303
Relapsed or Refractory KS	NA	60% (3/5)	100% (4/4)	75% (6/8)	0.6303
Alive	NA	80% (4/5)	75% (3/4)	88% (7/8)	0.3737
Died	NA	20% (1/5)	25% (1/4)	13% (1/8)	0.9999

[Table 1.]

CONCLUSIONS: Favorable outcomes were achievable with paclitaxel despite the severity of KS disease in this cohort and the resource constraints in this setting.

PEB0317

ANTIBODY RESPONSES TO TETANUS TOXOID, REDUCED DIPHTHERIA TOXOID, AND ACELLULAR PERTUSSIS (TDAP) VACCINATION AMONG PERINATALLY HIV-INFECTED THAI ADOLESCENTS STABLE ON COMBINATION ANTIRETROVIRAL TREATMENT

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BACKGROUND: To evaluate the antibody responses to tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccination among perinatally HIV-infected Thai adolescents (PHIVA) stable on combination antiretroviral treatment (cART).

METHODS: A multicenter prospective cohort study was conducted. PHIVA(11-25years) who had:

(1) history of severe immune suppression(CD4<15% or <200cells/mm^3),

(2) currently stable on cART (CD4≥350cells/mm^3, or CD4≥200cells/mm^3 with viral suppression[VS; HIV RNA<50copies/ml]),

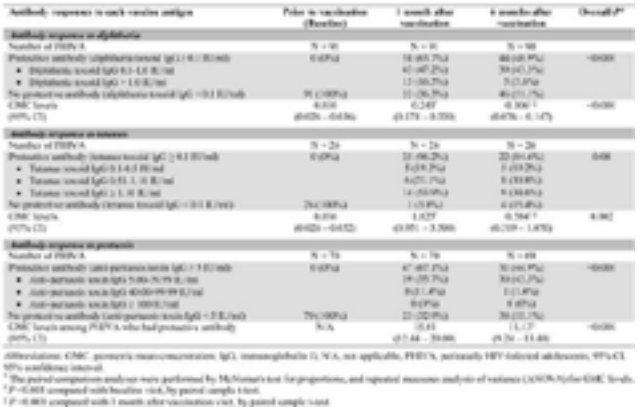
(3) completed a 5-dose series of DTP vaccine during childhood, and

(4) no protective antibodies against either diphtheria, tetanus, or pertussis (as defined below) were enrolled.

PHIVA who had ever received Tdap vaccination were excluded. A single dose of Tdap vaccine (Adacel®, Sanofi Pasteur) was administered intramuscularly. Antibody responses to diphtheria, tetanus, and pertussis were measured at 1 and 6 months after vaccination. Protective antibodies were defined as diphtheria toxoid IgG≥0.1 IU/ml, tetanus toxoid IgG≥0.1 IU/ml, and anti-pertussis toxin IgG≥5 IU/ml, respectively. Paired comparison analysis was conducted to compare antibody responses to each vaccine antigen between visits. Logistic regression analysis was performed to identify associated factors of protective antibodies after vaccination.

RESULTS: Of 115 eligible PHIVA, 59 (51%) were female, a median age was 19 years. At enrollment, 69% were on NNRTI-based cART. A median CD4 was 614cells/mm^3, and 91% had VS. There were 91 (79%), 26(23%), and 70 (61%) PHIVA without protective antibodies against diphtheria, tetanus, and pertussis, respectively. After Tdap vaccination, the proportion of protective antibodies against diphtheria, tetanus and pertussis were 64%, 96% and 67% at 1month, and 49%, 85% and 45% at 6months, respectively (Table 1).

The associated factors of developing protective antibodies at 1month and maintaining protective antibodies at 6months against diphtheria and pertussis were current VS and CD4 ≥200cells/mm^3 before cART initiation (P<0.05), respectively. No serious adverse reactions following Tdap vaccination were reported.



[Table 1. Antibody responses to diphtheria, tetanus and pertussis at 1 and 6 months after tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccination among perinatally HIV-infected Thai adolescents stable on combination antiretroviral treatment.]

CONCLUSIONS: The majority of our PHIVA who were stable on cART developed protective antibodies after Tdap vaccination. A follow-up study to determine the rapid waning of antibody levels after vaccination is warranted.

PEB0318

SAFETY AND IMMUNOGENICITY OF LIVE-ATTENUATED JAPANESE ENCEPHALITIS VACCINATION AMONG PERINATALLY HIV-INFECTED THAI ADOLESCENTS STABLE ON COMBINATION ANTIRETROVIRAL TREATMENT

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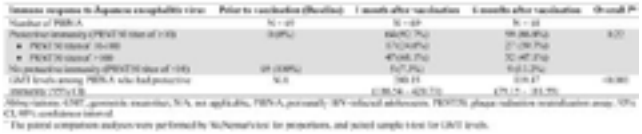
BACKGROUND: To evaluate the safety and immunogenicity of live-attenuated Japanese encephalitis vaccination (LAJEV) among perinatally HIV-infected adolescents (PHIVA) stable on combination antiretroviral treatment (cART).

METHODS: A multicenter prospective cohort study was conducted in Thailand. PHIVA who aged 11-25years, had history of severe immune suppression (CD4<15% or <200 cells/mm^3), were currently stable on cART (CD4≥350 cells/mm^3, or CD 4≥200 cells/mm^3 with viral suppression [VS; HIV RNA<50 copies/ml]), had completed a 3- or 4-dose series of mouse brain-derived inactivated JE vaccine (MBDV) during childhood, and had no protective immunity to Japanese encephalitis virus (JEV) (as defined below) were included. PHIVA who had ever received LAJEV prior to enrollment were excluded. A single dose of LAJEV (IMOJEV®, Sanofi Pasteur) was administered subcutaneously. Adverse reactions following vaccination (30 minutes, and days 1,2,3,7,14) were assessed. Plaque reduction neutralization assa y (PRNT50) was performed at 1 and 6 months after vaccination to assess neutralizing antibodies to JEV, and titers of ≥10 were considered a protective immunity. Paired comparison analysis was conducted to compare immune responses to LAJEV between visits. Logistic regression analysis was performed to identify associated factors of protective immunity after vaccination.

RESULTS: During December 2018 to February 2019, 69 PHIVA were enrolled; 51% were female; a median age was 19 years. At enrollment, 71% were on NNRTI-based cART. A median CD4 was 590 cells/mm^3, and 87% had VS. After LAJEV vaccination, 64 (93%) and 59 (87%) PHIVA developed protective immunity at 1 and 6 months, respectively (Table 1). The associated factors of developing protective immunity at 1 month and maintaining protective immunity at 6 months to JEV were lower HIV RNA levels at baseline and living in rural region (P<0.05), respectively. None of PHIVA reported serious adverse reactions following LAJEV vaccination.



[Table 1. Immune response to Japanese encephalitis virus at 1 and 6 months after live-attenuated Japanese encephalitis vaccination among perinatally HIV-infected Thai adolescents stable on combination antiretroviral treatment.]

CONCLUSIONS: LAJEV is safe and immunogenic among our PHIVA who were stable on cART. Vaccination with LAJEV is an important strategy for disease prevention, and should be considered in PHIVA without protective immunity.

PEB0319

FACTORS ASSOCIATED WITH NECROTIZING ENTEROCOLITIS IN A PUBLIC HOSPITAL IN JOHANNESBURG, SOUTH AFRICA, 2013 – 2018: A CROSS SECTIONAL STUDY

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BACKGROUND: Necrotizing Enterocolitis (NEC) is a devastating gastrointestinal disease that affects newborns. Hence, the aim of the study is to determine the factors associated with NEC among the very low birth weight (VLBW; weight<1,500g) infants in Charlotte Maxeke Johannesburg Academic hospital.

METHODS: This is a retrospective cross-sectional study based on weekly routine collection of hospital records of VLBW babies admitted to CMJAH in South Africa between 2013 and 2018 (n = 2,333). Data was extracted from a standardized VLBW database administered by the unit which is used for registering all VLBW neonates who are born and/or admitted within the first 28 days (neonatal period) of life. Data analysis was done using statistical software for data management and analysis (STATA 15.0). A diagnosis of NEC was made based on clinical and radiological evidence of stage II or III, according to Bell's criteria. Logistic regression analysis was performed to determine the significant risk factor associated with NEC.

RESULTS: Majority of the sample population were males 53% and females 47%.Two hundred and forty-eight (10.63%) infants developed NEC. Multivariable logistic regression: the significant risk factors associated with NEC were, Oxygen given on day 28 (OR 1.27, 95% CI 1.052 – 1.531; p = 0.01), patent ductus arteriosus (PDA) (OR 1.61, 95% CI 1.153 – 2.244; p = 0.005), blood transfusion (OR 1.61, 95% CI 1.153 – 2.244; p = 0.005), surfactant therapy at initial admission (OR 1.49, 95% CI 1.146 – 1.945; p = 0.003) and delivery room nasal CPAP (OR 1.29, 95% CI 0.984 – 1.677; p = 0.06 (marginally significant). The Univariate logistic regression: maternal HIV (OR 1.54, 95% CI 1.214 – 1.959; p = <0.001).

CONCLUSIONS: Patent ductus arteriosus, oxygen given on day 28, blood transfusion, surfactant therapy and delivery room nasal CPAP were associated with increased risk of NEC in CMJAH VLBW infants. Mothers who were HIV positive were 54% more likely to have babies that will develop NEC.

BEHAVIOURAL HEALTH OUTCOMES IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0320

THE ROLE OF BEHAVIORAL AND NEUROCOGNITIVE FUNCTIONING IN SUBSTANCE USE AMONG YOUTH WITH PERINATALLY ACQUIRED HIV INFECTION AND PERINATAL HIV EXPOSURE WITHOUT INFECTION

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BACKGROUND: This study examined self-regulatory and other cognitive predictors of substance use (SU) among United States (U.S.) youth with perinatally acquired HIV (YPHIV) and youth exposed perinatally to HIV but uninfected (YPHEU) to inform SU preventive interventions. SU prevention is significant for YPHIV due to SU-related increased health (e.g., worse treatment adherence, poor viral control) and sexual risks.

METHODS: Youth included in these analyses were enrolled in the U.S.-based Pediatric HIV/AIDS Cohort Study Adolescent Master Protocol and aged 7-15 years at baseline. Participants (YPHIV, n=390; YPHEU, n=211) were followed longitudinally for up to 7 years with cognitive testing, self- and caregiver-report behavioral questionnaires, and self-report of alcohol, marijuana, tobacco, and other SU assessed via confidential audio computer-assisted self-interview. Cox survival models examined correlates of incident SU. Generalized estimating equations with a logistic link addressed SU prevalence associations at baseline.

RESULTS:

	Alcohol: Prevalence Analysis	Alcohol: Incidence Analysis	Marijuana: Prevalence Analysis	Marijuana: Incidence Analysis
	Odds Ratio (95% CI), p-value	Hazard Ratio (95% CI), p-value	Odds Ratio (95% CI), p-value	Hazard Ratio (95% CI), p-value
BASC-2 Sensation Seeking (per 10 points)	1.85 (1.48, 2.30), <0.001	1.32 (1.11, 1.58), 0.002	1.43 (1.14, 1.80), 0.002	1.29 (1.07, 1.55), 0.007
Child BRIEF GEC Score ≥65	1.97 (1.02, 3.78), 0.043	0.54 (0.24, 1.21), 0.13	2.21 (1.12, 4.37), 0.022	0.94 (0.49, 1.80), 0.85
Caregiver BRIEF GEC Score ≥65	1.59 (0.88, 2.87), 0.123	1.25 (0.74, 2.10), 0.40	1.21 (0.65, 2.26), 0.54	1.02 (0.65, 1.60), 0.93
WISC-IV Full Scale IQ (per 15 points)	1.77 (1.33, 2.35), <0.001	1.14 (0.97, 1.35), 0.12	1.52 (1.13, 2.05), 0.006	1.06 (0.89, 1.26), 0.52

Odds ratios and hazard ratios were adjusted for caregiver type, sex, Hispanic ethnicity, race, and age; hazard ratios also adjusted for other substance use; BASC-2=Behavior Assessment System for Children-2; BRIEF=Behavior Rating Inventory of Executive Function; GEC= Global Executive Composite; WISC-IV=Wechsler Intelligence Scale for Children-Fourth Edition. For BRIEF and BASC-2, higher scores indicate worse reported problems.

[Table]

About half of youth reported ever using alcohol (48.0%) or marijuana (42.8%) between baseline and their final visit; of those, up to 42% reported negative effects or concerning symptoms (e.g., riding in a car driven by someone who was high, family/friends suggesting they cut back). Higher sensation-seeking and worse self-reported self-regulation and everyday executive functioning skills (BRIEF GEC) were associated with both initiation and prevalent use of alcohol and marijuana for both YPHIV and YPHEU (see Table). Cognitive functioning (WISC-IV) showed a different pattern, with better scores associated with increased likelihood of prevalent or incident alcohol or marijuana use. Interaction tests between YPHIV and PHEU revealed small differences.

CONCLUSIONS: Worse self-regulation predicts alcohol and marijuana use regardless of HIV status, suggesting that SU screening tools and self-regulation-based interventions developed for the general adolescent population could be effective with YPHIV and YPHEU. Higher cognitive performance did not prevent SU among adolescent youth affected by HIV. SU among YPHIV needs greater attention in clinical practice and research to prevent HIV and SU comorbidities and consequences.

PEB0321

RETENTION IN CARE AMONG ADOLESCENTS LIVING WITH HIV IN CAPE TOWN, SOUTH AFRICA

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BACKGROUND: Treatment retention and viral suppression among children and adolescents living with HIV remain essential to reaching UNAIDS 90-90-90 targets. We compared the retention outcomes of children (perinatally infected) and adolescents (mostly behaviorally infected) enrolled in a community-based ART program in Cape Town, South Africa.

METHODS: We utilized routine, longitudinal data collected at a public clinic in an informal community between May 2002 and April 2019. We defined our paediatric and adolescent cohorts as participants ≤12 years or between 17-24 years at ART initiation, respectively. Kaplan-Meier estimates were used to describe distributions of time from ART initiation to "lost to care" (LTC). Participants were categorized as LTC if they had no clinic data within the past 6 months; not known to have died or transferred. Censoring occurred at date of death, date of transfer, or date of study end. Multivariate Cox proportional hazard models were used to estimate hazard ratios (HRs) adjusting for potential confounders.

RESULTS: The paediatric cohort (n=696) was 51% female with a median age of 3 years at ART initiation (IQR=0-6). The adolescent cohort (n=2062) was 92% female with a median age of 22 years at ART initiation (IQR=21-24). Median baseline CD4 cell counts were 461 and 251 cells/μL, in children and adolescent cohorts respectively. Among the paediatric cohort, 444 participants (64%) were LTC over 4647.7 person-years(pys) of follow-up (incidence rate of 9.5 per 100pys). The average time from treatment initiation to LTC was 8.6 years (SE=0.19). Among the adolescent cohort, 1184 patients (57%) were LTC over 6497.6 person-years of follow-up (incidence rate of 18.2 per 100pys). The average time from treatment initiation to LTC was 5.2 years (SE=0.12). Adolescents had a significantly higher risk for being LTC compared to children (adjusted-HR=1.74, 95% CI: 1.52-1.99, p<.001).

CONCLUSIONS: Rates of LTC observed among both cohorts were high. However, there were significantly higher rates of LTC over a shorter time interval for adolescents initiating treatment compared to children. Greater investments in tailored interventions are required to ensure adolescents are initiated earlier and retained in care enabling successful viral suppression in this important population.

MENTAL HEALTH AND NEUROCOGNITION IN PAEDIATRIC AND ADOLESCENT POPULATIONS

PEB0322

NEUROCOGNITIVE FUNCTION IN HIV-INFECTED CHILDREN ON PROTEASE INHIBITOR BASED VERSUS NON- PROTEASE INHIBITOR BASED ANTIRETROVIRAL THERAPY

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BACKGROUND: HIV infection in children has been associated with significant motor and cognitive deficits. Despite the availability of life-saving antiretroviral therapy (ART), maximizing cognitive function remains a public health imperative. Protease inhibitors (PIs) and non-PIs like zidovudine achieve low and high drug levels in the cerebral spinal fluid (CSF), respectively. High drug levels could result in better neurocognitive function by reducing CSF viral load and inflammation. This study compared the neurocognitive function of HIV infected children receiving PI-based ART to those receiving non PI-based ART.

METHODS: A cross-sectional study was conducted among clinically stable HIV-positive children on non PI-based or PI-based ART respectively for at least one year (viral load < 1000 copies per ml) between 5 and 12 years attending Joint Clinical Research Centre (JCRC), Kampala, Uganda. We excluded children with history of central nervous system infection/event, treatment adherence < 80%, acute malnutrition, hearing/visual impairment, non-English or Luganda speaking or had received both ART regimens. Neurocognitive function was assessed using the Kaufman Assessment Battery for Children second edition (KABC II), and Test of Variables of Attention (TOVA). Age-adjusted neurocognitive z scores for the two groups derived from existing local norms were compared using linear logistic regression models on STATA version 13. The Hommel's method was used to adjust for multiple testing.

RESULTS: Mean age of the children in years (+SD) was 8.5±2.0 and 9.5±1.9 (p=0.030) in the PI (n=32) and non-PI group (n=44), with majority male, (58.8% and 57.1% respectively). Average years of school were 5.4±2.5 and 5.7±1.8 in the PI and non-PI groups respectively (p=0.521). Children in the non-PI group had lower socioeconomic scores than those in the PI-based ART group (5.7±3.3 vs 7.4±2.8, p=0.023). Body mass index for age was comparable between groups (p=0.448). There was no difference in neurocognitive function (i.e. sequential and simultaneous processing, learning, planning, mental processing index, and visual D'prime) between children receiving PI based and non-PI based ART (adjusted p > 0.05).

CONCLUSIONS: We detected no difference in neurocognitive function among children on PI and non PI-based ART therapy. We recommend a study with a larger sample size.

PEB0323

LONGITUDINAL NEUROCOGNITIVE STUDY OF ADOLESCENTS LIVING WITH HIV IN THE CAPE TOWN ADOLESCENT ANTIRETROVIRAL COHORT (CTAAC)

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BACKGROUND: Neurocognitive impairment (NCI) despite ART is well known in perinatally-infected HIV+ adolescents (PHIV+), but there are few data on detailed longitudinal changes in NCI over time. NCI can have deleterious effects onadolescents' everyday functioning. This is especially important in adolescents where their ability to function in school will directly affect their economic/social trajectory as adults.

METHODS: Within this sub-study of the Cape Town Adolescent Antiretroviral Cohort (CTAAC), PHIV+ on ART >6m completed baseline and 3-year follow-up assessments including a comprehensive neurocognitive battery assessing function in 10 cognitive domains. We applied the youth HIV-associated neurocognitive disorder (NCD) diagnostic criteriato classify each as having either a major NCD, a minor NCD, or no impairment. To examine the longitudinal differences in cognitive domains and NCD a series of one-way ANOVAs was performed.

RESULTS: Overall 204 PHIV+ ages 9-12 years (mean CD4 cell count 953 cells/μL and 85% VL<50 copies/mL) and 44 age-matched HIV-controls enrolled for the CTAAC neuro-sub study. There were significant differences between the PHIV+ and control groups in the following domains at baseline: general intellectual functioning, executive functioning, attention, working memory, verbal memory, visual memory, visual spatial ability, language and processing speed (p=<.05). At baseline 47% had any NCD. At 3 year follow-up there was significant further deterioration within the PHIV+ in the domains of attention (see figure below), motor co-ordination and working memory (p=<.005). However, the PHIV+ improved significantly in the domains of visual memory and language. In addition there was a shift in diagnoses of NCD at 3 year follow-up, with 61% having any NCD, 53% minor and 8% major. NCD diagnosis was stable over the 3 year period in 69% of PHIV+ , deteriorated in 20% and improved in 10%.

CONCLUSIONS: Neurocognitive impairment remains a significant concern, important to identify and probably largely under recognised in a cohort of treated PHIV+ followed longitudinally. However, NCD diagnosis was not static, 20% of PHIV+ had progressive impairment and 10% improvement in neurocognitive function. Further research into the factors driving both deterioration and improvement in NCD, utilising this prospective cohort in South Africa is needed.

PEB0324

PREVALENCE AND FACTORS ASSOCIATED WITH DEPRESSION AND SUICIDALITY AMONG ADOLESCENTS LIVING WITH HIV ATTENDING THE HIV ADOLESCENCE CLINIC AT KCMC HOSPITAL IN TANZANIA

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BACKGROUND: Mal-adherance of antiretroviral treatment causes increase of AIDS-related deaths among adolescents and has shown to be associated with psychosocial and mental health difficulties. However, depression screening and treatment are limited in sub-Saharan Africa, and there are few population-level studies examining the prevalence and factors associated with depression and suicidality. This study highlights the need to integrate mental health evaluation and treatment into the care provided for adolescents with HIV.The aim of this study is to determine the prevalence and factors associated with depression and suicidality among adolescents with HIV attending adolescent clinic at KCMC

METHODS: A cross-sectional study from January to May 2019 in 10–19 year-old adolescents with HIV attending adolescents' clinic in KCMC Moshi Tanzania.The validated standardized Patient Health Questionnaire 2 (PHQ2) was used to assess symptoms of depression for all the participants,the validity for (PHQ-2 ≥3 demonstrated high sensitivity (91.1%) and moderate specificity (76.8%).If the answer is more than 3 in PHQ 2,then validated standardized Hopkins checklist questionnaire was used to diagnose depression.A test score higher than 1.75 on the HSCL denotes diagnosis of depressed mood.If there is any thought of suicide in Hopkins checklist then Suicidal was assessed by a validated tool Suicidal Behavioral Questionnaire.

RESULTS: The participants enrolled in the study were 169, who scored more than 2 for PHQ 2 were 120 participants. Among 120 the participant median age was 16.0 years(14.0-18.0). The prevalence of depression in adolescents 14% and the prevalence of suicidality was 13%. The subdivision of suicidality showed Suicidal risk ideation at 2.5%, Suicide plan at 5.8%, and suicide attempt at 2.5%. The factors associated with depression were History of violence (OR=9.333, 95%CI=1.804-48.297, P=0.008) and History of being bullied (OR=5.300, 95%CI=1.355-20.736, P=0.017). The factors associated with suicidality were history of violence (OR=6.514, 95%CI, 1.067-39.755, P=0.042) and history of being bullied (OR=4.909, 95%CI, 1.075-22.409, P=0.040).

CONCLUSIONS: Depression is prevalent in Tanzania, and its correlates are gender-specific. Our findings suggest multiple targets for screening and prevention of depression and highlight the need to integrate mental health counseling and treatment into primary health care to decrease morbidity and improve HIV management efforts.

PEB0325

LESSONS LEARNED FROM IMPACT OF MENTAL HEALTH CARE INTEGRATION INTO HIV ADOLESCENT SAME DAY ANTIRETROVIRAL SERVICES ON DRUG ADHERENCE AND CARE RETENTION IN BANGKOK, THAILAND

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BACKGROUND: In an era of same day antiretroviral treatment (SDART) initiation, novel service provision strategies are needed to address psychosocial needs of newly diagnosed HIV-infected youth. We look at lessons learned from implementation of mental health care integration to HIV services for adolescents with horizontally acquired HIV initiating SDART in Thailand.

DESCRIPTION: Between February 2018 and December 2019, 42 adolescents aged between 13-24 years newly diagnosed with HIV at the Thai Red Cross Anonymous HIV Testing Center were initiated on SDART then referred to continue care at the Integrated Youth Care Clinic (IYCC) at King Chulalongkorn Memorial Hospital. The IYCC provided personal case managers who performed mental health screening at baseline, coordinated care between IYCC and psychiatry, and home visitations.

LESSONS LEARNED: At baseline, median age was 17 years (IQR 16-19), median CD4 count 311 cells/mm3, 36 (86%) were MSM and 8 (19%) reported substance use (ketamine or amphetamines). At baseline, screening for depression was done using the patient health questionnaire-9 (PHQ-9), and for anxiety using the generalised anxiety disorder 7-item (GAD-7) scale. Abnormal scores were defined as ≥9 for PHQ-9 and ≥11 for GAD-7. Twelve (29%) had abnormal scores and/or suicidal ideation, received counselling from a clinical psychologist and were linked to psychiatric care within 1 month. Eleven (26%) were diagnosed with mental health disorders (8 depression, 1 gender dysphoria, 1 generalized anxiety disorder, 1 adjustment disorder). Psychosocial issues identified included: family issues, gender stigma, HIV stigma and financial problems. Eight received medication with counselling, and 4 received counselling alone. All were offered peer support, disclosure support, self-esteem building group activities, and financial support for psychiatric care and educational fees as needed. At 6 months, retention was 26/30 (87%), 2/30 (7%) had transitioned to adult services, and 2/30 (7%) lost to follow-up. All 26 adolescents retained at 6 months achieved viral suppression.

CONCLUSIONS/NEXT STEPS: Anticipatory screening and active management of mental health problems from the outset at ARV initiation in horizontally infected adolescents appears to be important in supporting future ARV adherence and retention. Preparation of this adolescent population for future successful transition to adult services is needed.

PEB0326

MENTAL HEALTH AND QUALITY OF LIFE IN CHILDREN LIVING WITH HIV ON ANTIRETROVIRAL THERAPY

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BACKGROUND: Despite antiretroviral therapy (ART), children living with perinatally-acquired HIV (CLWH) continue to experience neurocognitive deficits, mental health problems, and decreased quality of life. Prior studies evaluating the mitigating effects of ART on clinical outcomes have utilized pediatric cohorts initiating older ART regimens with advanced disease and at older ages than currently practiced. The objective of this study is to examine mental health and quality of life in CLWH initiated and well-controlled on potent ART regimens early in life.

METHODS: This study included 463 CLWH and 122 uninfected controls enrolled in the Childhood HAART Alterations in Normal Growth, Genes, and aGing Evaluation Study (CHANGES) in Johannesburg, South Africa. Participants and caregivers completed the Strengths and Difficulties Questionnaire (SDQ) to assess mental health and the Pediatric Quality of Life Inventory (PedsQL) to assess quality of life. For the SDQ, five sub-scale scores were calculated for emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behavior. A total difficulties score was calculated based on the first four sub-scales. For the PedsQL, three summary scores were created for total, physical, and psychosocial health.

RESULTS: Mean age (10.9 years) was similar between CLWH and controls. A greater proportion of CLWH were female (54 vs. 40.2%, p<0.01) than controls. 94.8% of CLWH had a viral load <1000 copies/mL. On the SDQ, CLWH had a higher total difficulties score [2.9 (95%CI: 1.8, 3.9)], and emotional symptoms [1.1 (95%CI: 0.7, 1.5)], conduct problems [0.4 (95%CI: 0, 0.8)], and hyperactivity/inattention [1.5 (95%CI: 1.0, 2.0)] sub-scale scores compared to controls, adjusted for age and sex. On the PedsQL, CLWH had lower mean scores on the total quality of life score [-8.6 (95%CI: -10.3, -6.8)], physical health score [-5.3 (95%CI: -7.4, -3.2)], and psychosocial health score [-9.6 (95%CI: -11.6, -7.7)], adjusted for age and sex.

CONCLUSIONS: Even with well-controlled disease from an early age, CLWH are at higher risk for mental health problems and experience lower health-related quality of life compared to controls. Apart from ART, additional resources and support to improve quality of life and address mental health problems are warranted to optimize outcomes throughout childhood for this vulnerable population.

PEB0327

NEURODEVELOPMENT AT 12 MONTHS OF AGE AMONG VERY EARLY TREATED INFANTS IN JOHANNESBURG, SOUTH AFRICA

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BACKGROUND: Early childhood development (ECD) programmes improve developmental outcomes. Developmental consequences of infant intrapartum HIV infection may be attenuated by early antiretroviral treatment (ART) in neonates. We compared developmental outcomes of two groups of early treated infants with the intervention group (IG) participating in an ECD programme through the first 12 months of life.

METHODS: At Rahima Moosa Mother and Child Hospital in Johannesburg, South Africa, we enrolled 36 confirmed HIV positive early-treated neonates into an IG receiving 3-monthly age-appropriate stimulatory toys and parental information on ECD. At 12 months of age, children were assessed by either a physiotherapist or physician using the Bayley Scales of Infant and Toddler Development-III (BSID-III). Results from the IG were compared with a cohort of early treated children in observational follow-up at the site.

RESULTS: The 36 IG children were compared with 24 from the observational group (OG). At birth, groups showed no significant differences in gestational age, delivery method, anthropometry or breastfeeding rates. Age (days) of ART start was 8.4 (SD 12.49) and 5.42 (SD 5.87), p=0.2806, in the IG and OG respectively. At 12 months 77.8% (28/36) of the IG remained in follow-up and showed no significant differences in anthropometry, WHO staging, viral load or CD4 counts compared with the OG. Mean scaled and composite BSID-III scores for both groups equated with the reference mean of 10 (SD 3) and 100 (SD 15) respectively. Mean scaled and composite scores were non-significantly greater for all subscales in the IG apart from the gross motor subscale (Table 1). IG children scored significantly better on the receptive communication subscale 10.96 (SD 2.35) vs. 9 (SD 4) p=0.0331.

Assessment Subscale	Observational Group (N=24)	Intervention Group (N=28)	p
Cognitive subscale			
Scaled Score, mean (SD)	11 (2)	11 (2.57)	1.000
Composite Score, mean (SD)	103 (9)	105 (12.84)	0.5252
Language Subscale			
Receptive Communication, Scaled Score, mean (SD)	9 (4)	10.96 (2.35)	0.0331
Expressive Communication, Scaled Score, mean (SD)	10 (2)	10.75 (2.08)	0.1931
Language Subscale, Composite Score, mean (SD)	100 (17)	105.21 (2.35)	0.1904
Motor Subscale			
Fine Motor, Scaled Score, mean (SD)	10 (2)	10.5 (2.08)	0.3833
Gross Motor, Scaled Score, mean (SD)	10 (2)	9.25 (2.10)	0.1954
Motor Subscale, Composite Score, mean (SD)	99 (11)	99.46 (9.24)	0.8705

[Table 1.]

CONCLUSIONS: At 12 months of age children starting ART early showed BSID-III results comparable to the reference norm. Participation in an ECD programme in the first year of life in addition to early ART further improved developmental outcomes.

PEB0328

ASSOCIATIONS OF NEVIRAPINE-BASED ART REGIMENS WITH NEUROPSYCHOLOGICAL OUTCOMES IN HIV-POSITIVE CHILDREN

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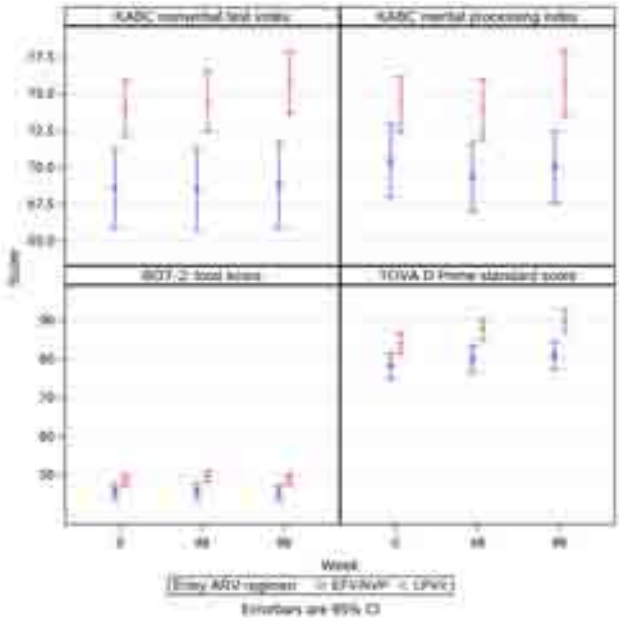
BACKGROUND: IMPAACT P1104s compared neuropsychological outcomes over 96 weeks in HIV-positive (HIV+) children with matched HIV unexposed (HU) and HIV-exposed uninfected (HEU) children, aged 5 to 11 years at 6 sites in Sub-Saharan Africa. Here, we explore HIV-illness related associations with neuropsychological outcomes in the HIV+ cohort.

METHODS: HIV+ children had participated in IMPAACT P1060, which compared efficacy of nevirapine (NVP) versus lopinavir/ritonavir (LPV/r). 96% of eligible P1060 participants enrolled in P1104S. For P1104S, neuropsychological evaluations of KABC cognitive ability, TOVA attention-impulsivity and BOT-2 motor domains were assessed at 0, 48 and 96 weeks. In HIV+ children, clinical, antiretroviral and laboratory (immunological and virological) data from P1060 were combined with clinical and neuropsychological and caregiver data from P1104S to explore associations with neuropsychological outcomes using linear mixed-effects multivariable regression analysis, controlling for personal and caregiver characteristics. Adjusted means with 95% confidence intervals were presented.



[Figure 1.]

RESULTS: The 246 HIV+ children (45% male, mean age at P1104s entry 7.1 yrs (SD 1.2)) had median ART initiation at 15 months (IQR 8.2, 25.2), nadir CD4 count of 632 cells/mm3 (IQR 427, 874); 233 (95%) had a peak viral load >100,000 copies/ml. 164 (67%), 7 (3%) and 71 (29%) were receiving LPV/r, efavirenz (EFV)- and NVP-based ART respectively; 61% had ≥ stage 3 WHO clinical stage.

Use of NVP or EFV at P1104s study start or during follow-up were associated with lower neuropsychological scores compared to LPV/r (Figure), which persisted when controlling for nadir CD4 percent and time-varying HIV viral load. Other predictors of poorer scores in KABC domains included low birth weight, WHO stage 4 disease and serious illness history but not elevated VL on P1060 or P1104.

CONCLUSIONS: Children receiving nevirapine or efavirenz while on P1104s had poorer neuropsychological scores as assessed by the KABC, BOT-2 and TOVA than those on lopinavir/ritonavir.

PEB0329

BEYOND SURVIVAL – STRATEGIES TO PROMOTE THE QUALITY OF LIFE OF HIV INFECTED YOUNG ADULTS AT BOTSWANA-BAYLOR

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BACKGROUND: As more HIV infected adolescents survive into young adulthood, there is a push to better understand and promote their quality of life (QOL). Young adults with HIV (YALH) have to contend with challenges related to HIV infection while faced with the developmental tasks of this important phase in life. However, not enough is known about the special strengths, vulnerabilities and QOL of this growing population in Botswana. The aim of this study was to assess the QOL of YALH and identify their perspectives on how to promote their QOL.

METHODS: We used 1) WHOQOL-HIV BREF instrument to assess the QOL of YALH aged 18-29 years. The WHOQOL Group recommends a minimum of 300 participants in sites using the instrument for the first time. 2) in-depth interviews (IDI) with 40 purposefully sampled participants. IDI sample size was determined by data saturation.

RESULTS: 242 females and 257 males were surveyed. The median of overall quality of life and general health perceptions (<70) was used as the upper cut off for poor QOL. The lowest mean QOL scores were recorded in the financial resources facet (33.25); opportunities for recreation/leisure activities (53.56); and satisfaction with sexual life (56.68). IDI results show risk factors of poor QOL to include: poor school performance/achievement; financial stressors due to unemployment/underemployment; orphan hood; stressful romantic relationships; fear of stigma and disclosure; limited social support; poor self-acceptance/image; single parenting by young women; worries and fears about the future; and treatment related challenges. YALH's recommend establishment of policies and programs to increased access to vocational training opportunities; preferential access to youth development schemes; expand employment opportunities for low skilled people; creating and environment of care and concern and protection; and group level interventions to promote self-image, self-confidence and self-esteem in order for YALH to live independently.

CONCLUSIONS: Results of this study demonstrate that being on ART alone does not guarantee good QOL. Many risk factors for low QOL identified by this study are potentially modifiable and can be effectively targeted for policy and interventions to maximize patients' QOL. A multi-sectoral approach is needed to promote the QOL of YALH.

HIV-EXPOSED UNINFECTED CHILDREN

PEB0330

INFANT MORBIDITIES DIFFERENTIALS OF HIV POSITIVE MOTHERS WITH KNOWN VAGINAL DYSBIOSIS STATUS: A STATISTICAL ANALYSIS WITH A SKEWED BINARY OUTCOME USING GENERALISED ESTIMATING EQUATIONS

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BACKGROUND: Infant morbidity and mortality is an indicator used globally as a measure of a country's health status. This study is about the sexually enhanced diseases which have not been given close attention yet they have the potential of long term morbidity effects. Our objective is to address effects of Vaginal Dysbiosis on long term cause of infants' morbidities.

METHODS: We analyzed infant data from HIV positive mothers whose vaginal dysbiosis status was known from a Randomized Control Trial study conducted in Nairobi, Kenya.

Our aim was to investigate the effect of VD on infant morbidity with time from birth up to six months of age. We derived a score for morbidity incidences depending on the reported illness in the register during scheduled visits only. By adjusting for the mothers VD status, child's HIV status, gender, feeding status and weight for age, we used two approaches for analysis. In our analysis we considered and fitted the traditional Generalized Estimating(GEE) equations and our proposed Skewed Generalized Estimating Equations(SGEE). Our motivation is to account for skewness created in the response during the creation of the morbidity incidence score.

RESULTS: Overall, 327 infants aged 1 to 6 months were included in the study. 1962 repeated measurements were available for analysis

Of the 327 mothers' to the infants, 148(45\%) tested positive for VD while 179(\%) were negative. VD, gender and time were found to be associated with infant morbidities. Women who had VD, at month 1 they had 3.62 odds of morbidity incidences that those who were negative. The effects of VD tend to decrease with time, at five months of age children in the VD group had 1.16 times the odds of having morbidity incidences. In the SGEE model, VD was statistically significant at the 0.05 level with a positive coefficient indicating children in the VD group had a higher probability of having more morbidity incidences.

CONCLUSIONS: Mothers VD status was positively associated with morbidity incidences which highlight the need for early intervention for women who are diagnosed with it. Care to promote better health for infants during growth, is necessary in order to achieve the MDG's.

PEB0331

MAPPING CORTICAL STRUCTURE AND NEUROCOGNITIVE DEVELOPMENT OF HIV-EXPOSED UNINFECTED CHILDREN IN SOUTH AFRICA: NEUROIMAGING OUTCOMES FROM A SOUTH AFRICAN BIRTH COHORT

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BACKGROUND: There are an estimated 14.8 million HIV-exposed uninfected (HEU) children worldwide. HIV-exposure without infection has been associated with developmental delay, however, the neurobiological mechanisms are not yet understood and neuroimaging studies are lacking. We compared the neuroanatomy of HEU and HIV-unexposed (HU) children aged 2-3 years and investigated associations with neurocognitive development.

METHODS: Children from the Drakenstein Child Health population-based birth cohort study underwent magnetic resonance imaging (MRI). Structural T1-weighted images were acquired on a 3-Tesla Siemens Skyra machine at the Cape Universities Brain Imaging Centre, South Africa. All mothers received HIV testing and antiretroviral therapy (ART) per local guidelines; HIV-exposed children were confirmed uninfected. Acquired structural T1-weighted images were processed using FreeSurfer software. Cortical thickness and surface area were extracted for segmented images bilaterally. Regions-of-interest within the frontal lobe were compared between groups using multivariable linear regression adjusting for child age and sex. Neurocognitive development, assessed using the Bayley Scales of Infant and Toddler Development-III, was correlated with cortical structure.

RESULTS: MRI scans from 162 children (70 HEU, 92 HU) (mean age 34.1 months; 94 [58%] male) were included. HEU children had significantly higher cortical thickness measurements in the medial orbitofrontal cortex (mOFC) bilaterally (left side p=0.04, Cohen's d effect size 0.33 [95% CI 0.02 to 0.64]; right side p=0.02, effect size 0.38 [95% CI 0.06 to 0.69]) and the left frontal pole (p=0.01, effect size 0.41 [95% CI 0.10 to 0.72]) compared to HU children. These results held after correcting for household income, maternal education and maternal age. There were no group differences in cortical surface area. Further analyses revealed HEU children had lower language scores than HU children (p=0.02), and cortical thickness in the mOFC was negatively correlated with language development bilaterally (left mOFC r=-0.30, p=0.02; right mOFC r=-0.35, p=0.008).

CONCLUSIONS: At age 2-3 years HEU children had increased cortical thickness in areas of the prefrontal cortex compared to HU children, which correlated with poorer language outcomes. This suggests that *in utero* HIV/ART exposure may impact neurological development with clinical implications of relevance to care of the growing HEU population.

PEB0332

IMPROVEMENT IN TIMELY INFANT HIV TESTING FOLLOWING MONITORING OF ESTIMATED DATE OF DELIVERY (EDD) AND QUALITY REPORTING FOR THE URBAN DISTRICTS OF KAMPALA AND WAKISO, UGANDA

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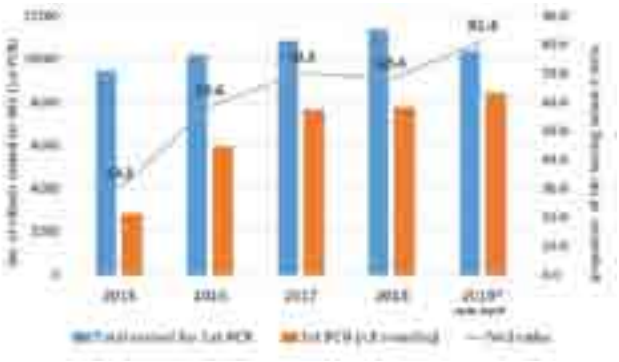
BACKGROUND: Timely DNA PCR testing for HIV exposed infants is key to determining the care package for the infants and is associated with better health outcomes. Despite overall improvement in infant HIV testing, early infant diagnosis (EID) within 2 months of birth has remained low at 52% in sub-Saharan Africa, and only 45% in Uganda at the end of 2018. Several interventions were put in place, including monitoring of estimated date of delivery (EDD), and mentoring sites to compile and submit correct and complete reports. We reviewed trends in EID rates from Jan 2015 to September 2019 to assess impact of improved EDD tracking and EID reporting.

METHODS: From March 2017, with support from PEPFAR, the infectious diseases institute (IDI) strengthened EID services at 112 sites in urban Kampala-Wakiso region that included; staff training and mentoring, M&E tools distribution, reporting through the National grid, quarterly performance reviews, and targeted quality improvement projects. From November 2017, IDI strengthened monitoring EDD using the EDD tracker, which is a longitudinal register that enrols pregnant women at ANC1 using their EDD and follows them up through delivery to the time of EID. Clients were followed up with a phone call or home visit as guided by the EDD. EID reports were submitted monthly to the district health information software (DHIS2). We extracted aggregate data for 0-2 month and calculated proportions against total 1st DNA PCR testing and computed trend analysis for proportions using STATA13.

RESULTS: Between Jan 2015 and Sep 2019, there was significant improvement in the proportion of infants testing within 2-months of age, from 30.1% in 2015 to 81.4% by Sept 2019 (pr>chi2 = 0.00).



[Figure. Trends in early infant diagnosis (EID) in the Kampala-Wakiso urban districts of Uganda, Jan 2015-Sep 2019]

CONCLUSIONS: Routine monitoring of EDD, timely program performance reviews and site-specific quality improvement interventions should be scaled up to all sites for improved HEI 0-2 months EID testing and infant outcomes.

PEB0333

HOSPITALIZATION IS ASSOCIATED WITH SEROCONVERSION TO PARAINFLUENZA AND RESPIRATORY SYNCYTIAL VIRUS IN HIV-EXPOSED, UNINFECTED INFANTS BORN IN THE UNITED STATES

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BACKGROUND: HIV-exposed, uninfected (HEU) infants experience higher rates of morbidity and mortality due to respiratory infections than HIV-unexposed uninfected infants. Very few studies examined the epidemiology of HEU infants' respiratory infections in the United States (US) or other high-income countries. We determined the rate of seroconversion to 6 respiratory viruses and its association with hospitalization in the first year of life among HEU infants born in the US.

METHODS: HEU infants enrolled in International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPAACT) P1025 and/or Pediatric HIV/AIDS Cohort Study Surveillance Monitoring for ART Toxicities (PHACS SMARTT) studies with ≥3 blood samples collected at 2, 6, 16, 24 and/or 48 weeks of life were included. Antibodies were measured by quantitative ELISA. Seroconversion was defined as ≥4-fold increase in antibody concentration or a 48-week concentration greater than the upper 95% confidence interval predicted by the maternal antibody decay in serial infant samples, calculated using a mixed effect model. Infants receiving influenza vaccine before seroconversion to influenza A/B were excluded from influenza analyses. A multivariable modified Poisson regression model was fit to evaluate associations of seroconversion to each respiratory virus/family with the risk of hospitalization in the first year of life.

RESULTS: Among 556 HEU, 54% were male, 55% black, 41% Hispanic, 17% preterm, 13% low birth weight, 59% delivered by Cesarean section and 1% breastfed. The incidence of seroconversion per 1000 person-months to respiratory syncytial virus (RSV), influenza A, influenza B, and parainfluenza 1, 2 and/or 3 in the first year of life was 34.2, 38.9, 28.6, and 40.7, respectively. Most seroconversions occurred between 6 and 12 months of age for all viruses. Seroconversion to RSV or parainfluenza increased the risk of hospitalization by >2-fold, while influenza A or B by <1.5-fold (Table).

Respiratory virus	Adjusted relative risk of hospitalization (95% CI)*	p-value
Respiratory Syncytial Virus	2.08 (1.29-3.34)	0.003
Influenza A	1.43 (0.85-2.42)	0.18
Influenza B	1.13 (0.63-2.02)	0.69
Parainfluenza 1, 2 or 3	2.24 (1.40-3.60)	< 0.001
* Model adjusted for sex, race, ethnicity, preterm birth, low birth weight, and mode of delivery		

[Table: Association of respiratory viral infections with hospitalization in the first year of life]

CONCLUSIONS: Among HEU infants born in the US, RSV and parainfluenza infections likely contribute to hospitalization in the first year of life.

PEB0334

DOUBLE TROUBLE: INCREASED RISK OF CONGENITAL CYTOMEGALOVIRUS INFECTION AMONG HIV-EXPOSED NEWBORNS

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BACKGROUND: Congenital cytomegalovirus infection (cCMV) is the leading cause of a treatable congenital infection worldwide. While maternal immunosuppression is a risk factor for transmission, there are currently no recommendations for screening of all infants born to women living with HIV in pregnancy for cCMV. The objective of this study was to examine the association between in utero HIV exposure and the risk of cCMV infection.
METHODS: Between April 1 2014 and March 31st 2018, all HIV exposed infants born at CHU Sainte-Justine Hospital (Montreal, Quebec) were screened for cCMV (birth-3 days of age) by saliva or urine culture, or PCR. All positive screens were confirmed by urine CMV PCR. In parallel, a targeted screening program for cCMV was implemented hospital-wide for all infants who failed their newborn hearing test. The incidence of cCMV infection between the two groups was compared.
RESULTS: During the study period, 156 children were born to women living with HIV. The majority of women (91%) had an undetectable viral load (VL) at the time of delivery, and 81% had a delivery CD4 count >350 cells/mm3. There was only one case of perinatal HIV transmission. 127 (81.4%) of the newborns were successfully screened for cCMV, and 3 (2.36%) were confirmed positive; all 3 were subsequently confirmed HIV uninfected. Only 1 of the 3 had symptomatic cCMV infection and required antiviral treatment for cCMV, in addition to antiretroviral prophylaxis for HIV. All 3 cases of cCMV were born to mothers who were CMV IgG positive and IgM negative at the onset of pregnancy; only one was born to a mother with severe immunosuppression (CD4 count <200 cells/mm3). During the same period, 484 newborns were screened for cCMV due to a failed hearing test, and only 3 (0.62%) were confirmed positive.
CONCLUSIONS: The incidence of cCMV among HEU infants was >3-fold higher than among healthy newborn infants targeted for screening due to failed hearing test, and 4-fold higher than general North American population estimates (0.5%). In the absence of universal screening, these results suggest that that where treatment is available, all HIV exposed infants should be screened for cCMV infection.

PEB0335

RISK FACTORS FOR SMALL FOR GESTATIONAL AGE AND MICROCEPHALY AMONG HIV EXPOSED UNINFECTED INFANTS IN MONTREAL, CANADA

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BACKGROUND: Children who were HIV exposed but uninfected (HEU) are at increased risk of morbidity and mortality as compared to unexposed controls. Potential risk factors include aberrant *in utero* growth due to maternal HIV infection and/or antiretroviral (ARV) drug exposure. The objective of this study was to determine the incidence and risk factors for small for gestational age (SGA), microcephaly and macrocephaly among a cohort of HEU newborns in Canada.
METHODS: Newborn birth weight (BW), length, and head circumference (HC) were assessed for children born to women living with HIV from the Centre Maternel et Infantil sur le SIDA cohort (CHU Sainte-Justine, Montreal, Quebec) between 1988-2016, for whom linkage to the provincial health administrative database could be done. Data were analyzed using published Intergrowth21 standards, with reported Z scores and percentiles adjusted for gestational age and neonatal sex.
RESULTS: 724 newborns were included in the analysis. Median BW Z score was 0.21 (IQR -0.50-0.90), HC 0.84 (IQR: -0.01-1.56), length 0.22 (IQR -0.50-0.90). Overall, 13% of newborns were preterm (gestational age <37 weeks), 11% were SGA (BW <10th percentile), 2.3% had microcephaly (HC <3rd percentile), and 15.9% macrocephaly (HC>97th percentile). None of the infants with microcepahly or macrocephaly were born to mothers treated with efavirenz or dolutegravir during pregnancy. On univariate analysis, the only significant risk factors for SGA from among maternal age, race, treatment type, delivery CD4 count (dCD4) and viral load (dVL) were maternal dCD4 (*B*:-0.01, p=0.01) and race (*B*:-4.5, p 0.02), both of which remained significant after adjusting for maternal age, treatment type and dVL. Infants born to mothers of African origin had significantly higher birth Z scores than those of Haitian origin (0.274 vs. -0.04, p=0.002). Maternal dCD4 was the only a significant predictor of HC at birth (*B*:-0.01, p=0.016), though it had no impact on infant birth length (*B*=0.003, p=0.14).
CONCLUSIONS: In this cohort, maternal immunosuppression was identified as a potential risk factor for SGA and microcephaly among HEU newborns. Further work needs to be done to assess the long-term health impacts of these extremes of growth.

TRANSITION OF ADOLESCENTS INTO ADULT CARE

PEB0336

SOCIAL SUPPORT AND VIRAL SUPPRESSION IN YOUNG ADULTS WITH PERINATALLY-ACQUIRED HIV IN THE UNITED STATES

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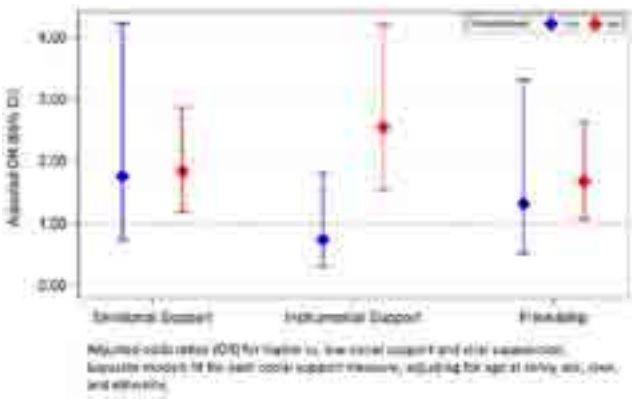
BACKGROUND: Few studies have examined the relationship of social support to health outcomes among young adults living with HIV, including perinatally-acquired HIV (YAPHIV). As YAPHIV become less reliant on others, we need to identify modifiable factors such as social support that can enhance sustained viral suppression and health care independence. We examined the relationship of social support to viral suppression among YAPHIV, and the potential modifying role of transition to adult care.

METHODS: Participants included YAPHIV ≥18 years in the Pediatric HIV/AIDS Cohort Study AMP Up cohort. We assessed friendship, emotional and instrumental support using the NIH Toolbox. Viral load (VL) and transition status (pediatric vs adult care) were obtained through chart review. Participants with social support assessed at study entry and ≥1 VL over the next year were included; year 3 social support and subsequent VL were included if available. Low social support was T-score <40 and average/higher ≥40. Viral suppression (VS) was all VL <50 copies/ml. We fit logistic regression models using generalized estimating equations and evaluated transition as an effect modifier with interaction terms.

RESULTS: Among 409 YAPHIV (64% female; 71% Black, 26% Hispanic; median age 21.2 years, 23% transitioned to adult care); 33%, 29% and 31% reported low emotional, instrumental and friendship support, respectively. Forty-three percent were suppressed in the year post-entry; 47% of those with year 3 data were suppressed over the subsequent year.



[Figure. Association of social support with viral suppression, by transition status.]

In multivariable models, higher friendship (odds ratio [OR]=1.62, 95% confidence interval [CI]=1.08,2.42), emotional (OR=1.84, 95% CI=1.24,2.73), and instrumental support (OR=2.03, 95% CI=1.32,3.10) were associated with higher odds of VS. Transition status modified the relationship of instrumental support, with a strong association for those in pediatric but not adult care (interaction p-value=0.02) (Figure.)

CONCLUSIONS: Enhancing social support may promote viral suppression in YAPHIV approaching independence.

PEB0337

VIROLOGICAL OUTCOME AMONG VERTICALLY HIV INFECTED PATIENTS TRANSFERRED FROM PEDIATRIC CARE TO ADULT UNITS IN MADRID

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BACKGROUND: High numbers of perinatally HIV-infected children are reaching adulthood and are transferred to adult care units. However, little is known about the virological status of this population after transfer. This study aims to describe the virological and immunological features by December 2017 of HIV-infected youths transferred from pediatric to adult units since 1997 vs. the non-transferred patients from the Madrid Cohort of HIV infected children and adolescents in Spain.

METHODS: This retrospective observational study included 290 individuals of the cohort under clinical follow up in 17 hospitals in Madrid by the end of December 2017. Virological and immunological outcomes were compared in transferred vs. non-transferred patients. ART drug resistance mutations and HIV-variants were analyzed in all subjects with available pol sequences and/or genotypic resistance profiles.

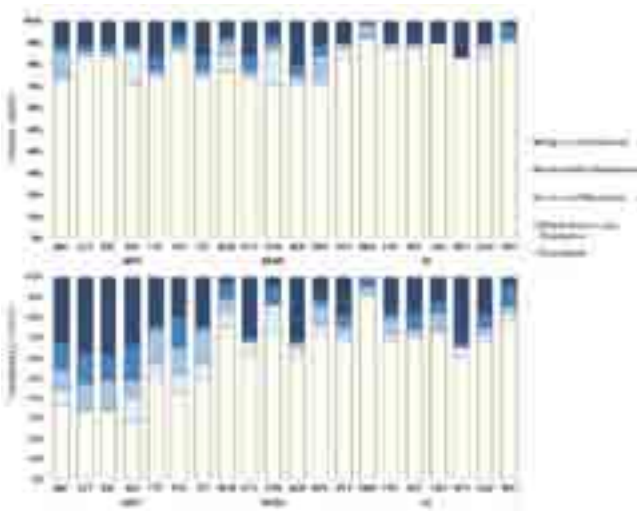

Figure 1. Predicted susceptibility-level to ARV drugs in pretreated patients of the study cohort

RESULTS: Among the study cohort, 133 (72.3%) transferred and 75 (70.7%) children had available resistance genotypes. Most (87.9%) of these 133 transferred had ART experience at sampling, CD4 T

cell >500 cells/mm3 (74%), and undetectable viremia (65%). A third (33.3%) had had a triple-class experience. Although TDR rate was similar among naïve children and transferred (35% vs. 19%; p=0.28), DRM prevalence was significantly higher in pretreated transferred (75.2% vs. 52%; p=0.006), mainly to nucleoside analogs retrotranscriptase inhibitors (66.7% vs. 28%; p<0.0001) and protease inhibitors (31.6% vs. 16%; p=0.0384). HIV-1 non-B variants were less frequent in transferred (6.9% vs. 32%; p<0.0001).

CONCLUSIONS: The most effective current ART regimens allow keeping pediatric patients better controlled than in previous years. Consequently, they will be transferred in the future with a better immune situation and virological control, which will control DRM selection. The frequent historic-resistant genotypes found in transferred youths justifies the reinforcement of HIV resistance monitoring and adherence support after the transition to avoid future therapeutic failures.

PEB0338

THE PATIENT-PROVIDER RELATIONSHIP AND TRANSITION FROM ADOLESCENT TO ADULT FOCUSED HIV CARE: AN INTERNATIONAL QUALITATIVE METASYNTHESIS

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BACKGROUND: Approximately 5 million adolescents (ages 15-24) are living with HIV (ALHIV) globally, most of whom will transition to adult HIV care in the next 10 years. Yet, only 40-50% of ALHIV are still engaging in health care 12 months post-transition imperiling long-term individual and public health outcomes. Successful transition may be significantly impacted by the patient-provider relationship. The purpose of this metasynthesis is to explore the effect the patient-provider relationship has on ALHIV transition and to describe strategies extracted from the review to support the development of trusting relationships to promote engagement and retention in care.

METHODS: A review of qualitative studies from PubMed, CINAHL and EBSCO, published between January 2008 and December 2019 was performed using search terms related to HIV, adolescence, and transition to adult care. Inclusion criteria included English-language studies focused on ALHIV and providers. After quality extraction, text data were analyzed using nurse-led, team-based thematic synthesis techniques and international standards.

RESULTS: Fourteen articles with 462 individual participants from 8 countries (including Australia, Brazil, Dominican Republic, India, Jamaica, Puerto Rico, Tanzania, and the United States) met criteria for inclusion. Collectively, four themes around the patient-provider relationship emerged: The familial nature of the patient-provider relationship, stigma as a bond in current provider relationship and a barrier to establishing new ones, the importance of the provider knowing the patient and the patient getting to know the new provider, and capturing the desire for autonomy to support a successful transition. Resulting recommendations to support transition are included in table 1.

Recommendations	Steps to Build a Successful Transition
Develop a Transition Plan	• Establish a stepwise transition model • Develop an individualized plan considering unique developmental and cognitive characteristics • Incorporate family into the transition plan
Prepare the Patient and the Providers	• Educate the adult care provider on adolescent development, building trust, cognitive challenges, the care of children growing up with chronic conditions, caring for patients with trauma histories and providing empathetic care • Establish healthy expectations around transition and provide information to decrease fears and build trust • Create a safe space for transitioning adolescents, including the waiting area and clinic space • Begin the transition process, including education and preparation, earlier • Develop a class focused on creating trusted relationships with health care teams including capacity building: How to share health history, make appointments, and refill prescriptions
Build and Honor Trusting Relationships	• Provide a graduation to mark the culmination of all of the years they have been in care and honor the patient-provider relationship • Transition patients in a group or cohort while providing peer support • Establish excellent reciprocal communication between pediatric and adult care providers throughout the process • Introduce the adult care provider while still in the pediatric clinic • Have a pediatric provider attend the adult care clinic appointment with the ALHIV • Assess engagement in care post transition by evaluating the patient provider relationship and, if necessary, loop the pediatric provider back into care for follow up and support

[Table 1.]

CONCLUSIONS: The patient-provider relationship is an integral part of the transition process, and yet is often neglected in current transition protocols. When planning for transition, it is crucial to look at strategies that develop a strong collaborative connection with new providers to further support patient autonomy and independence, decrease stigma, and facilitate trust and relationship building.

PEB0339

SUSTAINABILITY OF THE HIV CARE CASCADE AMONG ADOLESCENTS AND YOUNG ADULTS TRANSITIONING TO ADULT HIV CARE

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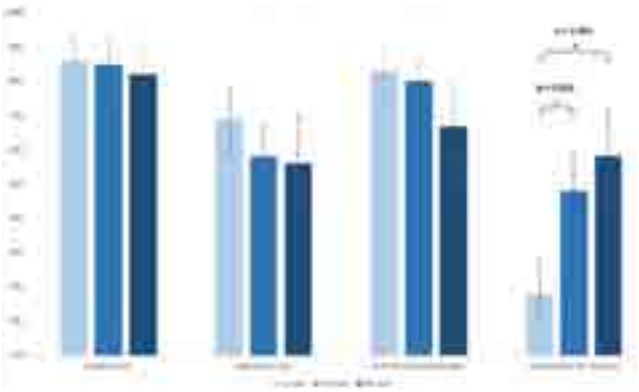
BACKGROUND: Transition to adult care is often associated with laboratory and clinical deterioration among adolescents/young adults living with HIV (AYLH) since early childhood. Few studies present a longitudinal assessment of the HIV care continuum among AYLH after transition to adult care.

METHODS: AYLH referred to the adult outpatient clinic at University of Sao Paulo between January/2001 and December/2019 were included in this retrospective cohort. All participants had ≥1 visit in the adult care facility. Percentages and 95% confidence intervals of AYLH with linkage (having ≥1 viral load [VL] measurement), retention (having ≥2 VL measurements), antiretroviral dispensation (obtained from pharmacy records) and undetectable VL (<40 copies/mL) were retrieved for the 1st, 2nd and 5th years after admission to adult care.
RESULTS: 108 AYLH were included in the study. Median age at transition was 19 years old (range 15-22); 57 (53%) were females, and most (70%) were white/Caucasian. Figure 1 shows the main findings for the HIV care continuum; overall, linkage, retention and antiretroviral use were below desirable levels, while the percentage of AYLH with undetectable VL was very low (18%, 95% CI 11-27%) in the first year after admission to adult care. In the 2nd and 5th years after transition, although the percentages of AYLH with linkage, retention or antiretroviral use did not change substantially, the percentage with undetectable VL increased significantly (p<0.001). Yet, only 69% of AYLH had undetectable HIV VL in the 5th year after admission to adult care.



[Figure 1. Linkage, retention, antiretroviral dispensation and viral suppression among adolescents/young adults living with HIV after admission to adult care]

CONCLUSIONS: Our study shows that indicators of the HIV care continuum are poor among AYLH admitted to adult care and change little in the 2nd and 5th years after transition. While rates of undetectable VL increase after the first year in adult care, promoting linkage, retention and antiretroviral use could further improve optimal viral suppression in this vulnerable population.

PEB0340

WORSE VIROLOGICAL RESPONSE AND DEFICIENT IMMUNOLOGICAL RECOVERY IN YOUNG ADULTS WITH VERTICAL TRANSMISSION OF HIV AFTER TRANSITION TO ADULT CARE

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BACKGROUND: Introduction of cART determined an increase of living young adults with vertical transmission (VT) of HIV. This study evaluates long-term efficacy of cART in VT HIV-1 infected adults and factors associated with viro-immunological outcome.
METHODS: Multicenter study including HIV-1 infected subjects with VT ≥18 years old from six large Italian clinics. Subjects were observed from birth to death, lost to follow up or last visit until June 30th 2019. Demographical, clinical, viro-immunological and therapeutical data were collected. Categorical and continuous variables were analyzed; durability and reasons of cART discontinuation were modeled using Cox model for recurrent events. A p-value of <0.05 was considered statistically significant.
RESULTS: 126 subjects were enrolled, 70 females and 56 males, with a median age of 27.8 ± 4.4 years. Most of subjects (84.1%) were born before the introduction of cART in 1996. 15.1% of subjects was lost to follow up, while 2.4% died. Median follow period (since patients were followed in the adult care) was 12.7 ±10.1 years. At 18 years of age, 52/126 (44.4%) subjects had HIV-RNA >50 cp/ml, 47/126 (38.2%) had CD4+ <500/mm3 and 78/126 (67.2%) a CD4+/CD8+ ratio <1. At least one major mutation for NRTI, NNRTI, PI and InSTI was present in 44.3%, 34.3%, 22.9% and 1.4% respectively. At least a single AIDS event was observed in 26.9% of the subjects, while 51.6% had at least one comorbidity. Average number of cART regimen for each patient was 5.6 (1-24) with a median durability of 126.14 ±79.91 weeks. Reasons for cART discontinuation were failure, toxicity, simplification, non-compliance or other causes in 29.6%, 15.4%, 20.3%, 12.6% e 9.7% respectively. HIV-RNA < 50 cp/ml, CD4+ >500/mm3 and CD4+/CD8+ ≥1 were protective factors for cART discontinuation, with HR 0.52 (95% CI 0.39-0.70, p<0.001), 0.66 (0.50-0.86, p=0.003) and 0.61 (0.46-0.81, p=0.003) respectively.
CONCLUSIONS: Our study shows that the subjects with VT of HIV reached the adult age with unsuppressed HIV-RNA, low CD4+ and reduced CD4+/CD8+ ratio in a significant proportion. More efforts are needed in the management of this difficult-to-treat special population displaying at young age a typical profile of heavily cART-experienced and elderly patients.

CLINICAL ISSUES IN MEN WHO HAVE SEX WITH MEN

PEB0341

ENDING THE HIV EPIDEMIC: RAPID ART START AT THE DETROIT STD CLINIC

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BACKGROUND: Wayne County/Detroit in Michigan is a geographic focus area in the national campaign Ending the HIV Epidemic (EtE). Among the EtE pillars are rapid starts of antiretroviral therapy (ARV) for newly diagnosed persons and achieving sustained high levels of virologic suppression on therapy. Our objective was to evaluate the rate of viral suppression and retention in care with a Rapid Start ARV Protocol implemented in a municipal clinic for sexually transmitted diseases (STD) with a high rate of new HIV diagnoses.

METHODS: All patients at the Detroit Public Health STD Clinic seen for new episodes of STD screening, exposure or treatment were offered HIV Ag/Ab testing with approximately 80% acceptance. The Rapid Start ART Protocol was initiated for all patients on the day of HIV diagnosis or the day of initial presentation at the STD clinic. Baseline lab testing was drawn and ARV was provided that day or within a 5 day period. Patients were scheduled for follow-up with the same provider at 1 week and at 1 month to reinforce adherence and perform lab testing. We report retention and viral suppression at ≥1 month.

RESULTS: HIV was newly diagnosed in 56 clinic clients between August 2018- December 2019. Among them, 82% were cis-male, 14% were cis-female and 4% were transwomen; 86% were under the age of 35; 73% were men having sex with men (MSM), and 62% were black MSM under the age of 35. 11 patients younger than 22 years were transferred to our youth HIV clinic; 8 requested follow up at another clinic; 4 had less than one month of participation to date; 1 had HIV VL <200 at baseline. Among the 32 with at least one month of follow up, 28/32 (88%) are virally suppressed (HIV VL < 200) and 23/32 (72%) patients retained in care.

CONCLUSIONS: Rapid ARV start in the STD clinic and close follow-up with same provider leads to high rates of retention in care and viral suppression. This rapid intensive program appears to be an effective approach in an urban setting with a high rate of new HIV diagnosis, predominantly of young black MSM.

PEB0342

OFFER OF A TRIPLE RAPID HIV/HBV/HCV TESTING TO THREE EXPOSED POPULATIONS, INCLUDING MSM, IN DISTINCT COMMUNITY-HEALTHCARE CENTRES IN PARIS AREA (ANRS-SHS-154-CUBE STUDY)

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BACKGROUND: Paris area represents 3,3% of the national population, but 16% of new estimated HIV infections among exposed groups such as men who have sex with men (MSM), people who inject drugs (PWIDs), transgender (TG) and sex workers (SW). The objective of the ANRS-CUBE study was to evaluate the acceptability of a healthcare, community-based strategy offering a triple rapid HIV-HBV-HCV testing, associated to HBV vaccination. The target was three priority groups (MSM, PWIDs and TG/SWs), in three community centers, in Paris area.

METHODS: This longitudinal multicentric non-randomized study included all consenting adults attending one of the centers, between July 2014 and December 2015. Rapid tests for HIV, HBV and HCV were proposed and HBV vaccination, when needed.

RESULTS: A total of 3662 people, (3510 MSM, 80 PWIDs and 72 TG/SW) were recruited in one of the three centers. Acceptability of rapid tests was 98.5% in MSM while only 14.9% in TG/SWs (83.3% had already been tested for HIV), but could not be estimated in PWIDs. Users acceptability of HBV vaccination was weak : only 17.9% of the eligible MSM (neither vaccinated, nor infected) agreed to receive the first dose, 12.2% two doses, 5.9% had a complete vaccination. Users acceptability of HBV vaccination was greater in PWIDs and TG/SWs, but decreased for the last doses (66.7% and 53.3% respectively received a first dose, 24.4% and 26.7% a second dose and 6.7% and 0% a third dose). Fifty-three participants (49 MSM and 4 PWIDs) were discovered HIV positive, more than half with a recent infection. All but two HIV positive participants received appropriate care and antiretroviral therapy within a month.

CONCLUSIONS: Among MSM, rapid HIV-HCV-HBV testing showed a very high level of acceptability, while acceptability for HBV vaccination and triple injections compliance were weak. Our study highlights the deficit of HCV previous screening in MSM (38.4%), suggesting a need for more information on the risk of viral hepatitis. Our results show that frequent HIV testing is not yet in the practices of transgenders. Lastly, we confirm the important role of community centers in reaching key populations including those that combine vulnerabilities.

PEB0343

YOUTH VULNERABLE TO DELAYED ART INITIATION IN A COHORT OF MSM IN HANOI, VIETNAM

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BACKGROUND: WHO recommends rapid ART initiation. Little is known about ART initiation in MSM in Hanoi. Health in Men (HIM)-Hanoi was an observational cohort of 1893 MSM in Hanoi aged ≥16, conducted from 2017-2019 in an academic sexual health clinic setting. Participants were provided biannual HIV testing, and confirmed positive clients were linked to off-site ART clinics using case management. We report time to ART initiation and associations with rapid ART.

METHODS: We conducted a review of cases newly diagnosed on or after enrollment who had linked to ART and had complete ART clinic records containing date of ART initiation. Chi-squared test or Fisher's exact test were used to determine associations between demographic and behavioral characteristics at enrollment and rapid ART (within seven days of receiving HIV confirmation).

RESULTS: Of 152 newly diagnosed cases, 128 met the study criteria. Median age was 23 (IQR 20-27), and most were employed (118/128, 92%). In the last month, most had two or more sex partners (53/68, 74%) and reported at least two anal sex acts (80/102, 78%); almost half reported inconsistent/condomless sex during the last sex act (56/114, 46%). All accepted case management; median time to ART initiation was 6.5 days (IQR 1-19), with only 11 (8.5%) receiving same-day ART. Overall, 57% (73/128) initiated rapid ART, with 43% (55/128) delaying ART past seven days. Those aged 16-24 years were significantly less likely to initiate rapid ART compared to those aged 25 and above (42/84, 50%, vs 31/44, 70%; p=0.026).

CONCLUSIONS: Nearly half of newly diagnosed MSM in HIM-Hanoi did not initiate rapid ART, a finding which was associated with youth and occurred despite the use of case management, a service which is not routinely offered in other HIV testing centers in Vietnam. Most newly diagnosed MSM reported recent HIV risk behavior associated with sexual HIV transmission, underscoring the need for rapid ART and viral suppression. HIV testing facilities that do not provide ART must develop strategies to improve rapid ART initiation especially for young MSM. Further studies are needed to explore barriers to rapid ART initiation that are not overcome with case management among MSM.

PEB0344

SYPHILIS PREVALENCE AND INCIDENCE AMONG HIV NEGATIVE MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN BUENOS AIRES, ARGENTINA

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BACKGROUND: Syphilis is an important public health problem worldwide; in Argentina the rate of syphilis has increased in recent years, reaching 52.1 people per 100,000 inhabitants in the last year. The objective of this study was to evaluate the prevalence and incidence of syphilis among HIV negative men who have sex with men (MSM) and transgender women (TGW) in order to inform PrEP programs.

METHODS: We conducted a retrospective cohort analysis that included all the syphilis results performed among HIV negative MSMs and TGWs at substantial risk of HIV infection defined as any of the following situations in the last 6 months: >5 sexual partners, anal unprotected sex, use of drugs, sexually transmitted infections (STIs) or transactional sex between March 2018-December 2019. Diagnosis of syphilis was made by the combination of nontreponemal tests (venereal disease research laboratory,VDRL) and treponemal tests (fluorescent treponemal antibody absorption, FTA-ABS or Syphilis rapid tests, Determine or SD-Bioline) using both, the standard and the reverse algorithms. PCR in ulcers were performed if available.

RESULTS: 276 participants (166 MSMs and 110 TGWs) were included. Median age was 32.8 years among MSMs and 28.1 years among TGWs. At baseline 12 MSMs and 28 TGWs had serology compatible with untreated syphilis (prevalence 14.5 (95%CI 10.8-19.1) with 7.2% (95%CI 4.1-12.2) among MSMs and 25.45% (95%CI 18.2-34.3) among TGWs. During follow-up, MSMs provided 135.4 person-years of follow-up (PYFU) and 19 new syphilis cases, while TGWs provided 22.9 PYFU and 10 incidental syphilis, estimating an incidence of 14 and 43 cases/100-PYFU among MSM and TGWs, respectively. Only 1/3 of TGWs had follow-up.

CONCLUSIONS: HIV negative high-risk MSMs and TGWs in Argentina have an extremely high prevalence and incidence of syphilis, highlighting the importance of periodically perform STIs test among this population. Innovative approaches are required to increase retention among TGWs. PrEP programs might an opportunity to prevent, diagnose and treat other STIs.

CLINICAL ISSUES IN TRANSGENDER PEOPLE

PEB0346

PREVALENCE AND INDEPENDENT RISK FACTORS OF HIV AND SYPHILIS INFECTIONS AMONG THAI TRANSGENDER WOMEN WHO HAVE UNDERGONE VAGINOPLASTY PROCEDURES

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BACKGROUND: Transgender women (TGW) are among the key populations that are most vulnerable to HIV and sexually transmitted infections (STI). Most healthcare services are not tailored to the unique health needs, especially after gender-affirming surgery. Globally, the number of TGW who have undergone vaginoplasty procedures has increased; however, we know very little about the correlation of HIV and STI acquisition and vaginoplasty among TGW.

METHODS: We conducted a retrospective analysis of demographic data, history of vaginoplasty procedures, and sexual risk behaviors from a cohort study of TGW clients from Tangerine Community Health Clinic in Bangkok, Thailand. The prevalence of HIV and syphilis infections were calculated. Logistic regression analysis was performed to characterize the risk of each independent factor as-

sociated with both infections. Outcome measures were compared between TGW who have undergone vaginoplasty and those who have not.

RESULTS: Among 2,926 TGW who attended the clinic from November 2015 to September 2019, 20.3% underwent vaginoplasty. The overall prevalence of HIV-positive status and syphilis were 9 and 8 percent, respectively. History of undergoing vaginoplasty was associated with higher risks of both infections (odds ratio: 5.45 for HIV (P <0.001) and 4.47 for syphilis (P <0.001)). Comparing TGW who have and have not undergone vaginoplasty, 42.6% reported neovaginal sex practice after surgery; and 21.1% still had receptive anal intercourse (versus 50.7% in the latter group). Receptive neovaginal intercourse was shown to be a protective factor of HIV infection (risk reduction ratio (RRR) = 0.08, P <0.001) and syphilis infection (RRR = 0.23, P = 0.004). Multiple logistic regressions showed that receptive anal intercourse, multiple sex partners, engagement in sex work, education below bachelor's degree, and unemployment were all independently associated with either HIV or syphilis infections.

CONCLUSIONS: Receptive neovaginal intercourse is associated with lower odds of HIV and syphilis infections in TGW; on the contrary, undergoing vaginoplasty was associated with higher risks of both infections. Common vulnerable sociodemographic and behavioral risk characteristics also contributed to HIV and STI susceptibility among TGW; therefore, TGW undergoing vaginoplasty need to understand their HIV risks and be offered HIV testing, ART, and PrEP services by providers trained in gender-sensitive care.

CLINICAL ISSUES IN PEOPLE WHO USE DRUGS

PEB0347

ILLICIT OPIOID USE FOLLOWING CHANGES IN OPIOIDS PRESCRIBED FOR CHRONIC NON-CANCER PAIN AMONG PERSONS LIVING WITH AND WITHOUT HIV

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BACKGROUND: After decades of increased opioid pain reliever (OPR) prescribing in the U.S., and utilizing OPRs as quasi-palliative care for persons living with HIV (PLWH), providers are rapidly reducing prescribing. We hypothesized that reduced access to prescribed OPRs would result in increased illicit opioid use among those previously reliant upon OPRs.

METHODS: We conducted a retrospective cohort study among 602 publicly-insured primary care patients who had been prescribed OPRs for chronic non-cancer pain for at least three consecutive months in San Francisco. A historical reconstruction interview and medical chart abstraction focused on illicit substance use and opioid pain reliever prescriptions, respectively, were conducted from 2012 through 2018. We used a nested-cohort design, in which patients were classified, based on OPR dose change, into a series of nested cohorts starting with each follow-up quarter. Using continuation-ratio models, we estimated associations between OPR prescription discontinuation or 30% increase or decrease in dose, relative to no change, and subsequent frequency of heroin and non-prescribed OPR use, separately. Models controlled for demographics, clinical and behavioral characteristics, and past use of heroin or non-prescribed OPRs.

RESULTS: A total of 56,372 and 56,484 participant-quarter observations were included from the 597 and 598 participants available for analyses of heroin and non-prescribed OPR outcomes, respectively. Participants discontinued from prescribed OPRs were more likely to use heroin (Adjusted Odds Ratio (AOR)=1.57, 95% CI: 1.25-1.97) and non-prescribed OPRs (AOR=1.75, 1.45-2.11) more frequently in subsequent quarters compared to participants with unchanged OPR prescriptions. Participants whose OPR dose increased were more likely to use heroin more frequently (AOR=1.67, 1.32-2.12). When restricted to the 31% of participants who were PLWH, OPR dose increase remained associated with increased frequency of heroin use (AOR=3.32, 2.27-4.87). The main limitations were the observational nature of results and limited generalizability beyond safety-net settings.

CONCLUSIONS: Discontinuation of prescribed OPRs was associated with more frequent non-prescribed OPR and heroin use; increased dose was also associated with more frequent heroin use, particularly for PLWH. Clinicians should be aware of these risks in determining pain management approaches.

PEB0348

PURSUING 90-90-90 TARGETS IN RUSSIA: ADDICTION HOSPITAL AS A REACHABLE MOMENT FOR HIV CARE ENGAGEMENT

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BACKGROUND: Russia's HIV epidemic is still growing, with highest transmission risks among people who inject drugs (PWID) and their sexual partners. While HIV testing is routinely offered at addiction hospitals, linkage between the addiction and HIV medical systems is poor, impeding achievement of 90-90-90 targets for HIV care. This study describes the percent of HIV-positive PWID who are on ART and characteristics of those who are not, among patients admitted for opioid use disorder (OUD) in an addiction hospital, in order to identify gaps in linkage to HIV care for this population.

METHODS: This is a secondary analysis of screening and baseline data from LINC-II, a randomized controlled trial testing the effectiveness of a three-component intervention (case management, rapid access to ART, naltrexone for OUD) to coordinate addiction and HIV care systems for HIV-positive PWID not on ART. The study screens all HIV-positive persons with OUD admitted to the City Addiction Hospital in St. Petersburg, Russia. We present descriptive statistics on the percent of screened patients on ART and baseline demographics and history of ART receipt for LINC-II participants.

RESULTS: Out of 563 patients screened September 2018 - December 2019, 309/563 (55%) were currently receiving ART. Of the remaining 254 not on ART, 145 met study entry criteria and had the following

characteristics: 65/145 (45%) female, median age 37, median CD4 count 298; 29/123 (24%) had a CD4 count below 200. One quarter (39/145; 27%) of participants never had an outpatient HIV visit, but 98% (142/145) were registered with the AIDS center as an HIV patient. Nearly one-third of participants (45/145; 31%) reported prior (but not current) ART use, among whom 51% (23/45) initiated ART due to low CD4 count and 27% (12/45) due to pregnancy. The main reasons for stopping ART included running out of pills (11/45; 24%), substance use getting in the way (11/45; 24%), side effects (10/45; 22%), and feeling fine without ART (8/45; 18%).

CONCLUSIONS: Significant opportunities exist within Russia's addiction system to engage PWID in HIV care. A focus on improving ART access among this HIV key population could help Russia pursue the 90-90-90 targets.

PEB0349

OPIOID USE IS ASSOCIATED COGNITIVE IMPAIRMENT IN PEOPLE LIVING WITH HIV FROM THE MASH COHORT

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BACKGROUND: Despite advances in treatment, neurocognitive impairments (NCI) persist among People Living with HIV (PLWH). In vitro and in vivo studies suggest that opioids may exacerbate NCI associated with HIV infection. However, the effect of opioids on neurocognitive outcomes among PLWH has not been directly studied. This study examined the relationship between opioid use and NCI, as well as other neuropsychiatric symptoms and markers of inflammation among PLWH and HIV-uninfected adults from the Miami Adult Studies on HIV (MASH) cohort.

METHODS: Cross-sectional analysis of 334 PLWH and 357 HIV-uninfected participants from the MASH cohort. The Mini-Mental State Examination (MMSE) was used to assess NCI. PhenX questionnaires and the Center for Epidemiologic Studies Depression Scale (CES-D) evaluated neuropsychiatric symptomatology. Substance use was determined by self-report and urine toxicology. Inflammation was determined with high-sensitivity C-reactive protein (hs-CRP). Cytokines/chemokines were analyzed in a subset of 366 participants. Statistics included logistic and linear regressions (SPSS v23).

RESULTS: Opioids were used by 27.8% PLWH vs. 14.6% HIV-uninfected participants ($\rho<0.001$). NCI (MMSE ≤ 24) was more frequent among virally suppressed (HIV RNA < 50 copies/μL) PLWH than HIV-uninfected (17.1% vs. 11.8%; $\rho=0.049$). Use of opioids, prescribed or illicit, increased the odds for NCI (adjusted OR: 2.26, 95% CI: 1.09–4.69; $\rho=0.029$), and heroin/fentanyl use nearly tripled the odds for NCI (adjusted OR: 2.70; $\rho=0.037$). Depression, lethargy, loss of coordination, mental slowness, forgetfulness, impaired concentration, and apathy were more frequently reported among PLWH who used opioids than those who did not (all $\rho<0.05$); these effects were not seen among HIV-uninfected. Among PLWH, opioid users had higher hs-CRP and lower neuroprotective MIP-1β levels than non-users. Heroin and fentanyl increased log-transformed hs-CRP in regression model ($\beta=0.54$ and $\beta=0.66$, respectively; $\rho<0.01$) for both PLWH and HIV-uninfected participants. Oxycodone increased hs-CRP only among PLWH ($\beta=0.36$; $\rho=0.037$).

CONCLUSIONS: Our findings support a growing body of evidence that suggests a significant contribution of opioid use on NCI in PLWH. Importantly, our results implicate the use of prescription opioids as well as heroin and fentanyl. Elucidation of the mechanisms by which opioids may contribute to cognitive decline in PLWH is needed to identify targeted interventions.

PEB0350

COCAINE, INFLAMMATION AND THE GUT MICROBIOME IN THE MASH COHORT

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BACKGROUND: Cocaine use, the most prevalent drug of abuse in Miami, Florida, has also been associated with a pro-inflammatory state and recently with imbalances in the intestinal microbiota as compared to cocaine non-use. However, the mechanisms of how cocaine affects intestinal dysbiosis and inflammation in HIV are not known.

METHODS: A cross-sectional pilot study was conducted on 25 cocaine users (10 females/15 males) and 25 cocaine non-users (14 females/11 males) from the Miami Adult Studies on HIV (MASH) cohort in Miami, FL. Stool samples and blood plasma were collected. Bacterial composition was characterized using 16S rRNA sequencing. Metabolomics in plasma were determined using gas chromatography/mass spectrometry and liquid chromatography/mass spectrometry. IL-6 was determined in plasma using ELISA. LEfSe analysis compared relative abundance of bacterial tax between groups. Pearson's rank was conducted to calculate the correlation (co-occurrence strength) between species and metabolites. Two-way ANOVA identified metabolites exhibiting significant interaction and main effects for experimental parameters of cocaine use and gender.

RESULTS: The relative abundances of the Burkholderiales and Odoribacter orders, *Erysipelotrichaceae* and *Clostridiaceae* families, and *Eubacterium* and *Clostridium* genus were significantly higher in the cocaine use group compared to the cocaine non-use group. A trend of elevated levels of IL-6 was seen in the cocaine use group compared to the cocaine non-use group (4.36, SD=2.01 vs. 3.65, SD=1.63 pg/mL, $P=0.18$). *Eubacterium* ($r=0.36$, $P<0.05$) and *Clostridium* ($r=0.30$, $P<0.05$) genera were also significantly correlated with IL-6. Cocaine use compared to non-use was associated with higher levels of the metabolites: 3-methoxytyrosine and 3-methoxytyramine sulfate ($P<0.05$), products of dopamine catabolism, cortisone ($P<0.05$) and phenylacetate ($P<0.05$), associated with altered microbial metabolism and oxidative stress.

CONCLUSIONS: Cocaine use was associated with higher abundances of taxa and metabolites known to cause proinflammatory states. Understanding key intestinal bacterial functional pathways that may be altered due to cocaine use in HIV infection will provide a better understanding of the relationships between the host intestinal microbiome and inflammation, and potentially provide novel treatments to improve the health of HIV infected substance users.

PEB0351

ASSOCIATIONS BETWEEN METHAMPHETAMINE USE AND LACK OF VIRAL SUPPRESSION AMONG A COHORT OF HIV POSITIVE PERSONS WHO INJECT DRUGS IN HAI PHONG, VIETNAM

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BACKGROUND: Methamphetamine use has been associated with increased HIV viral loads among HIV positive persons, independent of antiretroviral therapy (ART). Given the increase in methamphetamine use in southeast Asia, it is important to understand how increased methamphetamine use may affect particular health outcomes, including viral suppression. In this study, we assess the association between active methamphetamine use and HIV viral suppression among a cohort of persons who inject drugs (PWID) on ART in HaiPhong Vietnam.

METHODS: Participants were recruited from October 2016 to October 2017 using respondent driven sampling (RDS). HIV positive PWID were enrolled in a cohort to assess viral load along with changes in drug use, risk behaviors, and self-report ART use and adherence. PWID were followed for approximately 24 months. Methamphetamine users were divided into three exposure categories: no use, 1-19 days of use, and 20-30 days of use (in the last 30 days). Bivariate and multivariable analysis using random effects ordered logistic regression were used to assess the relationship between self-reported methamphetamine use in the last thirty days and HIV viral load during follow-up. Mediation analysis was conducted using self-report ART adherence.

RESULTS: A total of 645 HIV seropositive PWID were included at baseline; 95% male, average age 40 (SD=6.4). At baseline, methamphetamine use in last 30 days was as follows: 64% no use, 32% intermediate use, and 4% heavy use. Approximately 74% of PWID reported near perfect adherence, and 76% were at viral suppression. In random effects analysis, methamphetamine use in the last 30 days was associated with not being virally suppressed during follow-up (AOR: 1.84, 95% CI: 1.06, 3.12). The relationship was not mediated by self-reported ART adherence (AOR: 1.94, 95% CI: 1.07, 3.52)

CONCLUSIONS: Recent methamphetamine use is associated with lack of viral suppression among PWID in HaiPhong, and remained associated in mediation analysis with self report ART adherence. The results of this study indicate the need for targeted interventions for methamphetamine use with special focus for those with HIV infection. Future studies should attempt to understand the interplay between methamphetamine and HIV pathogenesis, specifically examining how methamphetamine may interact with the effectiveness of ART.

PEB0352

DRUG USE, INFLAMMATION AND CARDIAC MECHANICAL OVERLOAD IN WOMEN LIVING WITH HIV WHO EXPERIENCE HOMELESSNESS AND HOUSING INSTABILITY

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BACKGROUND: Risks of cardiovascular disease (CVD) and heart failure (HF) are high in PLWH and differ by sex. Few CVD-related studies focus on drug use. However, it is common in low-income women living with HIV (WLWH), increases cardiac dysfunction, and influences additional CVD risk factors like inflammation. We sought a better understanding of linkages between drug use, inflammation, and cardiac dysfunction in low-income WLWH.

METHODS: We recruited a probability sample of WLWH from San Francisco shelters, street encampments and a public HIV clinic. Participants completed six monthly study visits. Using linear mixed models and adjusting for CVD risk factors, medications and menopause, we examined the effects of toxicology-confirmed drug use (tobacco, cannabis, alcohol, cocaine, methamphetamine and opioids) and inflammation (C-reactive protein, sCD14, sCD163 and sTNFR2) on log-transformed levels of NT-proBNP, a biomarker of increased mechanical overload and HF.

RESULTS: Among 74 WLWH, the median age was 53 years and 73% were ethnic minority women. At baseline, 72% of participants had hypertension, 8% had a prior MI and 11% had a prior stroke. Tobacco use was confirmed in 65% of participants, cannabis in 53%, alcohol in 28%, cocaine in 49%, methamphetamine in 31% and opioids in 20%. Adjusting for age and race, factors significantly associated with NT-proBNP level included cannabis use (Adjusted Linear Effect [ALE]: 0.60; 95% CI: 0.45-0.80) and sTNFR2 (ALE/SD[3,145ng/mL]: 1.73; 95% CI: 1.42-2.12). Restricting analyses to virally suppressed persons (n=54) did not diminish effects. Also, cannabis use was not significantly associated with sTNFR2, nor did it change the association between cannabis use and NT-proBNP. Factors that were not significantly associated with NT-proBNP levels included HIV viral load, C-reactive protein, hepatitis C infection, and multiple CVD risk factors (e.g., prior MI, BMI, tobacco use and alcohol use).

CONCLUSIONS: Among community-recruited WLWH, NT-proBNP levels signaling cardiac mechanical overload increase as sTNFR2 increases, but are 40% lower among cannabis users. There is no evidence that sTNFR2 mediates the effect of cannabis on NT-proBNP in this population, suggesting independent effects of both. Whether including recent cannabis use to risk stratification tools would improve CVD risk assessment in low-income WLWH merits further investigation.

CLINICAL ISSUES IN OTHER VULNERABLE POPULATIONS, INCLUDING UNSTABLE SETTINGS (MIGRANTS) AND INCARCERATED SETTINGS

PEB0353

HIGH PREVALENCE OF HIV, VIRAL HEPATITIS B, C AND SYPHILIS AMONG MALE PRISONERS IN THAILAND

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BACKGROUND: Data are lacking or outdated on prevalence of HIV, viral hepatitis infection B, C and sexually transmitted infections such as syphilis among prisoners in the region. We evaluated the prevalence of viral hepatitis and HIV infections among the inmates from Thailand.

METHODS: A cross-sectional study was done among 1028 prisoners from 2 central male prisons in Bangkok, Thailand. Prisoners were screened for HIV, hepatitis B, C and syphilis infections during 2018 to 2019. HBV and HCV infections were defined as positive hepatitis B surface antigen and positive anti-HCV antibody with a detectable HCV RNA (Abbott molecular), respectively. Prevalence (95% confidence interval) were calculated based on the binomial distribution. HBV prevalence was reported with different age groups. Risk factors associated with HCV infections were calculated by logistic regression model.

RESULTS:

	Total (N=1028)	HCV-uninfected (N=967)	HCV infected (N=61)	P-value
Median age (years)	38 (32-50)	38 (31-50)	45 (41-54)	<0.001
Duration in prison (years)	25 (20-31)	25 (20-31)	25 (19-33)	0.52
History of previous incarceration	321 (31.4)	282 (29.4)	39 (63.9)	<0.001
History of substance abuse	645 (62.7)	598 (61.8)	47 (77.1)	0.01
History of injecting drugs use	71 (6.9)	36 (3.7)	35 (57.4)	<0.001
History of syringe sharing for drugs use	40 (3.9)	18 (1.9)	22 (36.7)	<0.001
History of sharing tattoo needles with others	300 (29.3)	272 (28.3)	28 (45.9)	0.003
Have had same sex with men Known HIV status before incarceration Known HBV status before incarceration Known HCV status before incarceration	144 (14.1) 25/641 (3.9) 20/86 (23.3) 5/25 (20)	134 (13.9) 23/592 (2.4) 18/79 (22.8) 1/19 (5.3)	10 (16.4) 6/49 (12.2) 2/7 (28.6) 4/6 (66.7)	0.59 0.002 0.73 0.005

[Table]

A total of 1028 prisoners were screened. The prevalence of HIV, HBV, HCV and syphilis was 2.9% (95%CI, 1.9-4.1), 6.4% (5-8.1), 5.9% (4.6-7.6), and 4.8% (3.5-6.3) respectively. Only 1 (0.1%) and 7 (0.6%) were co-infected with HIV/HBV and HIV/HCV, respectively. HBV prevalence with different age groups was: 3.7% in <30 years, 7% in 31-40 years, 9.7% in 41-50 years and 5.5% in >50 years. Factors associated with HCV infections were age ≥40 years (aOR, 11.51, 95% CI, 4.82-27.51, p<0.001), elementary education level (aOR, 3.09, 95% CI, 1.31-7.26, p=0.01) compared to high school education or higher and previous incarceration (aOR, 2.68, 95% CI, 1.3-5.51, p=0.007) after adjusting previous history of injecting drugs, substance use and needle sharing with others.

CONCLUSIONS: Prevalence of all infections studied among prisoners were higher than general population with similar age groups. Syphilis infections were also common, which suggest the ongoing potential risks of sexual transmission of other infections. HBV vaccination and routine HCV screening and treatment with pan-genotypic direct acting antivirals with minimal specialist requirements should be implemented among the prisoners in the region.

PEB0354

CHARACTERISTICS OF PEOPLE WITH HIV (PWH) AND HIV TREATMENT OUTCOMES IN COMMUNITY PRACTICES IN SOUTHERN VS NON-SOUTHERN US REGIONS

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BACKGROUND: This study evaluated individual characteristics and antiretroviral therapy (ART) prescribing for people with HIV (PWH) seeking care at practices in southern vs non-southern US regions.

METHODS: PWH (>18yo) starting a new ART between January 2015-September 2019 with viral load at first regimen prescription (baseline), and ≥6 months of prior ART history (if not treatment-naive [TN]), were selected from the Trio Health HIV EMR database. Comparisons of baseline characteristics were conducted via chi-square or T-test statistics. Multivariate logistic regression [LR] with a binary outcome "viremic at last observation" estimated the associations of covariates among those with viral load recorded ≥12 months after baseline (n=12,689). Regions were defined per US Census and sample availability (South included: TX, FL; Non-South: IL, NM, CA, PA).

RESULTS: Of 20,271 PWH, 14,645 (72%) were treatment-experienced ([TE], 7,302, 50% in South) and 5,626 (28%) treatment-naïve ([TN], 3,071, 55% in South). Baseline characteristics of TN and TE groups differed by region [Table].

Among TE, 83% were suppressed at baseline in South vs. 91% in non-South (p<0.001); after ≥12 months, suppression rates were 85% vs. 91%, p<0.001, respectively. Among TE with ≥12 months follow-up, 72% were suppressed in South, 76% in non-South (p=0.008). TE individuals in the South were less likely to be on a single-tablet regimen than non-South (60% vs. 62%, p=0.021), no differences by region among TN (59% vs 58%, p=0.470). Individuals age >50 adjusted odds ratio [aOR]=0.74 (0.65-0.83), white vs. Black aOR=0.62 (0.55-0.69) or other race vs. Black aOR=0.61 (0.49-0.76), treated in non-South aOR=0.66 (0.59-0.74), TE aOR=0.84 (0.71-0.98), or suppressed at baseline aOR=0.29 (0.25-0.34) were less likely to be viremic after ≥12 months.

* significance (p<0.05)	Treatment-experienced non-southern N=7343	Treatment-experienced southern N=7302	Treatment-naive non-southern N=2555	Treatment-naive southern N=3071
Baseline age, mean (SD), p-value	46.6 (12.1)*	47.4 (11.9)*	37.4 (11.9)	39.1 (12)*
Male, N (%), p-value	5877 (87)*	5748 (80)*	2005 (87)	2290 (81)*
Race: White	3946 (63)*	3934 (59)*	1035 (48)*	1461 (50)*
Black or African American	1920 (31)*	2256 (34)*	990 (46)*	1218 (42)*
Other	402 (6)	493 (7)	140 (6)	223 (8)
Baseline CD4, <200 cells/ml	262 (5)	343 (6)	308 (27)*	488 (22)*
Baseline eGFR category: <60	629 (9)*	636 (10)*	79 (3)	82 (3)
≥60	6599 (91)*	5646 (90)*	2405 (97)	2436 (97)
Single-tablet regimen prescribed	4519 (62)	4358 (60)*	1479 (58)	1807 (59)

[Table]

CONCLUSIONS: These data suggest population differences and treatment disparities between Southern and other US regions. Policy makers should examine structural and societal reasons for these disparities in an effort to reduce or eliminate them.

PEB0355

THE INFLUENCE OF GENDER, AGE, PLACE OF BIRTH AND WAY OF ACQUISITION ON DISPARITIES IN THE HIV CARE CONTINUUM IN FRANCE

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BACKGROUND: The influence of patients' characteristics on disparities in the HIV care continuum may vary following national organizations. Inspired by the study published by Desir et al. (CID 2019; 68:795-802), we investigated whether these factors have an impact in the HIV care continuum in a universal, national and free healthcare system.

METHODS: The Dat'AIDS French cohort collects longitudinal data on people living with HIV in 18 centers in France. We estimated differences in the 5-year restricted mean percentage of person-time spent (i) in care, (ii) receiving ART and (iii) on ART and virally suppressed among patients diagnosed between 01/01/2013 and 12/31/2017. We compared men vs women, patients born in France vs born abroad, men who have sex with men (MSM) vs men who have sex with women (MSW), MSM vs women, and MSW vs women.

RESULTS: Among 8066 included patients, men (5634, 70%) and women spent 97.7% and 97.5% of person-time in care, 85.6% and 82.8% on ART and 69.9% and 65% suppressed, respectively. Patients born in France (3775, 47%) and patients born abroad spent 97.9% and 97.4% of person-time in care, 87.9% and 81.9% on ART and 74.6% and 62.9% suppressed, respectively. MSM (3925, 49%), MSW (1709, 21%) and women spent 98.2%, 96.5%, and 97.5% of person-time in care, 86.9%, 82.6% and 82.8% on ART, and 72.5%, 63.7%, and 65% suppressed, respectively. Stratified results regarding person-time with suppressed viral load appear in the table (*significant differences).

Born in France	Age	MSM	WOM	MSW	MSM-WOM	95%CI	MSM-MSW	95%CI	WOM-MSW	95%CI
Suppressed	18-32 y	72.4	69.2	69.5	3.2	-4.2 ; 10.6	2.8	-4.5 ; 11.4	-0.3	-10.8 ; 10.7
	32-45 y	74.4	67.1	69.1	7.3*	0.1 ; 15.9	5.3	-0.5 ; 11.6	-2	-11.8 ; 7.3
	+45 y	80.5	70.5	73.3	10*	4.2 ; 15.4	7.2*	3.1 ; 11.9	-2.8	-9.0 ; 3.8
Born abroad										
Suppressed	18-32 y	58.1	60.4	53	-2.4	-7.7 ; 3.0	5.1	-2.8 ; 13.6	7.4	-0.4 ; 16.1
	32-45 y	65.9	66.6	60.1	-0.7	-5.2 ; 3.4	5.8*	0.3 ; 11.1	6.5*	1.6 ; 10.9
	+45 y	75.5	60.7	60	14.8*	8.6 ; 19.9	15.5*	9.6 ; 20.9	0.8	-4.2 ; 6.4

[Table]

CONCLUSIONS: Despite free access to care and universal ART, disparities remain across age, country of birth and way of HIV acquisition. Clinical and public health interventions targeting specific patients' conditions are needed.

PEB0356

NEURAL TUBE DEFECTS AND ADVERSE PREGNANCY OUTCOMES AFTER MATERNAL EXPOSURE TO DOLUTEGRAVIR AND OTHER ANTIRETROVIRAL MEDICATIONS DURING PREGNANCY, UNITED STATES, 2013-2017

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BACKGROUND: A study in Botswana found that exposure to dolutegravir, an integrase strand transfer inhibitor (INSTI), around the time of conception was associated with a slightly increased risk of neural tube defects (NTD). Ongoing monitoring of dolutegravir use and NTDs and adverse pregnancy outcomes among U.S. pregnant women is essential to evaluate the safety of dolutegravir and other antiretroviral (ARV) medications.

METHODS: We analyzed IBM MarketScan commercial and Medicaid databases that included clinical diagnoses, procedures, medications, and variables to link mother and infant pairs. We identified exposures to ARVs (dolutegravir, other INSTIs [raltegravir, elvitegravir], other ARVs), NTDs (anencephaly, spina bifida, encephalocele, inencephaly), and pregnancy outcomes (live birth, stillbirth, spontaneous abortion, induced abortion). We compared the prevalence of NTDs and pregnancy outcomes among HIV-negative women and women with HIV by type of ARV.

RESULTS: Among 7,169 pregnancies in women with HIV, we found 235 exposed to dolutegravir. The prevalence of NTDs was 0 per 1,000 pregnancies among commercially insured women with HIV exposed to dolutegravir and 0.48 (95% CI 0.46-0.51) among HIV-negative women. The prevalence of NTDs was 0 per 1,000 pregnancies among Medicaid insured women with HIV exposed to dolutegravir and 0.58 (0.55-0.61) among HIV-negative women. The prevalence of NTDs were similar among women with HIV exposed to dolutegravir, other INSTIs, or other ARVs, and among HIV-negative women (Table). The prevalence of stillbirth, spontaneous abortion, and induced abortion were higher among women with HIV, including those exposed and unexposed to some classes of ARVs, compared to HIV-negative women (Table).

	Commercial insurance					Medicaid insurance				
Outcome	HIV-negative	Women with HIV				HIV-negative	Women with HIV			
		No ARV	DTG	Other INSTI	Non-INSTI		No ARV	DTG	Other INSTI	Non-INSTI
Pregnancies (N)	3,752,373	1,257	46	256	1,079	2,593,751	1,882	189	743	1,716
NTDs*	0.48 (0.46-0.51)	1.59 (0.19-5.74)	0.00	0.00	0.00	0.58 (0.55-0.61)	0.53 (0.01-2.96)	0.00	0.00	1.75 (0.36-5.10)
Live births *	704.2 (703.7-704.6)	604.6 (577.0-631.8)	478.3 (328.9-630.5)	535.2 (472.0-597.5)	711.8 (683.7-738.7)	746.2 (745.6-746.7)	800.2 (781.4-818.1)	761.9 (694.7-820.7)	732.2 (698.8-763.7)	828.7 (810.0-846.2)
Stillbirths*	3.8 (3.7-3.8)	4.8 (1.8-10.4)	0.0	7.8 (1.0-27.9)	5.6 (2.0-12.1)	4.5 (4.4-4.6)	**8.5 (4.9-13.8)**	5.3 (0.1-29.1)	**13.5 (6.5-24.6)**	**8.7 (4.9-14.4)**
Spontaneous abortions*	49.8 (49.6-50.1)	**117.7 (100.4-136.9)**	108.7 (36.3-235.7)	**89.8 (57.8-131.8)**	**84.3 (68.4-102.5)**	38.5 (38.3-38.8)	**52.6 (43.0-63.7)**	42.3 (18.5-81.7)	**80.8 (62.2-102.7)**	36.7 (28.3-46.7)
Induced abortions*	18.8 (18.6-18.9)	**96.3 (80.5-113.9)**	43.5 (5.3-148.4)	31.3 (13.6-60.6)	**33.4 (23.5-45.9)**	1.6 (1.5-1.6)	3.7 (1.5-7.7)	0.0	1.3 (0.0-7.5)	4.1 (1.6-8.4)

*Prevalence (95% confidence intervals) per 1,000 pregnancies

[PEB0356 Table]

CONCLUSIONS: Although we observed a small number of dolutegravir exposures, the prevalence of NTDs was similar among women exposed to dolutegravir compared to those with no exposure. Administrative databases will be used for ongoing monitoring of NTDs and adverse pregnancy outcomes among women with HIV, including those exposed to ARVs, in the United States.

PEB0357

PERSPECTIVES FROM PATIENTS AND PROVIDERS OF A COMBINED SPECIALTY HIV CLINICAL CARE PROGRAM FOR OLDER PEOPLE LIVING WITH HIV: THE GOLDEN COMPASS PROGRAM AT WARD 86

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BACKGROUND: Few clinical care models exist for people living with HIV (PLWH) over the age of 50 for whom managing long-term HIV-infection intersects with the aging process and its comorbidities. Golden Compass is a multidisciplinary care model within the Ward 86 HIV Clinic at San Francisco General Hospital which offers specialty and primary care provided by HIV clinicians; a designated geriatrician, cardiologist, pulmonologist, and social worker; a pharmacist with expertise in aging; and memory/exercise/narrative classes. The goal of this study was to explore the perspectives of both patients and primary care providers about this care model.

METHODS: We conducted an exploratory, qualitative, in-depth interview study from 09/2018-10/2019 with a convenience sample of 13 patients (Mage=61.4, SD=6.5; 11 were men; 10 were black, Latinx, or Pacific Islander/Hawaiian Native) and 11 primary care providers participating in Golden Compass. A multidisciplinary team read all transcripts independently to identify emergent themes and then met to refine thematic categories. Analytic memoing was done separately for patient and provider transcripts and was cross-checked during regular team meetings. Discrepant interpretations were discussed until agreement was reached.

RESULTS: Patients perceived multiple benefits resulting from specialty assessments in geriatrics, cardiology and pulmonology, medication management, and care coordination within the embedded care model, including self-reported improvements in chronic conditions such as hypertension, diabetes, urinary incontinence, pain, sleep disturbances, and physical stamina. Self-reported benefits from class participation included increased social contact and physical activity, enhanced personal connections, improved self-management skills, and better memory. Providers emphasized the value of comprehensive assessments and expert consultations to their care, including the diagnoses and treatment of aging-related illnesses. Providers cited an enhanced awareness of "geriatric" issues. such as frailty and cognitive impairment, as a result of specialty consultation.

CONCLUSIONS: This exploratory study demonstrated the perceived benefits of comprehensive coordinated care models that include HIV care and designated specialty care for older PLWH and and their providers. Our findings suggest that innovative care models, such as Golden Compass, that embed specialty services into a clinic that provides both HIV and primay care will be of value to the growing, global population of older PLWH.

PEB0358

ISONIAZID TUBERCULOSIS PREVENTIVE THERAPY TOXICITY AMONG HIV-POSITIVE CHILDREN, ADOLESCENTS AND ADULTS IN UGANDA

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BACKGROUND: A 6 months course of Isoniazid tuberculosis preventive therapy (IPT) is being scaled up in Uganda but little is known about its toxicity in antiretroviral therapy experienced children, adolescents and adults. We describe IPT toxicity among these populations at an urban HIV clinic in Uganda during the national scale-up.

METHODS: IPT toxicity reports were retrospectively reviewed (January 1, 2019–July 31, 2019). Patients on antiretroviral therapy and receiving IPT as prophylaxis were included while those on it for tuberculosis disease treatment were excluded.

Patients' ages ranged from 6 to 59 years and the variables studied included age, sex, duration on IPT, toxicity symptoms, time to onset of symptoms, severity, ART duration, regimen and co- morbidities. We

used Division of AIDS (DAIDS) toxicity grading. We abstracted data, performed descriptive analysis and events were reported as proportions.

RESULTS:

Age	0-9 years		10- 19 years		20+ years		Total
Gender	Girls	Boys	Female	Male	Female	Male	All
# Received IPT	394	394	1077	993	1306	565	4729 (59% females)
# With toxicity	1	2	10	0	10	0	23
# Deaths	0	0	0	0	1	0	1
Prevalence	0.3%	0.5%	0.9%	0	0.7%	0	0.5%

[Table]

The most common symptoms were vomiting (14%), yellow eyes (12%), abdominal pain (11%), malaise (11%), and fever (6%) and the median duration on IPT at time of toxicity was 1 month (IQR, 1–3). The median duration of current antiretroviral treatment regimen was 8 months (IQR, 3–46) and most toxicities occurred in patients receiving Tenofovir/Lamivudine/ Efavirenz (39%), Tenofovir/Lamivudine/Dolutegravir (13%) and Zidovudine/Lamivudine/Nevirapine (13%), other regimens (35%). The median age with toxicity events was 19 years (14- 34.5) and three-quarters of IPT-toxicity events were DAIDS grades 3/4 with no co-morbidities.

CONCLUSIONS: Health workers should have a high index of suspicion for IPT toxicity during the first month of initiation especially among symptomatic older adolescent girls.

PEB0359

EFFICACY, SAFETY, AND TOLERABILITY OF SWITCHING EFAVIRENZ/EMTRICITABINE/ TENOFOVIR DISOPROXIL FUMARATE (EFV/FTC/ TDF) TO BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE (BIC/FTC/TAF) IN VIROLOGICALLY SUPPRESSED ADULTS WITH HIV-1 INFECTION

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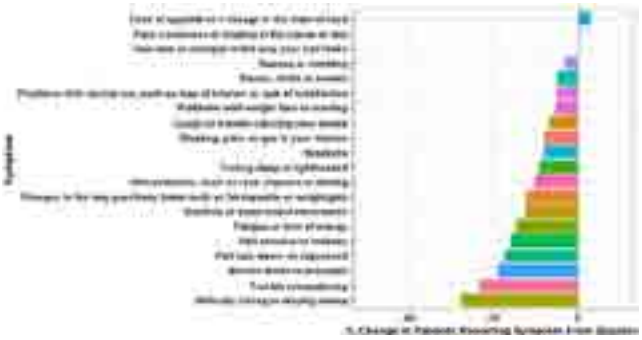
BACKGROUND: With the evolution of potent antiretroviral therapy, virologically suppressed people living with HIV (PLWH) are often switched to regimens considered simpler and safer, with improved tolerability and potentially avoiding long-term toxicities without compromising efficacy. We examined the impact of switching from EFV/FTC/TDF to BIC/FTC/TAF on maintenance of virologic suppression (VS), tolerability, sleep quality and patient reported outcomes.

METHODS: We conducted an open-label, single-center, single-arm, prospective study evaluating the efficacy, safety, and tolerability of switching from EFV/FTC/TDF to BIC/FTC/TAF in PLWH > 18 years of age who were virologically suppressed. Primary outcome was virologic failure (VF; HIV-1 RNA ≥ 50 c/mL) at week 48. Using exact tests we also looked for changes in HIV Symptom Index (HIV-SI) and sleep quality questionnaires results from baseline to week 48.

RESULTS: 100 participants were screened, 90 enrolled and 87 completed 48 weeks. Median age 55 (range 28-71); 94% white, 5% black; 19% identified as Latinx; 98% male. At 48 weeks, VF was seen in 3 participants (3.3%; viral load range 50-54 c/mL). VF due to non-adherence was documented in 1 case. VS was maintained in 92.2%. 4.4% had no virologic data. There were no discontinuations of drug for any reason. Significant improvements were seen in sleep quality by week 4 and were sustained through 48 weeks. There were significant changes from baseline in 18 of the 20 measured HIV-SI symptoms ($p<0.05$). There were significant reductions in mean total cholesterol and LDL (-10.82 and -7.35 mg/dL; $p<0.05$). No significant changes in CD4 cell count, CD4%, weight, serum creatinine, triglycerides or HDL were seen.



[Figure]

CONCLUSIONS: Switching patients from EFV/FTC/TDF to BIC/FTC/TAF is safe, well-tolerated and maintains virologic suppression. Perhaps the greatest benefit is the improvement in sleep quality and a marked reduction in reports of bothersome symptoms.

TRACK C

NATURAL HISTORY, MORBIDITY PATTERNS AND SURVIVAL

PEC0358

THE HIV OUTPATIENT STUDY_ IMPROVEMENTS IN HEALTH OUTCOMES IN PEOPLE LIVING WITH HIV, THE UNITED STATES, 1993-2017

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BACKGROUND: Approximately 1.1 million Americans are living with HIV infection and nearly 40,000 are diagnosed with HIV each year. There have been remarkable shifts in the clinical epidemiology of treated HIV infection in the United States (U.S.) during the past 25 years. Few sources of longitudinal data regarding the health of people living with HIV (PLWH) spanning that period of time exist. Long term trend and recent data profiling immunologic and virologic status and mortality among PLWH in routine HIV care can help inform the "baseline" and help gauge progress in reaching goals to Ending the HIV Epidemic in the U.S. by 2030.

METHODS: We analyzed data from the HIV Outpatient Study (HOPS), a well characterized, prospective, socio-demographically diverse U.S.-based cohort of PLWH. Fourteen HOPS clinics (public and private) have participated since 1993 recording over 570,000 patient encounters through mid-2019. We assessed temporal trends in select demographic and health markers (variable timeframes) and mortality (1994-2017) for 10,566 HOPS participants.

RESULTS: From 1993 to 2017, there were substantial increases in the percentage of women (from 11% to 25%), persons aged >55 years (from 4% to 40%), and persons of black race or Hispanic/Latinx race/ethnicity (from 19% to 53%) in the cohort. The median CD4 cell count (CD4) of participants increased from 244 cells/mm^3 in 1993 to 640 cells/mm^3 in 2017. The mortality fell from 121 to 16 per 1,000 person-years from 1994 to 2017 ($p < 0.001$). The median age at death was 39 years (n=159 decedents) in 1994 versus 54 years (n=35 decedents) in 2017. Antiretroviral-naïve PLWH initiated ART progressively sooner after HIV diagnosis: median CD4 at ART start increased from 345 cells/mm^3 (n = 206) to 631 cells/mm^3 (n = 48) from 2000 to 2017. In 2010, 81% of ART-treated HOPS participants had a most recent HIV viral load < 50 copies/mL, compared with 89% in 2017.

CONCLUSIONS: Our findings illustrate dramatic improvements in immunologic recovery, virologic suppression and survival, reflecting advances in earlier diagnosis and more effective treatments for PLWH. Ongoing HOPS data collection describes the health of PWLH in contemporary care and informs progress toward Ending the HIV Epidemic.

EPIDEMIOLOGY OF HIV IN THE GENERAL POPULATION

PEC0359

TESTING PREFERENCES AND CHARACTERISTICS OF THOSE WHO HAVE NEVER TESTED FOR HIV IN THE UNITED STATES

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BACKGROUND: The US Centers for Disease Control and Prevention (CDC) recommends persons aged 13-64 years be tested for HIV at least once as part of routine health care; however, these recommendations have not been fully implemented. As the Ending the HIV Epidemic (EHE) initiative in the US gets underway, it is critical to understand the characteristics of those who have never tested for HIV, in order to better leverage and target testing strategies to reach this population.

METHODS: We analyzed data from FallStyles, a web-based survey fielded in October 2019 among a nationally representative online panel. We examined HIV testing history (yes=ever testers vs. no=never testers) by demographic and health-seeking characteristics. We also examined whether never testers lived in areas accounting for the majority of new HIV diagnoses (yes/no), as well as their HIV testing preferences. We calculated weighted proportions and 95% confidence intervals (CI) in SAS 9.4.

RESULTS: Of 3,624 survey respondents, 3,313 answered "yes" or "no" to the HIV testing history question. Of these, 65.7% (CI:63.8-67.6) reported never testing for HIV. Among never-testers: 22.5% (CI:19.8-25.1) were ages 18-29 years and 52.1% (CI:49.6-54.6) were >50 years; 50% were men; 89.6% (CI:87.7-91.5) had completed high school or higher;15.2% (CI:13.1-17.3) were Hispanic and 7.3% (CI: 6.0-8.7) were non-Hispanic black or African American; 41.0% (CI:38.5-43.4) were unemployed. About one-third (32.3%;CI:30.0-34.7) of never testers lived in areas with a high burden of HIV; and 75.8% (CI:73.5-78.1) had seen a primary care provider (PCP) in the last year. In addition, 53.3% of never testers preferred to obtain an HIV test during a routine visit with their health care provider, followed by 12.2% at an urgent care/walk-in clinic, and 18.3% via HIV self-testing (all non-mutually exclusive responses).

CONCLUSIONS: Most respondents had not been tested for HIV, confirming that CDC recommendations are not being fully implemented. Moreover, the majority of never testers reported seeing a PCP in the last year, and would prefer to test in clinical settings, highlighting missed opportunities for HIV testing. Understanding preferred modalities for HIV testing, particularly among never testers, is essential to reach these populations and achieve the goals of the EHE initiative.

PEC0360

HIGH LEVELS OF PRIMARY RESISTANCE AMONG NEWLY DIAGNOSED HIV-1 INFECTED VENEZUELAN PATIENTS

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BACKGROUND: The Venezuelan health crisis has led to shortage of antiretroviral for people living with HIV-1, with consequent forced suspension of treatment, even in adherent patients. It is estimated that between 2010 and 2016, the number of new cases of HIV infection increased by 24%. By this time there were 120,000 people infected and only 71,210 received antiretroviral therapy. According to Venezuela's Ministry of Health, for that year, the mortality rate increased to 8.3 per 100,000 inhabitants. Since 2012 serious problems began in the supply of antiretrovirals and by 2018, drug unavailability affected 84% of patients. In addition, access to preservatives is very limited in the country for the same reasons. These factors may lead to an increase in primary resistance among HIV-1 patients.
METHODS: The aim of this study was to evaluate the prevalence of primary resistance among newly diagnosed HIV-1 infected adults patients from Hospital Vargas in Caracas, Venezuela in the period from July to November 2019.
The resistance test (PCR amplification, sequencing and resistance analysis through the Stanford University Resistance Database algorithm) was performed as previously reported.
RESULTS: The POL region was amplified from blood of 29 patients (23 M, 6 F). A high prevalence of primary resistance was found:14/28 (48%) HIV-1 isolates harbored at least on mutation to Protease Inhibitor (PRI), or Nucleoside Inhibitor (NRTI) or Non Nucleoside Inhibitor (NNRTI). The most prevalent resistance was to NRTI (24%), and aa K70 of the reverse transcriptase was the most commonly mutated (17%). Ten percent of the isolates share the K103N mutation, conferring resistance to the NNRTI efavirenz and nevirapine.
CONCLUSIONS: These results suggest that, as expected, the health crisis in Venezuela has profoundly impacted the situation of people living with HIV in Venezuela for an increase in primary resistances, compared to previously reported prevalence of 11% in 2004-2007. This make difficult to structure therapeutic regimens and likelihood of therapeutic failures, especially with NRTI and NRTTI.

PEC0361

DEFINING AND MAPPING GEOGRAPHICAL HOTSPOTS TOWARD THE ENDING THE HIV EPIDEMIC IN MEXICO BY 2030

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BACKGROUND: Mexico's Health System in local level is coordinated by 246 Jurisdicciones Sanitarias-Sanitary Districts (JS), whom has to operate the health prevention and care actions, among them the HIV program. Each JS is integrated by one or more municipalities. To achieve maximum impact for Ending the HIV Epidemic in Mexico, we should be focus on most affected geographic areas by HIV. The aim is mapping the most important JS to hit the HIV epidemic in next 10 years.
METHODS: We calculate the HIV Incidence and HIV Mortality in Mexico from 2014 to 2018, using epidemiological official data from Ministry of Health, deaths data from the National Institute of Statistics and Geography (INEGI), and population estimates from the National Population Council (CONAPO). INEGI's Digital Map of Mexico was used to generate the mapping, combining the 25 JS with the highest HIV incidence with the 25 JS with the highest HIV mortality.
RESULTS: We identified the 25 JS with highest HIV incidence and mortality rates from 2014 to 2018. By combining both groups, we obtained the 38 JS most affected by HIV epidemic (figure 1). In these geographical areas are living 17.9% of the national population, but are concentrating 38.9% of new HIV infections, and 38.1% of total HIV deaths. The incidence and HIV mortality rates in these 38 JS were twice higher than the national rate. These are areas of great population mobility, areas of the northern and southern border of the country, sites of intense trade and sex tourism, and critical zones of Mexico City.

[Figure. The 38 geographical areas with highest HIV incidence and HIV mortality in Mexico, from 2014-2018]

CONCLUSIONS: The 38 focus areas identified should be prioritized during during the first two years, strengthening the detection, prevention and integral care of PLWHIV. On these way, the efforts will expand nationally for the next 8 years to get the ending of HIV epidemic in Mexico.

PEC0362

TARGETING DIVORCED, SEPARATED, AND WIDOWED PEOPLE TO IDENTIFY UN-DIAGNOSED HIV POSITIVE ADULTS IN ESWATINI, MALAWI, TANZANIA, AND ZAMBIA: ANALYSIS OF FOUR PHIA STUDIES

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BACKGROUND: More than 70% of adults with HIV in Eswatini, Malawi, Tanzania and Zambia have already been diagnosed. Identifying the remaining 30% of undiagnosed adults requires more effective targeting to reach those most likely to be HIV-positive with testing services. Divorced, Separated and Widowed (DSW) adults have shown one of the highest HIV prevalence rates among adult population groups. In this study we analyse HIV positivity rates among different sub-groups of adults, including DSWs, using data from the Eswatini, Malawi, Tanzania, and Zambia Population HIV Impact Assessment (PHIA) household surveys to prove that DSWs should be prioritized for HIV testing.

METHODS: The Eswatini, Malawi, Tanzania, and Zambia Population HIV Impact Assessment (PHIA) household surveys interviewed a total of 86,727 adults between 2015-2016 and conducted HIV rapid testing. Determinants of HIV infection among adults who have never tested for HIV were assessed using multivariable logistic regression. Sampling weights were applied to account for survey design effects.
RESULTS: Across the four countries, 69% of adults have ever tested for HIV. Of the 31% adults who never tested, 11% were DSWs. The overall HIV positivity rate among DSWs in all countries was 5.7% (Eswatini: 10.3%, Malawi: 9%, Tanzania: 4.8%, Zambia: 13.7%). Whereas the positivity rate for married adults was 3.6% and 0.6% among single adults un-diagnosed HIV+ DSWs account for 29% of HIV+ adults who never tested for HIV. During multivariable analysis, urban settings (AOR: 1.76; 95% CI: 1.38-2.23) and DSWs (compared to married adults) were found to have a higher risk (AOR: 1.59; 95% CI: 1.2-2.09). There was no gender difference in HIV positivity.
CONCLUSIONS: Looking at marital status, DSWs have the highest HIV prevalence rate among un-diagnosed adults. Being urban resident and DSW were identified as independent risk factors for high HIV positivity. As DSWs are easily identifiable at community level and they are small in number compared to married and single adults, targeting them may optimize new HIV case finding.

PEC0363

HIV INDEX TESTING IN SOUTH AFRICA: RESULTS FROM THE FIRST YEAR OF SUPPORT IN THE PRESIDENT'S EMERGENCY PLAN FOR AIDS RELIEF (PEPFAR) FOCUS DISTRICTS - FISCAL YEAR (FY) 2019

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BACKGROUND: HIV index testing is a case finding method to diagnose people living with HIV (PLHIV) by testing of biological children and sexual partners of individuals already diagnosed with HIV. PEPFAR, which directly supports 27 districts in South Africa, aims to have 30% of all new HIV cases identified via index testing. The South African National Department of Health (NDOH), with support from PEPFAR, began implementing index testing in October 2017. We describe patterns of case detection with index testing by age and sex after one full year of PEPFAR support.
METHODS: HIV testing services (HTS) data from October 2018–September 2019 for 27 districts were obtained from PEPFAR's routine monitoring database. Numbers of HIV tests performed by either index testing or provider-initiated testing and counseling (PITC), numbers of PLHIV identified, and percentage yield were summarized across reporting quarters (i.e. October–December 2018; January–March, April–June, July–September, 2019) by age (<15 years and ≥15 years) and sex.
RESULTS: PITC accounted for the most positive diagnoses (~523,000) and tests (~8,990,000) compared to other methods. However, index testing was the highest yield approach with an average yield of 29.7% (9.1% all HTS) among males and 33.9% (10.4% all HTS) among females in those aged ≥15 years. Index testing among those <15 years increased from 2.2% to 6.1% of all HTS from the first to the last quarters of FY 2019; the percentage of positives identified from index testing grew from 6.3% to 13.0% during the same time period. Among those ≥15 years, index testing accounted for 1.1% and 0.6% of HTS for males and females, but 5.0% (~13,000) and 3.3% (~15,000) respectively of the more than ~730,000 positive diagnoses.
CONCLUSIONS: After a year of full PEPFAR support for the implementation of index testing, index testing and positives identified through this approach increased markedly for those aged <15 years. While index testing accounted for a small percentage of HTS for those aged ≥15 years in FY 2019, it resulted in a high yield with almost 30,000 positive diagnoses. Additional analyses of index testing in South Africa should be conducted as implementation expands.

PEC0364

PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS AND USE OF PRE-EXPOSURE PROPHYLAXIS AMONG PATIENTS IN DIFFERENT HIV-TRANSMISSION RISK CATEGORIES FROM TWO URBAN SEXUAL HEALTH CLINICS

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BACKGROUND: An increasing proportion of people with HIV in Massachusetts are classified as having no identified risk (NIR) for transmission at the time of diagnosis. It is unclear if this is due to underreporting of behaviors by patients or use of categorization schemes that incompletely account for patient risks. We examined data from two urban sexual health clinics and assessed if sexually transmitted infections (STIs) and use of pre-exposure prophylaxis (PrEP) correlate with current risk categories.
METHODS: During calendar year 2019, all patients at two sexual health clinics in Boston, MA answered questions assessing risk-associated behaviors. We used responses to assign patients to categories currently used by CDC to characterize mode of HIV transmission: men who have sex with men (MSM), injection drug use (IDU), MSM/IDU, high-risk heterosexual sex (sex with someone who is MSM, IDU, or HIV-positive), and NIR. We compared prevalence of empirically treated and/or laboratory-confirmed bacterial STIs considered indications for PrEP (gonorrhea and syphilis for all patients, chlamydia for MSM) and PrEP use across risk categories.
RESULTS: 2372 unique patients were seen, with most categorized as NIR (65.8%) followed by MSM (32.9%). Few patients reported IDU (12, 0.5%), MSM/IDU (10, 0.4%), or high-risk heterosexual sex (9, 0.4%). Although the prevalence of STIs was highest among patients who fit a defined CDC risk category (35.8% of MSM, 16.7% of IDU, 50% of MSM/IDU, and 11.1% of high-risk heterosexual sex) compared to those with NIR (5.3%), a substantial proportion of all STI diagnoses were among people with NIR (22.2%). PrEP use was highest among MSM (50%) and lowest among those with NIR (1.7%). Few patients (<10%) had missing data.
CONCLUSIONS: Two-thirds of patients at two Boston sexual health clinics did not fall into traditional HIV transmission categories, though they comprised >20% of new STI diagnoses. While >5% of these patients were diagnosed with STIs that serve as CDC indications for PrEP, <2% took PrEP in the prior year. To improve identification of those at risk and target HIV prevention measures, we must better understand sources of risk not currently captured by surveillance categories.

PEC0365

MITIGATING MISSED OPPORTUNITIES OF PROVIDER-INITIATED HIV TESTING AMONG ADULTS SEEKING PRIMARY CARE IN COASTAL KENYA

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BACKGROUND: Mitigating missed opportunities of provider-initiated testing and counselling (PITC) is essential, as only one in five adults is offered HIV testing when seeking care in sub Saharan Africa. Our aims were to identify predictors of PITC among young adults seeking care for symptoms of acute illness and to understand health care worker (HCW) barriers to PITC implementation.

METHODS: We assessed HIV test coverage among all adult outpatients 18-39 years of age at four public and two private health facilities in coastal Kenya, during a 3- to 6-month surveillance period at each facility. A subset of patients who reported fever, diarrhoea, fatigue, body aches, sore throat or genital ulcers were enrolled to complete a study questionnaire independently of PITC offer. We assessed predictors of PITC in this study population using generalised estimating equations and identified barriers to offering PITC through focus group discussion with HCW at each facility.

RESULTS: Among 10,263 non-research patients, 1,600 (15.6%) were tested for HIV, of whom 30 (1.9%) were newly diagnosed. Among 1,374 study participants, 382 (27.8%) were tested for HIV, of whom 13 (3.4%) were newly diagnosed. Of those offered HIV testing, 94.1% accepted it. Among study participants who were not offered HIV testing, 92.4% would have taken an HIV test if offered. Age 30-39 years (adjusted odds ratio [aOR] 1.5, 95% confidence interval [CI] 1.2-1.9), male sex (aOR 1.4, 95% CI 1.2-1.6), sore throat (aOR 1.2, 95% CI 1.0-1.4), genital ulcers (aOR 2.9, 95% CI 1.9-4.4), HIV testing history more than a year ago (aOR 1.4, 95% CI 1.0-1.9) and never having tested for HIV before (aOR 2.0, 95% CI 1.4-2.8) were associated with an increased odds of PITC offer. Barriers to PITC implementation included shortage of personnel, high workload, perceived slowing down of patient flow, and lack of training.

CONCLUSIONS: PITC coverage was low, but most patients would accept testing if offered. HCW were more likely to test older patients, men, patients with certain symptoms, and patients without a recent HIV test. Missed opportunities of PITC can be mitigated when PITC will be targeted using risk and symptom criteria.

EPIDEMIOLOGY OF HIV IN MEN WHO HAVE SEX WITH MEN

PEC0366

GEOGRAPHIC APPROACH TO HIV PREVENTION-INTERVENTION AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN DC

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BACKGROUND: In the United States, the HIV epidemic continues to disproportionately affect MSMs, particularly younger MSMs. In DC approximately 46% of the new diagnoses were MSMs in 2018. As DC aims to end the HIV epidemic in the next few years to come, addressing HIV epidemic among MSMs remains the top priorities. This analysis is DC's first attempt to use surveillance data to find MSM hotspots. The analysis also finds association of the MSMs with clinical-demographical characteristics to strategize intervention in DC's ending the HIV Epidemic plan.

METHODS: We used data from the HIV surveillance with DC department of health (DoH) for all people who are HIV positive, currently living in DC and their concurrent care data reported from laboratories and providers. The cases were geocoded and aggregated by census tracts. We implemented Geti-Ord G-statistics to identify MSM hotspots in ArcGIS 10.5.1. Logistic regressions were used to explore clinical and demographical characteristics associated with HIV positive MSMs.

RESULTS: The analysis identified 6001 HIV positive MSMs and 6077 HIV positives non-MSMs (total n=12078) who are currently living in DC. The MSM hotspots identified based on G-statistic were located in central DC covering 35 tracts of wards 1, 2 and 5 ($p<0.001$). At individual level MSMs hotspots showed higher percent of diagnoses among blacks (56.51%), ages 30 – 39 (32.16%) and poor outcomes of viral suppression (13%). The regression showed higher odds of MSM diagnoses were among younger (ages 13 – 19) (OR 3.844; CI 95% 3.3226, 4.4490) population than non-MSMs. The MSMs were at higher odds of late linkage (12 months) (OR 1.2861; CI 95% 1.0834, 1.5268) and poor viral suppression (OR 0.866; CI 95% 0.7775, 0.9656) compared to non-MSMs.

CONCLUSIONS: The identified DC hotspots covering tracts needs immediate attention for prevention-intervention based on the analysis. MSMs were among late linkage to care which may be responsible for poor viral suppression outcomes compared to non-MSMs. It is well known that early linkage to care leads to lower viral suppression. These results will drive space-based interventions such as linkage to care, antiretroviral adherence, viral suppression and increase testing along with culturally appropriate public health messaging.

PEC0367

USE OF HIV PRE-EXPOSURE PROPHYLAXIS AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN (GBMSM) IN ENGLAND: DATA FROM THE AURAH2 STUDY

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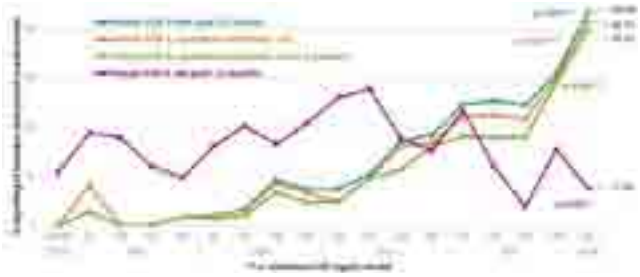
BACKGROUND: Pre-exposure prophylaxis (PrEP) is not yet available through the National Health Service England (NHSE) but has been available through the PrEP Impact Trial (Public Health England) since October 2017, or by online purchasing. We report changes in the use of PrEP and Post-exposure prophylaxis (PEP) among HIV-negative GBMSM in AURAH2, a prospective cohort study, and assess predictors of PrEP initiation.

METHODS: Participants self-completed a baseline paper questionnaire at one of three UK GUM clinics (June 2013-Apr 2016), and subsequent four-monthly and annual online questionnaires, including information on socio-demographics, HIV status, sexual behaviours, to March 2018. Information on PrEP/PEP use in the previous 12 months was obtained from baseline and annual questionnaires. Age-adjusted Poisson models were used to assess factors associated with PrEP initiation among participants who reported never used PrEP at baseline.

RESULTS: 1167 men (mean age 34 years, 84% white, 94% gay, 74% university-educated) completed a baseline questionnaire; 482 completed at least one annual questionnaire. PrEP use in the past year increased from 0% in Jul-Dec2013 to over 40% by Jan-Mar2018; while PEP use declined after 2016 (Figure 1).

Among 460 men who had never used PrEP at baseline, predictors of initiating PrEP included: age ≥40 years (aIRR 4.25, p=0.03); employment (aIRR 2.84, p=0.032); homeowner (aIRR 7.9, p=0.044); recent HIV test (aIRR 5.17, p=0.001); condomless sex in previous 3 months (aIRR 5.01, p<0.001); condomless sex with≥2 partners (aIRR 5.43, p<0.001); group sex (aIRR 1.69, p=0.045); recreational drugs/chemsex use (aIRR 2.05, p=0.007); PEP use (aIRR 4.69, p<0.001); and calendar year (aIRR for 2017-2018 versus 2013-2015 21.19, p<0.001). Online PrEP purchasing still continued even after the PrEP Impact Trial started.



[Figure 1. Prevalence of PrEP and PEP use in the past 12 months over time among GBMSM in the AURAH2 study, 2013 - 2018]

CONCLUSIONS: PrEP use increased significantly over time among a cohort of GBMSM in England reaching over 40%. High-risk HIV-related sexual behaviours, older age and more favourable economic situation were associated with PrEP initiation.

PEC0368

HIV EPIDEMIC TRENDS AND THE IMPACT OF RACE / COLOR ON VULNERABILITY AMONG GAY MEN (MSM) - SAO PAULO STATE, BRAZIL

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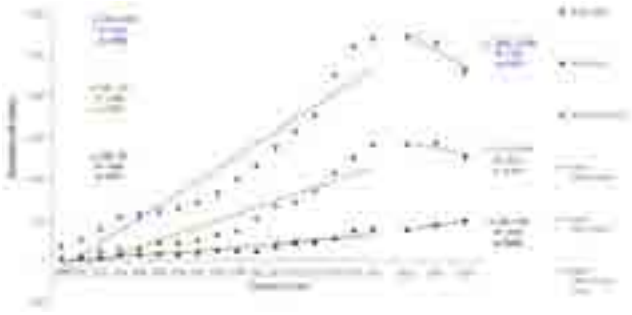
BACKGROUND: Brazil is a democratic country with high income concentration and great social inequalities. It was also the last Western country to end slavery, and the black population to date has the worst social and health indicators. The objective was to analyze trends of reported HIV infection among MSM in Sao Paulo, according to race between 2000 and 2018.

METHODS: Trend study by polynomial regression models comparing race by HIV diagnosis period. The dependent variable (Y) was the annual number of HIV cases in each category and the independent variable (X) was the time, in calendar years, in the period. The goodness of fit via r^2 and p <0.05 were used to determine which models and data were most appropriate.

RESULTS: In the period there were 75,185 HIV+ male cases, of which 39,793 were MSM. There was an increasing trend between 2000 and 2016 with a speed of 365 cases / year and a first order model [Y = 365X + 3,502; r^2 =0.91; p <0.001], and between 2016 and 2018 the trend was decreasing with a speed of 570 cases / year with linear model [Y = -570X + 6,992; r^2 =0.90; p =0.015]. The figure 1 shows the trends among MSM by race.



[Figure 1. Trends of HIV infection among MSM by race, Sao Paulo, 2000 - 2018.]

CONCLUSIONS: Among MSM the trends were increasing until 2016 for all races. After 2016 there was a fall among whites and mixed-color, more expressive for whites. Among black MSM, the trend continued to grow after 2016 at three times the speed of the previous period. These differences can be explained by difficulties in accessing services, and especially pre-exposure prophylaxis, pointing to structural racism, discrimination and social exclusion suffered by black MSM. These data strongly recommend the formulation of public policies that increase this population's access to health services, information and combined prevention strategies.

PEC0369

THE DECLINE IN NEW HIV DIAGNOSES IN GAY AND BISEXUAL MEN IN THE UK: THE CLINIC IMPACT

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BACKGROUND: In the UK, the number of new HIV diagnoses among gay and bisexual men (GBM) fell by 35% from 3,480 in 2014 to 2,250 in 2018. This decrease is confirmed by CD4 back calculation modelling, which indicates a 73% reduction inincident HIV infections in GBM from 2,300 (95% credible interval (CrI) 2,100 to 2,500) in 2014 to 800 (CrI 500 to 1,400) in 2018. This decrease has been linked to the success of combination prevention: HIV testing (including high frequency testing), high ART coverage and increasing PrEP. We examine differential declines in HIV diagnoses at the clinic level.

METHODS: Public Health England undertakes comprehensive surveillance of every UK HIV diagnosis. English HIV clinics were categorised as "large fall clinics" if they had a fall of over 40% (the English average) and a decline of at least 15 HIV diagnoses between 2014 and 2018. Men diagnosed abroad (2,215/11,815) were excluded. Overall, 16 clinics met this criteria, eight in London and eight elsewhere.

RESULTS: Between 2014-2018 new HIV diagnoses declined by 1,409 with 68% of this decline occurring in "large fall clinics". In London large fall clinics, diagnoses fell by 75% (995 to 244) compared to 57% (351 to 151) in large fall clinics outside London. Elswhere, HIV diagnoses decreased by 47% (513 to 270) in London and by 25% outside London (857 to 642).

In large fall clinics, HIV diagnoses declined by 74% in white and 76% in UK-born men compared to 67% and 71% in black, Asian and minority ethnic (BAME) men and men born outside the UK respectively. In other settings, the steepest declines were among white (38%, 1,097 to 677) and UK-born men (32%, 869 to 589). This compares to a 12% decrease in BAME men (238 to 209) and a 26% decrease among men born abroad (435 to 320).

CONCLUSIONS: The reduction in new HIV diagnoses among GBM in England is concentrated in 16 clinics. In other clinics, the decline is less pronounced and mainly observed in white, UK-born men. Further work is needed to ensure prevention initiatives reach everyone, regardless of clinic attended, ethnicity and place of birth.

PEC0370

IDENTIFYING REGIONS OF GREATEST NEED FOR ENDING THE HIV EPIDEMIC: A PLAN FOR AMERICA

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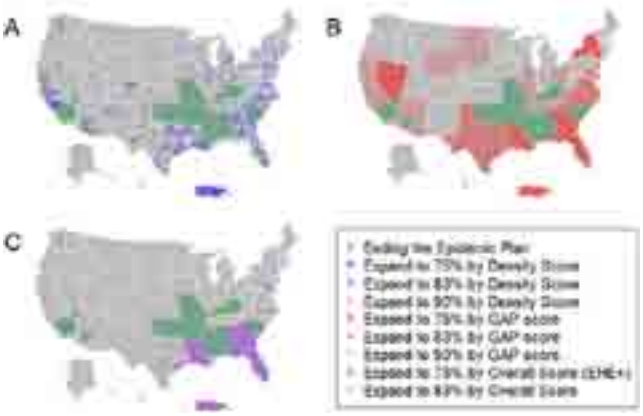
BACKGROUND: In the 2019 State of the Union Address, President Trump announced a plan for "Ending the HIV Epidemic (EHE)" in the United States with a goal to reduce new HIV infections by 90% by 2030. Phase one of the plan set an intermediate goal of a 75% reduction within five years, focusing on high incidence counties and states.

METHODS: We assessed the feasibility of the first phase of the plan by estimating the fraction of HIV diagnoses occurring within the targeted region, using a statistical model, which we assessed using ten-fold cross-validation, to predict new HIV diagnoses in each county.

We suggested new areas to add to the current plan, prioritizing by both a "Density score" (blue areas in panel A) quantifying numbers of new diagnoses per square mile and per-capita and a "GAP score" (red areas in panel B) quantifying shortcomings in ART and PrEP uptake, in order to reach areas with 75% of new diagnoses.

RESULTS: We estimated that the current EHE plan targets less than 60% of new diagnoses. Expanding the plan to areas prioritized by both metrics (purple areas in panel C): Puerto Rico, Florida, Georgia, Louisiana, and Maryland as well as parts of New York, North Carolina, Texas, and Virginia increases the potential reach of the plan to 75% of new diagnoses.



[Figure]

CONCLUSIONS: Many of the highest priority areas, both by density of HIV cases and by lack of viral suppression and PrEP use, are not covered by the EHE plan, particularly in the South. The current plan must be expanded to feasibly allow for a 75% reduction in new HIV cases within five years.

PEC0371

TOPS NEED PREP TOO: ALCOHOL AND CONDOMLESS INSERTIVE (TOP) ANAL INTERCOURSE AMONG BLACK/LATINO SEXUAL-MINORITY MALE NON-PREP USERS

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BACKGROUND: Since new prevention strategies, such as Pre-Exposure Prophylaxis (PrEP) or having an undetectable viral load have come about, young men who have sex with men (MSM) are using these as characteristics for serosorting and decisions about condomless sex [1].

While these advances are important across the HIV continuum, men who consider themselves a top (the inserter during anal sex) continue to get mixed messages or do not understand the HIV risk of having condomless insertive anal intercourse (CIAI) [2-5]. Given this concern, and recognizing that black and Latino MSM (BLMSM) are disproportionately affected by HIV, we sought to better our understanding of factors associated with CIAI among a high risk sample of BLMSM who are non-PrEP users.

METHODS: Self-report surveys were administered to 188 BLMSM (black=94, Latino=94) at bars/clubs, and public organized events in Los Angeles County; aged 18 to 40 (Mean=24.32, SD=4.45); male; reporting anal intercourse with a man and consumed alcohol within last 30 days. Participants were self-reported HIV negative and non-PrEP users. HIV risk behavioral variables were included, such as substance use before or during sex, and seeking sex online. Binary logistic regression was used to explore unadjusted relative risks between CIAI and HIV risk behaviors, and to further explore adjusted relative risks.

RESULTS: Highlighted findings from the unadjusted odds ratio estimates revealed that BLMSM non-PrEP users who reported drinking alcohol before or during sex were 4.5 times more likely to report CIAI (unadjusted OR=4.55, CI = 1.79-11.56, p= .001). This held true when controlling for drugs before or during sex, poppers use before or during sex, and meeting sex partners online. The adjusted rate indicated that BLMSM who reported drinking alcohol before or during sex were 6 times more likely to report condomless insertive anal intercourse (unadjusted OR=6.00, CI = 2.01-17.85, p= .001).

CONCLUSIONS: The data suggest that BLMSM non-PrEP users practicing CIAI engage in drinking alcohol before and during sex, an additional risky practice. Our data provide evidence that HIV prevention messages/interventions continue to be needed that encourage PrEP use, inform of the risk of CIAI, and alcohol before and during sex risk.

PEC0372

THE PRE-EXPOSURE PROPHYLAXIS (PREP) OBSTACLES SCALE: PRELIMINARY FINDINGS FROM A PILOT STUDY, UNITED STATES

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BACKGROUND: Despite being at the cornerstone of current initiatives to curtail the spread of HIV, Pre-Exposure Prophylaxis (PrEP) medication has been slow to proliferate among many "at risk" sup-groups. This is true for ethnic- minority men who have sex with other men (MSM), who account for the largest number of new HIV diagnoses in the United States. To try to understand why MSM are not adopting PrEP in greater numbers, the present authors have created a 20-item PrEP Obstacles Scale. This paper reports findings for that scale.

METHODS: Purposive sampling was used to derive a sample of 273 diverse MSM, aged 18 and older (M=34.4, SD=13.1). Men completed a brief questionnaire inquiring about their awareness of PrEP, willingness to avail themselves of various sources of information about PrEP, perceptions about PrEP-related stigma, and perceptions about obstacles to PrEP use. By choosing this methodological approach, the researchers' principal goal was to assemble as diverse a sample of MSM as possible. In this manner, the present authors were able to examine differences among different subgroups of MSM–for example, Caucasians versus African Americans versus Latinos, or younger men versus older men–by virtue of each subgroup's representation in the final sample. Cronbach's alpha reliability coefficients were computed for the PrEP Obstacles Scale, for the full sample and for key subgroups. Factor analysis was performed to determine whether or not subscales exist.

RESULTS: The PrEP Obstacles Scale was found to be highly reliable, both in its full version (alpha=0.96) and in its shortened version (alpha=0.95). Reliability estimates were strong for all subgroups based on race, sexual orientation, educational attainment, relationship status, age, and HIV serostatus. Two subscales were created, each with excellent reliability (alpha=0.92 and 0.92), again for the sample as a whole and for all key subgroups.

CONCLUSIONS: The PrEP Obstacles Scale shows great promise for aiding our understanding of why more MSM are not adopting PrEP. It was found to be reliable for all key subgroups under examination, and that is true both for the 20-item and the 8-item version of the scale, and for the two subscales.

PEC0373

INTERSECTING DETERMINANTS OF HIV-ASSOCIATED VULNERABILITY AMONG BLACK MEN WHO HAVE SEX WITH MEN: A LATENT CLASS ANALYSIS

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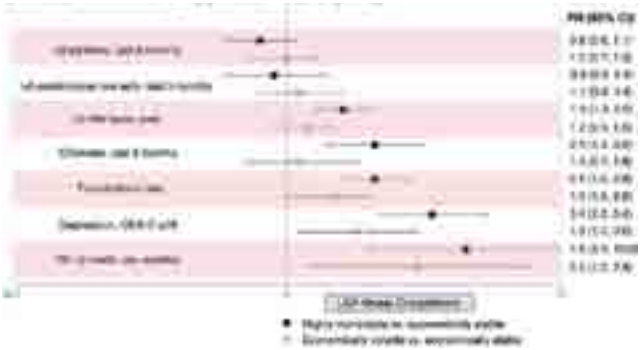
BACKGROUND: HIV incidence rates among black men who have sex with men (BMSM) are among the highest in the United States. Implementation of targeted HIV-prevention interventions requires a complete understanding of the multiple and intersecting determinants of HIV-associated vulnerability among BMSM.

METHODS: We used latent class analysis (LCA) to identify underlying constructs of structural vulnerability among 449 BMSM enrolled in a randomized trial in Atlanta. Determinants included in the model were informed by a social-ecological framework, and comprised educational attainment, income level, employment status, and current/former homelessness. The relationship between latent-class membership and individual-level behaviors was characterized using age-adjusted modified-Poisson regression models with robust standard errors to estimate prevalence ratios (PR) and 95% confidence intervals (CI).

RESULTS: We identified three underlying types of HIV-associated vulnerability among BMSM: 1) high educational attainment/employment (representing ~39% of the population), 2) extreme poverty/homelessness (~36%), and 3) poverty/unemployment but high educational attainment (~25%). We labeled these groups as being "economically stable", "highly vulnerable," and "economically volatile," respectively. Compared to BMSM who were economically stable, BMSM who were highly vulnerable were more likely to report recent chemsex (PR: 2.1, 95% CI: 1.4-3.2), transactional sex (PR: 2.1, 95% CI: 1.6-2.8), and regular use of crack/intravenous drugs (PR: 4.5, 95% CI: 2.0-10.0) (Figure).



[Figure. Prevalence ratios (PR) and 95% confidence intervals (CI) for the association of LCA-group type with select sexual-risk behaviours and psychosocial measures (N=449).]

Estimates were generally similar, albeit attenuated, when comparing economically volatile BMSM with those who were economically stable. Importantly, sexual risk behaviors, including condomless sex and sex with multiple partners, were similar across groups. However, highly vulnerable BMSM were the least engaged in HIV-related services.

CONCLUSIONS: Implementation strategies for national HIV-prevention interventions are needed to overcome the multiple structural barriers that impact more proximal HIV risks for BMSM. Reaching diverse groups of BMSM, such as those who remain marginalized from existing HIV services, should be prioritized for HIV prevention and remains central to a comprehensive HIV response.

PEC0374

UNDERSTANDING DIFFERENTIAL RISK AND HEALTH-SEEKING BEHAVIORS BETWEEN HOMOSEXUAL AND BISEXUAL MEN IN PERU: OPPORTUNITIES FOR OPTIMIZING HIV CARE DELIVERY

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BACKGROUND: Bisexual men seem to have different sexual behaviors, needs and preferences for receiving HIV prevention interventions and care. HIV care in Peru is still delivered without considering potential differences among men who have sex with men (MSM). We explored the differences between bisexual and homosexual men in Peru in order to inform future HIV prevention interventions tailored for bisexual men.

METHODS: From February to June 2016, we performed an online survey with Peruvian MSM older than 18 years. By targeted sampling, we hosted the survey on the most visited local gay websites and on Facebook. We conducted bivariate and multivariate analysis to assess differences in self-reported sexual behaviors and other characteristics between self-reported bisexual and homosexual men.

RESULTS: The mean age of the 898 subjects who completed the survey was 30.2 years; over 80% had post–high school education; and 560 (62.4%) self-reported as bisexual (37.6%, homosexual). Overall, the self-reported HIV prevalence was 15.6%. For bisexual men, rates of report of unprotected vaginal sex (UVS) and unprotected anal sex (UAS) with other men varied substantially according to partners; with stable partners: UVS (81.3%) and UAS (70%); with casual partners: UVS (51.6%) and UAS (51.4%); with sex workers: UVS (12.3%) and UAS (31.2%). Compared to homosexual men, bisexual men were significantly more likely to be top or versatile, to have sex under the influence of alcohol with men and women, to prefer health centers not working with gay men, and to have UVS. Bisexual men were significantly less likely to seek care when having symptoms of sexually transmitted infections (38.3% vs. 46.7%; p=0.014), to be tested for HIV, to be HIV positive (12.3% vs. 20.6%; p=0.011), and to have UAS with other men (45.4% vs. 57.1%; p=0.001). In a multivariate analysis, not seeking care at health centers for gay men, and being top or versatile were associated with self-reporting as bisexual.

CONCLUSIONS: Bisexual men report high and differentiated sexual risk behaviors with both men and women. Health seeking behavior and preferences for HIV care are also different. In order to reach bisexual men successfully, HIV prevention interventions need to be tailored specifically for them.

PEC0375

MAPPING AND POPULATION SIZE ESTIMATES OF PEOPLE WHO INJECT DRUGS IN AFGHANISTAN, 2019: SYNTHESIS OF MULTIPLE METHODS

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BACKGROUND: Afghanistan experiences a concentrated HIV epidemic among people who inject drugs (PWID). The mapping and population size estimation of PWID provide program staff and policy makers critical information needed for monitoring coverage of programs, and planning appropriate new interventions. We measured locations, typology, and population size of PWID in eight cities, and extrapolate results to other major cities in Afghanistan.

METHODS: PWID (i.e. 18 years or older who inject drugs in the last 12 months) locations, typology and population size was measured by (i) key informant interviews and FGDs, mapping and enumeration with revers tracking method, (ii) the unique object and service multipliers, (iii) capture-recapture, (iv) wisdom of crowds, and (v) a synthesis of the estimates from above methods using the Anchored Multiplier Bayesian approach (point and 95% Credibility Interval [CI]). Then, we used a regression model and several proxy indicators to extrapolate the results to other non-studied major cities.

RESULTS: We found more than 374 hotspots for PWID across the eight cities. Majority of PWID who participated in the study were male (99.3%), reported last injected in last 3 months (82.5%), reported Heroin as the major drug for injection (99.3%), ever tested for HIV (82.0%), and knew their HIV status (70.0%). The self-reported HIV prevalence was 20.7%, ranged from 0% in Zaranj to 63.0% in Kabul. The total number of PWID in 31 major cities was estimated to be 25,736 (95%CI 19,364 to 32,877) persons, which corresponds to 0.69% (95%CI 0.52% to 0.88%) of the adult population (15 – 64y), the highest number 6,061 (95%CI 4,257 to 8,225) living in Kabul.

CONCLUSIONS: Using multiple methods, our study provided estimates for the population of PWID in major cities in Afghanistan. The PWID population size is considerable, and in certain areas, a large number of them are infected with HIV and need to be reached by care and treatment services in Afghanistan.

PEC0376

PERSISTENTLY HIGH HIV RATES AMONG YOUNG MSM DESPITE DECLINES AMONG MID-ADULT AND OLDER MSM CORRESPONDING TO SCALE-UP OF HIV PREVENTION, SILOM COMMUNITY CLINIC IN BANGKOK, THAILAND 2005-2018

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BACKGROUND: In the last decade, there has been scale up of HIV prevention strategies in Bangkok, Thailand, including HIV treatment, PrEP and HIV testing. Silom Community Clinic (SCC) in central Bangkok provides HIV testing and this open cohort can offer an opportunity to monitor prevention policies and practices. We assessed quarterly trends in HIV-1 frequency and incidence among clinic attendees.

METHODS: Clients attending SCC from 2005–2018 were tested for HIV infection using rapid HIV tests at each visit. We describe the proportion and incidence of HIV and used a restricted cubic spline (RCS) function for time to assessed trends. We compared HIV incidence before and after Quarter 1, 2014 using an indicator variable with Poisson regression with a RCS function for time and age group.

RESULTS: From 2005–2018, 14,034 clients attended SCC for HIV testing; 4,067 tested HIV-positive. The HIV frequency increased from 19·2% in 2005–2006 to 34·0% in 2010, remained stable at about 30% from 2011-2016 and then decreased to 17·2% in 2018 (p < 0·0001). The overall HIV incidence from 2005–2018 was 4·1 per 100 person-years (PY), with an inverted U-shape trend and a peak in 2009 (p < 0·0001). HIV incidence increased from 3·6 per 100 PY in 2005–2006 to 5·4 per 100 PY in 2009 and declined to 4·0 per 100 PY in 2018. From 2005-2018, HIV incidence among young MSM aged 13–21 years remained high at 10·0 per 100 PY compared to those aged 22–29 years and 30 years and older in whom the HIV incidence was 4·9 and 2·4 per 100 PY, respectively.

CONCLUSIONS: We found recent declines in HIV frequency and incidence, corresponding with increased HIV prevention initiatives starting in 2014. However, HIV incidence remained high among young MSM, indicating an ongoing need for targeted testing and prevention activities to further decrease HIV transmission among young MSM in Bangkok.

PEC0377

PREVALENCE AND FACTORS ASSOCIATED WITH HIV INFECTION AMONG MSM WHO HAD A PREVIOUS NEGATIVE HIV RESULT IN BRAZIL

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BACKGROUND: HIV is still increasing among men who have sex with men (MSM) in several countries, including Brazil, despite recommended test & treat policy. The objective of this analysis was to assess the prevalence of HIV infection among MSM who had a previous negative test in the past 12 months and its associated factors.

METHODS: Respondent Driven Sampling(RDS) cross-sectional study conducted in 2016 in 12 Brazilian cities. HIV serology was performed using standard rapid tests.Risk behavior and sociodemographic data were obtained. RDS weighted prevalence rates with 95% confidence intervals (95%CI) were estimated. Multivariate Poisson regression was used to estimate the prevalence rate ratio (PRR) with 95%CI comparing those who tested HIV positive at the time of the study to those who remained negative.

RESULTS: Among 4176 recruited MSM, 46.6% (1947/4176) reported previous HIV testing in the 12 months prior to the study. Among these, 82.4% (1604/1947) reported an HIV negative result. During the study 113 (7.5%; 95% CI=3.4 - 11.6) tested positive and 92.5% remained negative. Selected factors statistically associated (p<.05) with HIV positivity are shown below.

VARIABLES	PRR (95% CI)
Age(18-24 y.o.)	1.28(1.19-1.39)
No STI counseling past 12 months	2.94(2.73-3.16)
Did not receive free condoms past 12 months	1.36(1.26-1.47)
History of STI past 12 months	2.11(1.92-2.32)
No syphilis testing past 12 months	1.62(1.49-1.75)
Current positive test for syphilis	5.43(5.06-5.83)
Exchanged sex for money past 6 months	1.40(1.30-1.51)
Last receptive anal sex unprotected	1.67(1.55-1.80)
Used social media for sex encounters past 12 months	1.88(1.72-2.06)

[Table]

CONCLUSIONS: It is of extreme concern that 7.5% of MSM who were HIV negative within the past 12 months have seroconverted. Previous testing of these MSM may not have followed proper counseling and/or access to free condom. Unsafe practice persisted, along with paid sex and vitual sex encounters. Not only most of them did not have a previous syphilis testing but also current positivity for syphilis was the strongest factor associated with HIV infection. All these factors may act synergistically as important drives for the persistence of the HIV epidemic among MSM in Brazil. Urgent public actions are needed, including proper counseling, expansion of PrEP, condom availability and also access to HIV self-testing.

PEC0378

PRE- AND POST-EXPOSURE PROPHYLAXIS AWARENESS AND SERVICE USAGE AMONG MEN WHO HAVE SEX WITH MEN IN CHINA: AN INTERVENTIONAL STUDY

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BACKGROUND: With implementation of integrated intervention, HIV transmission is still increasing alarmingly among men who have sex with men (MSM) in China. It is urgent to promote pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP). The aim of this study was to assess the awareness and service usage promotion of PrEP and PEP among MSM.

METHODS: This two-stage interventional study of PrEP/PEP awareness and service usage at baseline and follow-up took place in Harbin, the capital city of Heilongjiang province in China. The study population is MSM in the previous year, 18 years or older, currently living in Harbin. The two main recruitment methods were peer-referral and disseminating survey information through internet. We collected data by asking participants to scan a two-dimensional code with a cellphone and fill out an online questionnaire, which covers demographic and behavior characteristics, and PrEP/PEP awareness, service usage, and future taking willingness. We also sampled blood for HIV tests. Follow-up was in the 3-12 months range after baseline study. HIV-negative MSM at the baseline were imparted PrEP and PEP knowledge. All participants provided written informed consent for blood testing and participation in questionnaire interview. The study protocol and informed consent form was approved by the institutional review board of National Center for AIDS/STD Control and Prevention.

RESULTS: Between January 2018 and March 2019, we enrolled 773 MSM for baseline analysis, 430 of whom were available for follow-up. At baseline, MSM being aware of, and having taken PrEP and PEP accounted for 13.5% (104/773), 1.3% (10/773), 41.8% (323/773), and 5.2% (40/773) respectively. At follow-up, the percentages were 89.3% (384/430), 3.3% (14/430), 94.9% (408/430), and 6.3% (27/430) respectively. Ever took PrEP and ever took PEP were the only associated factor for each other. Being aware of PrEP, being aware of PEP, being willing to take PEP were associated with being willing to take PrEP in future. Being aware of PEP and ever took PEP were associated with being willing to take PEP in future.

CONCLUSIONS: PrEP/PEP awareness and service usage was generally low among MSM in Harbin. To promote PrEP/PEP, PrEP/PEP knowledge dissemination should be expanded and strengthened together among MSM.

PEC0379

SEXUAL PARTNERS AND BEHAVIORS OF MEN WHO HAVE SEX WITH MEN IN RURAL PARAGUAY

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BACKGROUND: Data on rural men who have sex with men (MSM) are rare due to stigma and challenges in recruiting rural MSM for research. Studies worldwide, usually from large cities, find MSM at high risk for STIs. In Paraguay, past studies measured HIV prevalence among MSM at 13%, second only to transwomen at 26%. However, the sexual identities, partnerships, and risks for STIs among rural MSM are unknown and may differ from those of their urban counterparts who may have supportive LGBT communities. It is essential to understand the behavior of rural MSM to prevent STI transmission among themselves and to other populations.

METHODS: We conducted a cross-sectional survey of MSM in a rural area of Paraguay using respondent-driven sampling (RDS). RDS uses long chains of peer referrals to the study to obtain samples of hard-to-reach populations. Men were eligible if they were 18 years or older and had anal sex with a man in the last year. An interview collected demographics and sexual behaviors.

RESULTS: The survey enrolled 400 MSM from the rural area of Paraguay. Most were under 25 years (78.8%); 56% self-reported as homosexual, 36% as bisexuals, and 8% as heterosexual. In the last 6 months, 70% had penetrative sex with men, 40% with cis-women, and 38% with transwomen. Of MSM with a female partner, 56% did not use a condom. A majority (58%) did not know the HIV serostatus of their partners; 7% had sex with an HIV-positive partner.

CONCLUSIONS: RDS was able to recruit a large sample of MSM in rural Paraguay. Sexual identities and gender of partners of rural MSM were varied and included cis- and trans-gender women. The sexual networks and low condom use speak to high potential for STI transmission and the need to reach rural MSM with prevention and care programs.

PEC0380

HIV RELATED BEHAVIOURS, PERCEPTION AND BARRIERS AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN A CONSERVATIVE STATE IN MALAYSIA

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BACKGROUND: HIV epidemic in Malaysia from the 1990s and early 2000 which was largely driven by transmission among injecting drug users has essentially declined and being replaced with an ascent in sexual transmission especially among men who have sex with men (MSM). This breakthrough research is aimed to assess HIV related behaviour and explore perception and barriers among the MSM population in a conservative state in Malaysia.

METHODS: A mixed-method study was conducted in 2019 among MSM population in Kelantan, a north-eastern state in Malaysia. Respondent-driven sampling was done to recruit potential samples. Eligible respondents were required to complete a face to face interview based on Integrated Biological and Behavioural Surveillance (IBBS) in Malay language and underwent HIV rapid testing. A qualitative study was followed up among purposive samples to explore related perception and barriers.

RESULTS: A total of 133 men were enrolled with the majority of the respondents were Malay Muslims (92.5%). Mean age was 25 years old ranging between 18 to 44 years. Only seven (5.2%) were screened to be HIV positive. Twenty-nine (21.8%) did not use condoms during their last anal intercourse. About two-thirds of them have a history of being paid to have sex with men while 25% of them have a history of paying men to have sex in the past 12 months. The respondents have an average of four different male partners in the last month. Twenty-two (12%) respondents never had HIV screening. The majority has obtained condom from NGO workers while only 10 (7.5%) and

23 (17%) obtain them from clinics and pharmacies respectively. Although 21% of them ever heard of pre-exposure prophylaxis (PrEP), none were on the medication. Majority of them perceived themselves as susceptible to get HIV from anal sex activity. However, they also fear of public exposure and expressed barriers in utilising sexual health services.

CONCLUSIONS: Even though HIV prevalence was still low among the MSM population, related risk behaviours and challenges were at an alarming stage. Thus, focused prevention efforts and wider universal health care service accessibility are urgently needed for this key population in the country.

EPIDEMIOLOGY OF HIV IN INFANTS AND CHILDREN

PEC0381

THE PAEDIATRIC HIV PROGRAMME IN JOHANNESBURG FROM 2004 TO 2018: A RETROSPECTIVE ANALYSIS OF PROGRAMME TRENDS

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BACKGROUND: The paediatric HIV treatment programme in South Africa has grown since its inception in 2004. Despite this, ART coverage in children, an indicator of the number of children started on ART and retained in care, remains unacceptably low, with only 60% of the 337,000 HIV-positive children in South Africa on ART. This analysis aimed to describe the dynamics of the paediatric HIV programme in Johannesburg, South Africa, to direct interventions towards improving paediatric ART coverage.

METHODS: A secondary analysis was conducted on patient-level HIV treatment data using the nationally mandated database. Children under 15 years' old who initiated ART between December 2004 and December 2018 at public health facilities in Johannesburg were included. We calculated the number of children on ART, and retention by age group, and analysed trends in these indicators.

RESULTS: During the study period, the number of children on ART increased from 221 to 7,630, with the growth rate slowing from 2013. By December 2018, 82.5% of children on ART were aged 5-<15 years, with 65.5% of these being 10-<15 years. The number of children newly initiated on ART ranged from 1,172 to 1,373 between 2013 and 2018, with 34.2% of initiators being less than 1 year, 24.2% 1-5 years and 41.6% 5-<15 years of age in 2018. Despite these initiations, in 2018 the number of children on ART only grew by 97, due to programme losses. In 2018, 924 children (12.1%) aged out, 35 (0.5%) died and 983 (12.9%) were lost to follow-up (LTFU), the latter having increased from 10.7% in 2017. Of those who aged out of the paediatric programme, 4,478 (56.3%) remained in care. Of these, 3,398 (75.9%) were 15-<20 years and 1,080 (24.1%) were 20-<30 years of age. An additional 1,599 (20.1%) who aged out were subsequently lost from the ART programme and 1,883 (23.7%) transferred out.

CONCLUSIONS: The number of children retained on ART has remained unacceptably low despite a stable number of initiations yearly. While aging out of the paediatric programme is a consideration, interrogation of barriers to paediatric retention should be further studied to help realise the UNAIDS 90:90:90 goals in South Africa.

PEC0382

PREDICTORS OF HIV POSITIVE RESULTS AMONG ORPHANS AND VULNERABLE CHILDREN IN TANZANIA

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BACKGROUND: An estimated 92,000 Tanzanian children under the age of 15 years are living with HIV, and about 50% have not been diagnosed. Validated risk assessment tools aid case identification in facility settings Tanzania, incorporating risk assessment by lay social welfare volunteers into an orphans and vulnerable children (OVC) project in Tanzania provides information on risk factors in this population to aid pediatric case finding strategies.

METHODS: The project analyzed data collected between January 2018 to March 2019 in 18 regions of Tanzania. The project developed a HIV screening tool with 18 risk factors which incorporated risks from the four items from Bandason et al and criteria from National HIV services guidelines. Lay social welfare volunteers assessed HIV risk in OVC age 0-17, following caregivers' consent. At-risk OVC with unknown status were referred for HIV testing services (HTS). HIV status was self-reported to volunteers. Eighteen risk factors (independent variables) were analyzed using Pearson's Chi–square test, and inference was made at a significance level of 5%, where HIV self-report status was the outcome variable.

RESULTS: Out of the 47,701 OVC who self-reported their HIV status after their HTS referrals, 1.0% (n = 549) were HIV positive. In the multivariate analysis, OVC with malnutrition were 2.14 times more likely to be HIV positive (aOR=2.14, 95% CI 1.51-3.03). OVC living in households with one or more HIV positive members were 1.71 times more likely to be HIV positive than those without (aOR=1.71, 95% CI 1.41-2.06). OVC who had recurrent skin problem were 2.05 times likely to be HIV positive that those without (aOR=1.54, 95% CI 1.29-3.28). OVC whose one or both biological parents were deceased were 1.23 times likely to be positive (aOR=1.23, 95% CI 1.08-1.54).

CONCLUSIONS: To attain the first 90 in the 90-90-90 global goals among OVC, key risk factors for which are predictive of HIV positive among the OVC are: Malnutrition; one or more household members is HIV positive; recurring skin problems; and having one or both biological parents deceased.

PEC0383

AIDS MORTALITY OF CHILDREN LIVING WITH HIV AND ACCESS TO HIV CARE AND TREATMENT IN BRAZIL, 2018

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BACKGROUND: Brazil has successfully implemented universal access to antiretroviral treatment (ART) and consistently reduced vertical transmission of HIV over the years. However, children still die for AIDS related causes, and there is a lack of information of the status of those children regarding access to care and treatment.
METHODS: We conducted a descriptive cross-sectional study. We have selected all children living with HIV under 13 years-old who died in 2018 and were registered in Brazilian's Mortality Information System with AIDS-related deaths. We assessed the status of access to HIV care and treatment of those children and their mothers using the Notification Disease Information System, the Laboratory Test Control System (data on viral load and CD4 exams) and the Logistic Drug Control System (data on ARV dispensing).
RESULTS: In the year of 2018, Brazil had 46 children under 13 years who died of AIDS-related causes. Median age was 22 months. 52% (24/46) died under 2 years old. Only 43% (20/46) initiated antiretroviral therapy (ART), 10% (2/20) of those abandoned treatment and only 30% (6/20) had the treatment oriented by genotyping exam. The average and median age of the mothers of these children was 26 years old. 59% (27/46) of these women had their HIV status at least six months before the death of their children, 30% (14/46) had their HIV status before pregnancy, 11% (5/46) during the pregnancy and 9% (4/46) during delivery. Only four of these mothers started ART before delivery (9%), but just one was in regular adherence to treatment.
CONCLUSIONS: Despite presenting a limited number of children living with HIV dying of AIDS related causes, most of them are avoidable and are related to health system failure in providing proper care and treatment to all mothers and children, so that vertical transmission may be avoided and deaths from AIDS-related causes among children living with HIV stop happening.

PEC0384

FACTORS ASSOCIATED WITH LATE PRESENTATION OF HIV-INFECTED INFANTS FOR EARLY INFANT HIV DIAGNOSIS (EID) SERVICES IN KENYA

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BACKGROUND: Early infant diagnosis (EID) is defined as infant Polymerase Chain Reaction (PCR) testing at age ≤ 8 weeks. We assessed factors associated with late enrolment into HIV-exposed infants (HEI) services for HIV-infected infants, in sites supported by the US President's Emergency Plan for AIDS Relief (PEPFAR) Kenya.
METHODS: We abstracted routinely collected clinical data on all infants with a positive PCR result from 1347 PEPFAR-supported health facilities for the period October 2016 to September 2018. We aggregated the data from all sites in STATA and examined the association of baseline characteristics to timing of HEI enrollment, using univariate and multivariate logistic regression. Late HEI enrolment was defined as >8 weeks and used maternal start of Anti-retroviral Therapy (ART) as a proxy of time of maternal HIV diagnosis since we did not have actual date of HIV diagnosis.
RESULTS: Of the 4091 HIV-infected infants identified, the median infant age at HIV diagnosis was 13 weeks [interquartile range (IQR), 4-64 weeks] and most [2669 (66.5%)] were enrolled late. The majority of mothers of HIV-infected infants enrolled late, were aged 24-34 years (n=1,291; 51%), did not attend ante-natal clinic (ANC) (n=1247; 50%), and were diagnosed in the postnatal period (n=2012; 50%). Of those diagnosed in the postnatal period, majority were newly-diagnosed as HIV positive (n=1615; 80%).
Factors that were independently associated with late HEI enrollment were lack of maternal ANC attendance (adjusted odds ratio (aOR) 1.54;95% confidence interval (CI) 1.27-1.85), new maternal HIV diagnosis (aOR 1.38; 95% CI 1.17-1.63), lack of maternal ART (aOR 1.96, 95% CI 1.64-2.35), HEI identification in outpatient (aOR 14.2, 95% CI: 7.35-27.6) or inpatient ward (aOR 8.92, 95%CI: 4.16-19.1) and late infant immunization (aOR 1.63, 95% CI: 1.31-2.03).
CONCLUSIONS: Every HIV-infected infant indicates a missed opportunity in Prevention of Mother to Child Transmission (PMTCT) programs. Sustained efforts are needed to ensure mothers attend ANC early to receive HIV testing and be prepared to access EID services for their infants. Finally, routine HIV screening in outpatient and inpatient settings may identify HIV-infected infants earlier.

PEC0385

TREND OF ANTIRETROVIRAL REGIMEN IN HIV-INFECTED PREGNANT WOMEN AND ITS CORRELATION TO MTCT RATE IN A CENTRAL PROVINCE OF CHINA

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BACKGROUND: The trends of timing for diagnosing HIV infection, antiretroviral therapy (ART) regimen for pregnant women, and mother-to-child transmission (MTCT) rate in central China from 2004 to 2017 is not well known.
METHODS: From January 2004 to December 2017, HIV-infected pregnant women and their babies in some areas of a central Chinese province were enrolled in this study, and information was collected. Mantel-Haenszel χ2 test and Pearson or Spearman correlation analysis were used to explore trends and correlation of timing of diagnosing HIV infection, ARV regimens, and MTCT rate.
RESULTS: A total of 378 mother-child pairs were included in this study. From 2004 to 2017, the MTCT rate showed a downward trend (P=0.014), and was 4.17% (95%CI: 0.52%-14.21%) from 2016 to 2017; the proportion of diagnoses before delivery showed an upward trend, while diagnoses during or after delivery both showed downward trends (P=0.000), and were accounted as 91.67%, 2.08% and 6.25% from 2016 to 2017, respectively; the proportion of those taking prenatal cART showed an

upward trend, while taking prenatal AZT alone, intrapartum single dosage ART or no ART all showed downward trends (P=0.000), and were accounted as 81.25%, 0%, 0% and 18.75% from 2016 to 2017, respectively. There was a negative correlation between MTCT rate and proportion of those diagnosing before conception and during first trimester (r=-0.811, P=0.027). While a positive correlation between MTCT rate and proportion of those postpartum diagnosis (r=0.869, P=0.011), and a positive correlation between MTCT rate and proportion of no ART in pregnant women (r=0.830, P=0.021) were revealed.

CONCLUSIONS: Although the prevention of MTCT had been gradually improved, there still has a lot of room for improvement. Diagnosing HIV-infected pregnant women as early as possible, and thus providing ART timely, will help to further reduce MTCT rate in the future.

EPIDEMIOLOGY OF HIV IN ADOLESCENTS

PEC0386

A CROSS SECTIONAL STUDY ON HIV-1 MOLECULAR EPIDEMIOLOGY IN NORTHEAST CHINA, 2010-2016

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BACKGROUND: Human immunodeficiency virus type 1 (HIV-1) was introduced into the Northeast China in the early 1990s, since then reported cases increased yearly. However, to date, none cross sectional study on the molecular epidemiology of HIV-1 infection in this area has been reported. This study aimed to describe the changes of the features of HIV-1 infections in Northeast China during 2010-2016.

METHODS: The blood samples were collected from antiretroviral treatment naïve patients who were first diagnosed as HIV-1 seropositive during 2010-2016 in Northeast China. HIV-1 genotype was identified by sequencing partial gag and env gene fragments and phylogenetic analyses. Patient information including age, sex, CD4 cell count and transmission route were also collected.

RESULTS: A total of 1006 patients were enrolled. Totally, CRF01_AE was the dominant HIV-1 genotype, followed by subtype B, C/BC, unique recombinant forms (URFs) and subtype A. Most infections were identified in patients aged 20-49 among men who have sex with men (MSM) population. Following events occurred during 2010-2016: 1) CRF01_AE and URF infections markedly expanded, while subtype B infections dramatically decreased; 2) the average age of patients decreased, because of the yearly increase of younger patients (aged 20-29) and decrease of older patients (aged = 50) in CRF01_AE group; 3) the average CD4 count increased yearly, due to the increased frequency of patients with CD4 counts more than 500 cell/μL in non-CRF01_AE group, especially in URF infected patients; 4) sexual transmission by MSM population increased, while transmission by heterosexual population decreased, which was mainly determined by CRF01_AE infected patients.

CONCLUSIONS: Rapid spread and expansion of CRF01_AE and URF viruses changed the HIV-1 epidemiologic features in Northeast China during 2010-2016. Timely molecular epidemiology surveillance on HIV-1 infections especially CRF01_AE and newly emerging URF infections was quite required for prevention and control of HIV-1 infection in this area.

PEC0387

ASSESSING THE ADOLESCENT VULNERABILITY INDEX: ASSOCIATIONS WITH HIV AND OTHER STIS AMONG YOUNG WOMEN IN ETHIOPIA

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BACKGROUND: Intersecting economic, structural, and biological factors have resulted in significant HIV risk heterogeneity among adolescent girls and young women (AGYW) across sub-Saharan Africa. To quantify risks and guide the implementation of HIV and sexually transmitted infection (STI) programs, we assess associations between HIV and STI and the Adolescent Vulnerability Index (AVI) among AGYW residing in two cites in Ethiopia.

METHODS: 1501 AGYW aged 15-24 years residing in Addis Ababa (n=800) and Gambella (n=701) between February 2018 and July 2019 were recruited using time-location sampling. Procedures included interviewer-administered behavioral surveys including the AVI as a scale previously used in Eastern Africa and biological testing for HIV, syphilis, and chlamydia. The AVI quantifies vulnerability based on answers given to 15 questions including social vulnerabilities and sexual practices with response scores ranging from 0-3. Risk strata are based on total scores including Low (0-10), Medium (11-21), High (22-31) and Very High (32-43) vulnerability. Logistic regression models were used to estimate the crude and adjusted odds of any STI associated with categories of vulnerability.

RESULTS: The median participant age was 20 years (IQR: 18-22), 947 (64%) were out-of-school, and overall 10% tested positive for chlamydia, syphilis, or HIV. Compared to AGYW scoring low on the vulnerability index, those with medium or higher index scores had greater odds of testing positive for any STI (medium OR: 1.27; 95% CI 0.85-1.91), high/very high OR: 3.42; 95%CI: 2.18-5.37). After adjusting for potential confounders, the association remained significant among AGYW with high/very high index scores (AdjOR: 2.52; 95%CI 1.49-4.29).

Vulnerability Index	N(%)	STI Prevalence	UnadjOR (95% CI)	AdjOR* (95%CI)
Low	582 (38.8)	42/582 (7.2%)	1.00	1.00
Medium	700 (46.6)	63/700 (9.0%)	1.27 (0.85-1.91)	1.13 (0.74-1.74)
High	219 (14.6)	46/219 (21.0%)	**3.42 (2.18-5.37)**	**2.53 (1.49-4.29)**

*Adjusted for age, social support, school attendance, mobility, physical violence, and location

[Table 1: Association between Adolescent vulnerability and any sexually transmitted infection among AGYW in Ethiopia]

CONCLUSIONS: The AVI demonstrates the intersection of social and sexual vulnerabilities among AGYW in Ethiopia and the heterogeneity in risk observed among young women. Our findings suggests the need for holistic and evidence-based responses that address individual and structural risk determinants to reduce the risk of HIV and STIs among AGYW in Ethiopia.

PEC0388

MORTALITY AMONG PERINATALLY HIV-INFECTED ADOLESCENTS (PHIVAS) RECEIVING ANTIRETROVIRAL TREATMENTS (ART): THE TEENS LIVING WITH ANTIRETROVIRALS (TEEWA) STUDY IN THAILAND

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BACKGROUND: There are limited data on the long-term mortality of APHIV receiving ART.
METHODS: TEEWA-1, a cross-sectional study conducted in 2010-2012, enrolled APHIV aged 12-19 years who ever initiated ART in 20 public hospitals across Thailand. Data on sociodemographic, clinical and ART history were collected. In 2018-2019, a repeat cross-sectional study (TEEWA-2) was conducted to ascertain the vital- and follow-up-status of APHIV enrolled in TEEWA-1. Mortality rates were estimated per 1000 person-years (PY), overall and by time-updated age. Patients were considered at risk from entry to the TEEWA-1 until last visit or death. Mortality predictors were explored using the Cox proportional hazard model. The study was approved by Chiang Mai University ethics committee.
RESULTS: Of 884 TEEWA-1 APHIV participants, 873 (99%) completed TEEWA-2. Their characteristics at entry to TEEWA-1 were: 55% females, median [IQR] age 14.6 years [13.2-16.3], 87% living with a family (13% in institutions), 53% double-orphans, 34% single-orphans; median age at ART initiation 9.3 years [7.2-11.5]; all were on ART (72.4% on first-line), 16.5% had viral load (VL) ≥1000 copies/mL; 7.9% had CD4 count <200 cells/mm3.
Overall, 102/873 (11.7%) participants had died, 139 (15.9%) were lost-to-follow-up and 632 (72.4%) were alive and in HIV care. Median time from entry to last visit/death was 6.7 years [5.9-7.7]. Among those who died, median age at death was 19.9 years [18.0-21.2]. Causes of death were available for 73/102 (72%) deaths; 88% were HIV-related (81% had discontinued ART) and 12% were accidents or suicide. Overall, the mortality incidence was 18.6 per 1000PY [95% CI, 15.0-22.2], and by time-updated age:11.6 [4.0-19.2] in 12-14 years, 13.8 [95%CI, 9.8-17.8] in 15-19 years and 33.3 [23.9-42.7] in ≥ 20 years.
Factors associated with mortality at entry to TEEWA-1: older age at ART start (adjusted hazard ratio [95% CI]: 1.08 [1.00;1.15] per year increase, p=0.030) ,VL ≥1000 copies/mL (2.78 [1.67;4.54], p<0.001), on second-line ART (2.44 [1.59;3.73], p<0.001), CD4 count <200 cells/mm3 (4.29 [2.38;7.73], p<0.001), and stunted (<-2 height-for-age-Z-score) (1.52 [1.02;2.29], p=0.042).
CONCLUSIONS: The incidence of mortality among ALHIV was high and increased with age as they entered late adolescence and young adulthood. Support strategies are critically needed to help ALHIV through this transition.

PEC0389

SEXUAL PARTNER TYPES OF ADOLESCENT BOYS AND YOUNG MEN IDENTIFIED THROUGH LATENT CLASS ANALYSIS (LCA) AND INCIDENT HIV-INFECTION IN RAKAI, UGANDA

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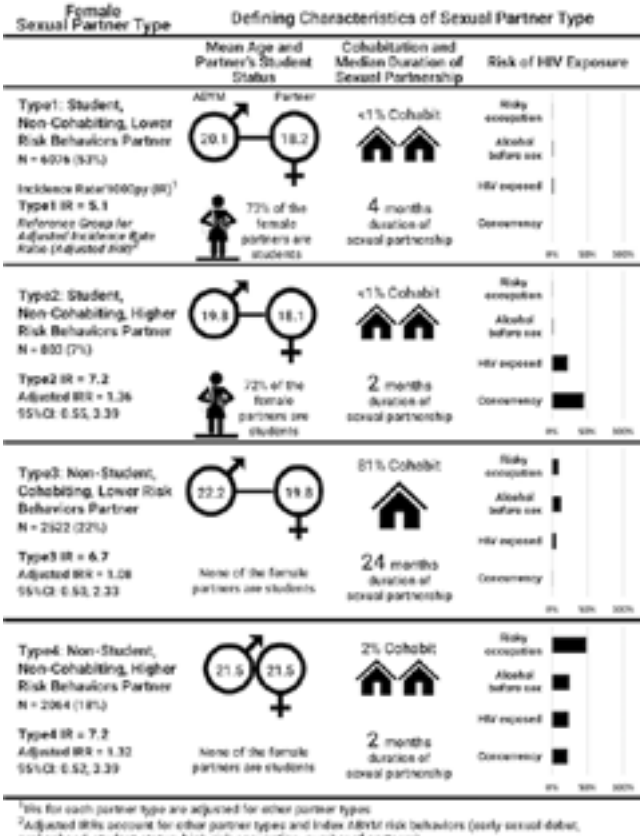
BACKGROUND: Sexual partner characteristics are important determinants of HIV risk, but little is known about partner types of sub-Saharan African adolescent boys and young men (ABYM). Using data from the Rakai Community Cohort Study (RCCS) we identified sexual partner types of ABYM and estimated HIV incidence associated with each type.
METHODS: We included sexually active ABYM aged 15-24 from five RCCS data-collection rounds (2005-2013). ABYM reported characteristics for up to four past-year female sexual partners (age, student, cohabiting, relationship duration, high-risk occupation, alcohol before sex, consistent condoms with this partner, and likelihood of partner having concurrent partners and HIV exposure). These characteristics were included in a latent class analysis (LCA) to identify partner types. HIV incidence rate ratios (IRR) for each type (relative to the lowest risk type) were estimated using Poisson regression with GEE to account for multiple observations, adjusting for each ABYM's other partner types and his own risk characteristics.



[Figure]

RESULTS: Among 11,465 partner reports by 4,812 ABYM over five data-collection rounds, men had 1.6 mean partners/round. Four female partner types were identified (see figure on previous page). Two student partner types—with lower risk-behaviors (Type1) and higher risk-behaviors (Type2)—accounted for 52% and 7% of partners, respectively. Two non-student partner types—cohabiting lower risk-behavior partners (Type3) and non-cohabiting higher risk-behavior partners (Type4) accounted for 22% and 18% of partners, respectively. Estimates of partner-specific incidence in the analysis dataset (N=2213 partner-reports, 4066 person-years) was lowest for Type1 and higher for other partner types, but adjusted IRRs relative to Type1 were small and not statistically significant (Figure).

CONCLUSIONS: Among ABYM in Rakai, the most frequent female partner type was a student with lower risk behaviors, but ~30% had partners with higher risk profiles. As ABYM age, it will be important to determine if these higher-risk partner types are associated with elevated incidence.

PEC0390

PROJECTING CHANGES IN AIDS MORTALITY AND HIV INCIDENCE AMONG ADOLESCENTS AND YOUNG PEOPLE IN NIGERIA

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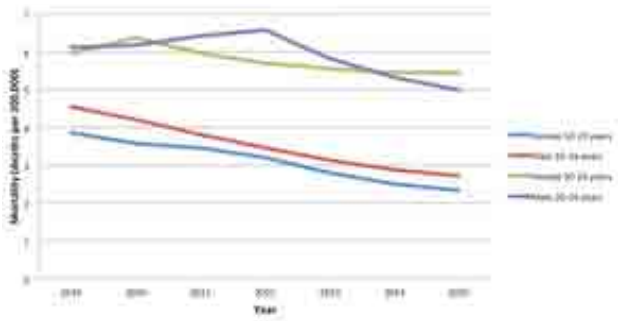
BACKGROUND: Nigeria is not on track to meet its Fast-Track targets for reduction in new HIV infection and AIDS-related deaths. Females bear more of the burden with higher incidence rates. In 2018, young women aged 20-24 years were estimated to have four times higher HIV prevalence than male peers. This paper examines the projected changes in AIDS mortality and HIV incidence among adolescents and young people aged 10-24 years between 2019 and 2020.

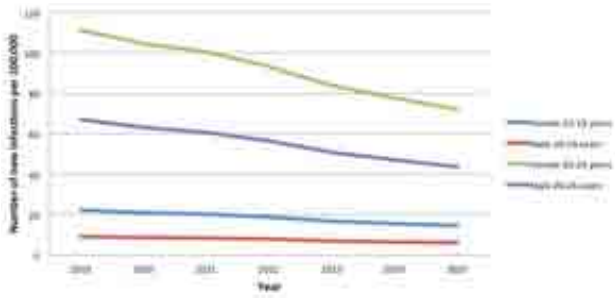
METHODS: Nigeria data on Annual AIDS-related deaths and new HIV infection was extracted from the 2019 EPP/Spectrum files. AIDS mortality rates and HIV incidence rates were compared between male and female adolescents 10-19 years and young people 20 -24 years.

RESULTS: AIDS mortality and HIV incidence are higher among those aged 20-24 years than among adolescents.



[Figure. Projected annual AIDS-related deaths among 10-24 year olds in Nigeria]

Over the six years, AIDS mortality is projected to decrease at a faster annual rate among adolescent girls and boys (females 8.0%; males 8.2%). The rate of decline is much slower among those aged 20-24 years. A marked difference is seen between the sexes; males 3.3% from 6.1 to 5.0 deaths per 100,000 and only 1.4% among females from 6.0 to 5.5 deaths per 100,000.



[Figure. Projected annual new HIV infections among 10-24 year olds in Nigeria]

HIV incidence is projected to be over 2.5 times higher among adolescent girls than boys. HIV incidence declined over the period at similar annual rates; adolescent girls-6.7% and boys-6.6% and young women-7.0% and men-6.9%.

CONCLUSIONS: HIV programming for young people should take into consideration the varying dynamics between age groups and between the sexes and address consequent risks and vulnerabilities.

PEC0391

"HOW COME THEY DON'T TALK ABOUT IT IN SCHOOL?" IDENTIFYING ADOLESCENT BARRIERS TO PREP

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BACKGROUND: Pre-exposure prophylaxis (PrEP) was approved for minors in May 2018, however, uptake has been slow. To address the lack of research on adolescents and PrEP, we conducted a qualitative study to explore at-risk adolescents' knowledge about PrEP, barriers to accessing it, and their receptivity to receiving it.

METHODS: 30 in-depth interviews were conducted with Black and Hispanic/Latino HIV-negative, sexually active youth ages 15-17, recruited from four school-based health centers in the Bronx, NY (12 males, 18 females). Inductive and deductive data analysis was conducted with Dedoose.

RESULTS: 28 of 30 youth were unaware of PrEP, and wondered why there was no PrEP education. After a short explanation, almost all (n=28) were enthusiastic about its availability.

However, multiple barriers to PrEP use were identified. *Structural/Access* barriers included failure of providers to educate about PrEP and HIV prevention with youth (n=27), concern that parents will "hinder their sex lives" (n=14), cost/insurance concerns (n=8), and the need to travel to obtain PrEP (n=4). *Patient-level* concerns were an acknowledged inability to adhere to a daily medication (n=14), negative self-perceptions ("I'm not ready to deal with the embarrassment of being on PrEP") (n=8), and concerns about side effects (n=4).

Students were willing to access PrEP at a school clinic (n=22) or from their primary doctor (n=20). Students emphasized the importance of confidential services (n=22), stressing that when something is "leaked towards their parents" they are likely to "never talk to a doctor again." Few valued PrEP for covert use from their partner. Results were consistent for both genders and ethnic groups except for adherence, which more females identified as a barrier (female n=11, male n=3).

CONCLUSIONS: Effective implementation efforts are needed to address adolescent barriers to PrEP. School-based health centers are a strategic site for PrEP provision in the US because they provide confidential and accessible health services at no cost. School-based PrEP education could address the knowledge gap of PrEP, concerns about side effects, and negative self-perceptions.
However, as long as PrEP requires patient adherence to pill-taking, it may be ill suited for many adolescents who are "really not a pill taker".

EPIDEMIOLOGY OF HIV IN WOMEN

PEC0392

PREVALENCE OF STIS, SEXUAL PRACTICES, AND CONTRACEPTION USE AMONG 2083 SEXUALLY ACTIVE WOMEN IN LEBANON

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BACKGROUND: Women residing in Lebanon are reluctant to seek sexual health services for fear of being stigmatized. With no sexual health education, and evidence of stigma in healthcare, women in Lebanon, especially unmarried, are exposed to unwanted pregnancies and sexually transmitted infections (STIs). The aim was to assess rates of STIs, sexual practices, and contraception-use among unmarried sexually active women in Lebanon.
METHODS: An anonymous standardized questionnaire was administered by a healthcare provider to 2083 sexually active women who presented to a sexual-health clinic in Lebanon between 2015 and 2019. Demographics, substance-use, contraception-use, and sexual practices were collected. HIV, HBV, HCV, and syphilis status were evaluated through rapid testing. Presence of genital warts (indicative of HPV) and symptoms of an STI such as gonorrhea, chlamydia, ureaplasma or mycoplasma (dysuria, and/or excessive/foul-smelling discharge) were identified through a clinical exam. Determinants of condom-use, unwanted pregnancies, and symptoms of an STI were assessed using regression models.
RESULTS: The mean age was 27.8(SD: 5), the majority were heterosexual (85%) and unmarried (>85%). There was one case each of HIV, HBV, and syphilis and no cases of HCV. Genital warts were present in 14.7% and symptoms of an STI in 23.5%. Condomless oral, vaginal and anal sex were reported among 95%, 83% and 8% respectively; 41% had ≥2 partners; 38% did not use contraception; 32% had used emergency contraception; 9% had an unwanted pregnancy. Recreational drug use was reported by 44% consisting mainly of cannabis (68%). Inconsistent condom-use was associated with having sexual-health education from unreliable sources such as porn or peers, (p=0.02,adjOR= 1.5), and using natural contraception methods (withdrawal/calendar rhythm) (p=0.008,adjOR= 3.4). Having unwanted pregnancies was associated with older age (p<0.001,adjOR= 1.2), and drug-use (p=0.001,adjOR=1.8). Having symptoms of an STI was associated with condomless vaginal sex (p=0.03,adjOR=2).
CONCLUSIONS: This study is unique in Lebanon and the MENA region. The findings indicate an urgent need to support women in Lebanon, through sexual-health education and nationwide campaigns on prevention and contraception, to become informed and proactive in decisions concerning their sexual health. Additionally, it is essential to subsidize the price of the HPV vaccine to decrease the rate of HPV transmission.

PEC0393

LOGISTICAL CHALLENGES OF DATA COLLECTION IN INVESTIGATION OF MATERNAL DOLUTEGRAVIR USE AND NEURAL TUBE DEFECT RISK: THE BRAZILIAN EXPERIENCE

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BACKGROUND: On May 2018, the World Health Organization(WHO) issued an alert of a potential neural tube defect(NTD) risk in infants born to women living with HIV(WLHIV) exposed to dolutegravir at conception. We aim to describe challenges of the investigation of NTD among women dolutegravir-exposed at conception in Brazil, initiated immediately after the alert.
DESCRIPTION: We identified 3,344 pregnant WLHIV exposured in the conception period to Dolutegravir, Raltegravir or Efavirenz(within a ratio 3Efavirenz:1Dolutegravir, all on Raltegravir) between January 2015-May 2018, distributed in 429 municipalities, using the national antiretroviral dispensation system. Among those, all WLHIV potentially DTG-exposed(n=490). Standardized data collection was performed using REDCap by 70 local, trained reviewers and overseen by four regional supervisors. Each reviewer was assigned approximately 30 cases(range 4-50) considering distances and transportation challenges. For each case, reviewers visited multiple services(antenatal/HIV care, maternity centers) by air, land or river to complete data collection. Reviewers had weekly goals established by the central team in the Brazilian MoH(BMoH), who monitored study progression by weekly virtual conferences. Considered a public health emergency, the National Ethical Committee provided special authorization for only medical record review.
LESSONS LEARNED: The most difficult challenges were access to medical records, missing information, logistical, and geographical barriers(especially in remote areas). Monitoring reviewer progress in different locations concomitantly throughout the country was also challenging. To overcome these difficulties, reviewers were encouraged to investigate the path WLHIV had taken in health services, even if it meant an individual and logistical effort to overcome geographical and political barriers. The REDCap mobile app with online/offline access and easy synchronization facilitated data collection, since many sites had no internet access, and there was no need to use paper, which made data recording safer. Collaboration between different political layers were necessary to overcome political and local barriers.
CONCLUSIONS/NEXT STEPS A well-designed investigation allowed us to obtain reliable urgent information in a large continental country as a response to a WHO alert. It also highlighted the importance of establishing continuous active pharmacovigilance on the effect

of antiretroviral drugs on WLHIV's life cycle. As a result, BMoH is implementing country wide pharmacovigilance to monitor pregnancy outcomes of WLHIV on antiretroviral.

PEC0394

VIRAL SUPPRESSION AND CONTRACEPTIVE USE AMONG WOMEN INITIATING DOLUTEGRAVIR-CONTAINING ANTIRETROVIRAL THERAPY IN KENYA: THE CHAGUO LANGU STUDY

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BACKGROUND: The WHO currently recommends dolutegravir (DTG) as a preferred first- and second-line antiretroviral therapy (ART) agent for women living with HIV (WLHIV). In 2017, Kenya was among the first countries in sub-Saharan Africa (sSA) to adopt DTG. Following the reported association between DTG and neural tube defects (NTDs) in May 2018, the Kenya National AIDS and STI Control Programme recommended that DTG use be restricted for reproductive-age women to only those using effective contraception. Empiric data examining contraceptive use and viral suppression (VS) among WLHIV following DTG initiation in sSA are lacking.

METHODS: We analyzed medical records of WLHIV 15-49 years of age initiating DTG-containing ART at the Academic Model Providing Access to Healthcare in Kenya from October 2017 to April 2019. We used descriptive statistics to evaluate: (1) use of any contraception or highly effective contraception (i.e. implants, intrauterine devices, injectables, or surgical methods) by 90 days post-DTG initiation; and (2) proportions remaining on or switching off DTG during follow-up. Chi-square analysis was used to compare VS among women who remained on DTG vs. switched to a non-nucleoside reverse transcriptase inhibitor (NNRTI), using the first available viral load within 12 months of DTG initiation or switch.

RESULTS: Among 9053 women who initiated DTG-containing ART, the median (IQR) age at DTG initiation was 44 (40-47) years, 7% initiated DTG as part of their initial regimen and 93% transitioned to DTG from another regimen (95% from an NNRTI). Only 20% of women were documented to be using any form of contraception and 14% were using highly effective contraception after DTG initiation. During follow-up, 89% of women remained on DTG, 10% switched to an NNRTI and 1% to a protease inhibitor. VS was 95% in both the DTG and NNRTI groups (p=0.92), with a median time to viral load tested of 98 (84-128) and 103 (56-182) days, respectively.

CONCLUSIONS: VS was high but effective contraceptive use was low among WLHIV on DTG, and most women remained on DTG despite national and WHO warnings about NTD risk. These findings illustrate the challenge of implementing complex interim guidelines at a large, public-sector HIV treatment program in sSA.

PEC0395

THE IMPACT OF GENDER ON VIROLOGICAL AND IMMUNOLOGICAL OUTCOMES IN PEOPLE LIVING WITH HIV IN GUATEMALA

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BACKGROUND: Guatemala has the second highest gender inequality rate in Central America and one third of persons living with HIV (PLWH) are women. We aimed to analyze how gender influences outcomes in PLWH in Guatemala considering sociodemographic determinants.

METHODS: Data from PLWH enrolled in a prospective cohort between July-Dec 2019 at a large Infectious Diseases Clinic in Guatemala City were analyzed. We included adults (age ≥18 years) with ≥6 months of follow up since antiretroviral therapy (ART) initiation. Demographic, clinical and outcome data were compared based on gender. Significant variables found in the univariate analysis (p<0.2) were included in the multivariate logistic regression model. Outcomes evaluated were viral load (VL) suppression (<50 copies/ml) and CD4 count >500 cells/mm3.

RESULTS: Of 613 patients analyzed, 46% were women and 74.6% were late presenters at diagnosis with a median CD4 count of 190 cells/mm3 (IQR 61-351) and baseline VL of 50,150 copies/ml (IQR 111,79-192,217). Baseline characteristics by gender are summarized in table 1. 473 (77.9%) PLWH were virally suppressed with no significant difference between gender (women 80.8% vs men 75.5%, p=0.11). CD4 counts >500 cells/mm3 were more frequently achieved in women compared to men (54.3% vs 37.2%, p<0.001). In the multivariate analysis adjusted for sexual preference, level of education, language, late presenter, aids defining illness, drug use, sexually transmitted disease and employment status, female gender was significantly associated with higher odds of having normal CD4 count (OR 3.38, 95% CI 2.06-5.4; p<0.001), but not associated with the likelihood of being virally suppressed (OR 1.34, 95% CI 0.81-2.2; p=0.25).

	Men (n=331)	Women (n=282)	P-value
Age at diagnosis (median, IQR)	30 (25-38)	30 (24-39)	0.97
Indigenous ethnicity (N, %)	43 (13)	38 (13.5)	0.86
High school education or higher (N, %)	161 (48.6)	62 (22)	<0.001
Low income* (N, %)	179 (68.3)	136 (92.5)	<0.001
Employed (N, %)	272 (82.2)	144 (51.1)	<0.001
AIDS defining illness (N, %)	120 (36.3)	85 (30.1)	0.11
Baseline CD4 count (median, IQR)	172 (44.0-332.5)	198 (91.50-372.0)	0.005
Baseline viral load (median, IQR)	69,932 (15,428-230,817)	34,985 (7,596-132,592)	0.002
*below Q,3,543.44 quetzales (475 US$)			

[Table 1. Baseline characteristics]

CONCLUSIONS: In our cohort, gender was not a determinant of virologic suppression. After adjusting for late presentation, women achieved higher CD4 counts when on ART. Further follow-up is required to understand the impact of the higher CD4 counts observed in women on other health outcomes in this cohort.

EPIDEMIOLOGY OF HIV IN OTHER KEY VULNERABLE POPULATIONS (E.G., PEOPLE WHO INJECT DRUGS, WOMEN, TRANSGENDER WOMEN, SEX WORKERS, PRISON POPULATIONS, OLDER GROUPS)

PEC0396

LOW UPTAKE OF PREP IN ELIGIBLE YOUNG WOMEN AGED 20-24 YEARS IN MAZOWE, ZIMBABWE

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BACKGROUND: Young women (YW) have a substantial risk for HIV infection in Zimbabwe as one out of five new HIV infections is found in this age group. Given this high risk of infection, YW are a key group in which PrEP has to be initiated. Asymptomatic screening of YW for sexually transmitted infections (STIs) is not the standard of care in Zimbabwe.The aim of this study was to use an HIV risk assessment tool adapted from iTECH to screen YW for PrEP eligibility and assess the number of women willing to initiate PrEP.

METHODS: We recruited a prospective cohort of YW aged 20-24 years in Mazowe, Zimbabwe. Eligible women were PrEP naïve, sexually active or had reported a one-lifetime sexual partner. Between January to September 2019, the women were followed up every three months. During each visit, the women received an STI test and were screened with the tool. Women were offered PrEP based on their assessment score. We used descriptive analysis to characterise this cohort.

RESULTS: We enrolled 284 YW, median age with a median age of 21.2 years. A number of 128 YW were found to be eligible for PrEP for the following reasons: (14%) had a current STI, (35%) reported inconsistent or no condom use (40%) reported sex partner of unknown HIV status and (11%) reported other reasons. Median years of education for the eligible was 15 years. Only (14%) of the YW who were offered PrEP, accepted it. The acceptance rate appeared higher in those with current STI (27%) and the least in those eligible for other reasons (13%). The main reason for the YW decline of PrEP was because they could not take a daily pill.

CONCLUSIONS: In a cohort of YW with access to targeted PrEP services after testing positive for an STI, PrEP acceptance was low. Specific evidence of their own high HIV risk, coupled with low- barrier access to PrEP, did not translate into PrEP uptake among these YW. Specific and targeted research of PrEP uptake reluctance in YW is needed. Risk awareness and knowledge, does not result in high PrEP uptake in this cohort.

PEC0397

HIV TREATMENT OUTCOMES AMONG PEOPLE WHO INJECT DRUGS IN THE ASIA-PACIFIC: AN OBSERVATIONAL STUDY

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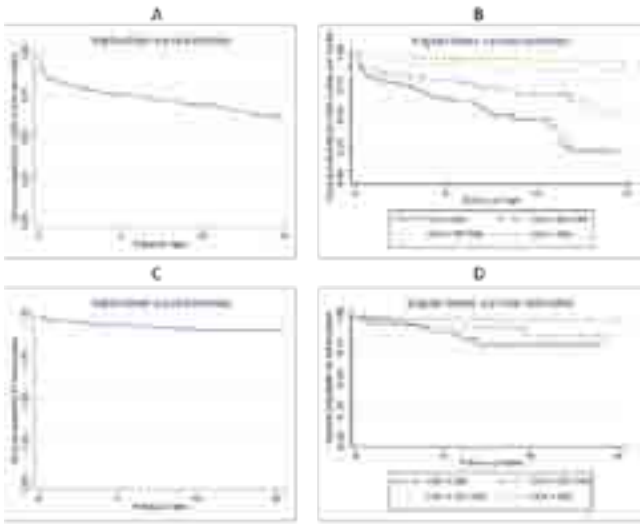
BACKGROUND: We assessed long-term immunologic and virologic responses, incidence of AIDS-defining events, tuberculosis and mortality among people who inject drugs (PWID) receiving combined antiretroviral therapy(cART) in Asian settings.

METHODS: TAHOD is a regional cohort study of adults living with HIV under care at 21 HIV clinical sites in the Asia-Pacific. CD4 count and viral load suppression(VLS) trends among any TAHOD participants reporting injecting drug use as HIV exposure were assessed. VLS was defined as HIV viral load <1,000 copies/mL. Factors associated with mean CD4 changes and combined AIDS-defining events and deaths were analyzed using repeated measures linear regression and survival analysis.

RESULTS: Of 622 PWID included, 93% were male, and median age at ART initiation was 31 years and median pre-cART CD4 count was 71 cells/μL. CD4 counts increased over time, with a median difference of 401(95%CI,372-457) cells/μL at year-10 post ART initiation(n=78). In a multivariable model, current HIV viral load ≤400 copies/mL(vs. >400 copies/mL) and pre-ART CD4 >200 cells/uL(vs. <200 cells/uL) were associated with higher mean CD4 count. Among 361 PWID with >1 viral load measurement after 6 months of treatment, post-cART VLS was 82%(115/140) at 2 years, 88%(82/93) 5 years and 93%(63/68) at 10 years. There were 102 AIDS-defining events(n=52) and deaths(n=50) during 3347 person-years(PYS) of follow-up (incidence 3.05 [95%CI, 2.51 to 3.70] per 100PYS; Figure).

Thirty-five incident TB cases occurred (1.01 [95% CI, 0.73-1.41] per 100PYS). In a multivariable model, previous AIDS diagnosis, lower CD4 counts and cART adherence <95% were independently associated with incidence of new AIDS-defining events and deaths.

CONCLUSIONS: Despite improved immunologic outcomes among PWID over time, findings from this study support the need for further improvements in earlier cART initiation, and improved ART monitoring and adherence support among PWID in HIV care settings in the Asia-Pacific.



A total of 622 PWID included in the study analysis were recruited from 22 sites in Cambodia, China, Hong Kong SAR, India, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam. Site-stratified survival graphs for A) overall AIDS-defining events/deaths, B) AIDS-defining events/deaths by CD4 group, C) overall tuberculosis, and D) tuberculosis by CD4 group among PWID. Survival estimates of AIDS events/deaths and tuberculosis were stratified by time-updated CD4 covars in graphs B and D.

[Table]

PEC0398

A NATIONAL SURVEY OF HIV PREVALENCE, CONTINUUM OF CARE AND HIV DRUG RESISTANCE AMONGST FEMALE SEX WORKERS IN SOUTH AFRICA

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BACKGROUND: HIV prevalence in female sex workers (FSWs) in South Africa (SA) is uncertain, reported between 40-90%. It is therefore crucial to have up-to-date and national information on the HIV cascade of care in FSWs to target interventions. Additionally, rising HIV drug resistance (HIVDR) poses a threat to antiretroviral treatment (ART); recent population level surveillance suggests 27% of virally unsuppressed individuals in SA have evidence of HIVDR. This study aimed to describe HIV prevalence, continuum of care, and drug resistance amongst FSWs in SA.

METHODS: We conducted a cross-sectional, national survey of 3005 FSWs between February – July 2019. Twelve randomly selected sites, across all nine provinces of SA were included. Within sites, sex work hotspots were randomly selected and chain-referral recruitment of FSWs took place at each hotspot. Peer interviewers administered a questionnaire including HIV testing and treatment history, then nurses recorded additional clinical history, conducted HIV rapid testing, and took blood specimens for viral load and HIV drug resistance.

RESULTS: 61.2% (1840/3005) of FSWs tested HIV positive. 89.2% (1641/1840) were known positive, 82.6% (1355/1641) of these reported currently taking ART, and 70.5% (955/1355) on ART were virally suppressed (viral load < 1000 copies/ml). Among participants successfully genotyped (viral load > 400 copies/ml), 64.6% (431/667) had evidence of HIVDR, including 77.8% (330/424) in those ART-exposed and 41.6% (101/243) in those ART-naïve. Mutations selecting resistance to non-nucleoside reverse transcriptase inhibitors (NNRTIs) was the leading finding in 98% of those with HIVDR.

CONCLUSIONS: FSWs remain highly vulnerable to HIV infection. Progress has been made in scaling up diagnosis and treatment amongst FSWs, which bodes well for UNAIDS 90:90:90 targets, but there is no room for complacency. To successfully achieve these targets, virologic failure and thus adherence need to be urgently addressed. Of concern, HIVDR is substantially higher in virally unsuppressed FSWs than in the general population (65% v 27%), and is also present at high levels in ART-naïve FSWs, suggesting both acquired and transmitted resistance. Innovative approaches to improve adherence amongst FSWs, and proactive viral load monitoring are needed. Our data additionally supports the introduction of dolutegravir-containing ART.

PEC0399

BEYOND OVERDOSE: COMPARING DRUG-RELATED DEATHS IN PEOPLE WITH AND WITHOUT HIV IN SAN FRANCISCO

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BACKGROUND: Reducing mortality among people living with HIV (PLWHIV) remains a challenge, with the proportion of San Francisco county deaths increasing in PLWHIV who use drugs. However, there are few studies that investigate specific causes of death beyond overdose (ie. infection) that may disproportionately affect PLWHIV. Our objective was to evaluate whether there are certain characteristics of drug-related deaths that differ in those with and without HIV in order to inform targeted drug-related death prevention efforts.

METHODS: We identified 7,056 drug-related deaths in San Francisco county from 2007 – 2018 using a programmatic query of the California Electronic Death Reporting System. Decedents were included if over age 13, and 292 decedents were excluded given death found not to be due to illicit drugs. We performed Chi-squared and Fisher's exact tests to describe characteristics of decedents with and without HIV, followed by multivariable logistic regression to evaluate the relationship between drug-related death involving an infection and HIV status, adjusting for age, sex, and race-ethnicity.

RESULTS: Between 2007 and 2018 in San Francisco county, 223 PLWHIV died related to drugs, and 6,541 people without HIV died related to drugs. Drug-related deaths among those with HIV were more likely to involve methamphetamine (21% vs. 13% in those without HIV, p<0.01); less likely to involve alcohol (26% vs. 46%, p<0.01); and equally likely to involve any opioid (26% in both groups, p=0.98) or cocaine (22% vs. 19%, p=0.26). Both groups had a similar proportion of deaths due to overdose (38% in HIV vs. 37% without HIV, p=0.93) and non-infectious medical cause of death (37% vs. 38%, p=0.76). However, 26% of drug-related deaths in those with HIV involved an acute infection vs. 8% in decedents without known HIV (p=<0.01). In our multivariable model, decedents with HIV had notably increased odds of acute infection involved in drug-related death (OR 5.58, 95% CI 4.02 – 7.74).

CONCLUSIONS: Decedents with HIV had over five-fold increased odds of having a drug-related death involving an infection compared to decedents without HIV. Targeted efforts to combat mortality in PLWHIV should include infection prevention efforts, such as harm reduction practices and vaccination, as well as overdose prevention.

PEC0400

FACTORS ASSOCIATED WITH HIV POSITIVITY AMONG PARTNERS OF HIV-DIAGNOSED PERSONS IN THE UNITED STATES, 2013-2017

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BACKGROUND: Partner services (PS) programs assist HIV-positive persons (index persons) in notifying their sexual and/or needle-sharing partners (partners) of possible exposure to HIV, offering them HIV testing, and linking them to HIV prevention and care services. Data from PS programs that examine the predictors of HIV testing outcomes among partners of HIV-diagnosed persons are limited. This analysis examines associations between demographic and behavioral risk characteristics of index persons and partners and HIV positivity among partners in CDC-funded health departments.

METHODS: We used PS data reported by 60 state and local health departments during 2013-2017. The analytic sample consisted of 86,758 partners who were matched to an index person. We assessed the relationship between partner's HIV positivity with partner and index person demographic characteristics (age, race/ethnicity, and region) and partner–index couple risk characteristics (injection drug use, sex without condom in past 12 months, and male with male partnerships). Adjusted prevalence ratios (aPRs) and 95% confidence intervals (CIs) were used to interpret the results.

RESULTS: A total of 43,420 (50%) partners were tested for HIV, and 7,784 (17.9%) were newly diagnosed with HIV infection. Newly diagnosed HIV positivity was higher among partners aged 13-24 (aPR=0.90, 95% CI=0.84–0.97) than it was among those aged 25-34. Partners named by older index persons (age >=45; aPR=1.20, 95% CI%=1.06-1.36) were more likely to be diagnosed with HIV infection than those named by younger index persons (age 13-24). Partners in the Midwest (aPR=3.27, 95% CI=2.82–3.80) and the South (aPR=2.17, 95% CI=1.96–2.42) were more likely and those in the West (aPR=0.71, 95% CI=0.62–0.80) were less likely to be newly diagnosed with HIV infection compared to those in the Northeast. HIV diagnosis among partners was more likely if both index persons and partners reported unprotected sex (aPR=1.79, 95% CI=1.39–2.30), injection drug use (aPR=1.97, 95% CI=1.78–2.17), or male gender ((aPR=1.15, 95% CI=1.07–1.23).

CONCLUSIONS: HIV positivity among partners was high and associated with demographic and behavioral risk characteristics shared with index persons. Efforts to improve PS programs should include increasing coverage of testing services prioritized to at-risk partners.

PEC0401

SEXUAL PRACTICES, CONTRACEPTION METHODS, AND SELF-REPORTED UROGENITAL SYMPTOMS AMONG 116 REFUGEE WOMEN IN BEIRUT LEBANON

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BACKGROUND: Women refugees in Lebanon face stigma and have limited access to sexual and reproductive health services increasing their risk of sexually transmitted infections (STIs) and unwanted pregnancies. Since abortions are illegal in Lebanon, unwanted pregnancies could prompt women to seek unsafe alternatives,thus compromising their health. The aim of this study was to assess sexual practices, self-reported urogenital symptoms, and prevalence of HIV, HBV, HCV, and syphilis among women visiting a community-led organization in a refugee camp in Beirut, Lebanon.

METHODS: An anonymous questionnaire on methods of contraception, and self-reported symptoms, was administered by a healthcare provider to 116 women who presented to an organization in the Burj El-Barajneh camp between August and December 2019. The presence of HIV, HBV, HCV and syphilis were detected using rapid tests. The presence of candida, bacterial vaginosis, or STIs were detected through clinical diagnosis.

RESULTS: The median age was 33.5 years (range: 15-75). The majority reported unreliable sources of sexual-health education such as peers and/or partners (78%), being married (72.5%), and having low condom-use (83%). The average age of first intercourse was 18 years with 34% being under 18 during first intercourse. Contraception methods were: natural methods (withdrawal/calendar rhythm) (48%), intrauterine device (28.5%), condoms (13%), oral contraceptive pills (7%), and hormonal implants (3.5%). Data on unwanted pregnancies were not collected to avoid reporting bias due to conservative context. Urogenital symptoms (reported by 47%) were: vaginal irritation (14%), pelvic pain (3.5%), excessive/foul-smelling discharge (8%), excessive menstrual bleeding (4%), dysuria (2%), or multiple symptoms (15.5%). The majority never underwent a pap-smear (84%). There were no cases of HIV, HCV, HBV, or syphilis. Yeast infections were diagnosed among 20%, urininary tract infections among 9.5%, bacterial vaginosis among 3.5%, and one suspected case of STI (such as gonorrhea, chlamydia, ureaplasma, or mycoplasma).

CONCLUSIONS: The findings show that refugee women are in need of accessible, and comprehensive sexual-health services.The high rate of yeast infections could also indicate poor quality of water at the camp. Furthermore, there is an imminent need for education on, and access to, effective methods of contraception in order to prevent unwanted pregnancies.

PEC0402

DATA FROM FIRST DISAGGREGATED STUDY SHOWS HIGH HIV PREVALENCE AMONG TRANS WOMEN IN NEPAL

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BACKGROUND: In low- and middle-income countries, trans women have 37 times greater odds of having HIV than men and 77.5 times greater odds compared to cisgender women. Nepal is a low-income country with an HIV epidemic concentrated among key populations at risk of HIV. To date, trans women have been aggregated with other populations, like MSM, in HIV sero-prevalance surveys, making it difficult to determine the impact of HIV on trans women and preventing targeted intervention approaches. We conducted the first disaggregated study of HIV among trans women in Nepal.

METHODS: Our study was implemented in in 2019. We used respondent driven sampling to recruit a diverse population-based sample of trans women from Kathmandu Valley, Nepal. We used RDS analyst to determine the HIV point estimate and used the weighted database to determine factors associated with HIV using Stata.

RESULTS: A total of 200 trans women were recruited over a 6-month period. The RDS-weighted HIV prevalence among trans women in Nepal was 10%. Factors associated with having HIV were younger age (OR 4.8 for 18-24 year old participants compared to >24 year olds; 95% CI 1.52-15.39) and having never used hormones (OR 11.4, 95% CI 1.64-79.15) (Table 1). Those who had socially transitioned as trans women had lower odds of having HIV (OR 0.29; 95% CI 0.08-0.98).

CONCLUSIONS: The HIV prevalence among trans women in Kathmandu, Nepal was higher than in any other key population in the country. HIV risk may be most affected by low access to trans medical care and the ability to medically and socially transition. Surprisingly, younger people were more affected by HIV pointing to the need for early interventions with young trans women in Nepal. Prevention efforts in Nepal will also need to address stigma and gender-related social and medical needs in tailored approaches to the HIV response for trans women in country. Future behavioral surveillance efforts are needed to monitor and address the specific needs of trans women that are different from populations with which they are often combined.

PEC0403

EFFECT OF EARLY HIV DIAGNOSIS ON LIFE EXPECTANCY OF PEOPLE WHO INJECT DRUGS (PWID) LIVING WITH HIV IN TAIWAN: A NATIONWIDE POPULATION-BASED COHORT STUDY

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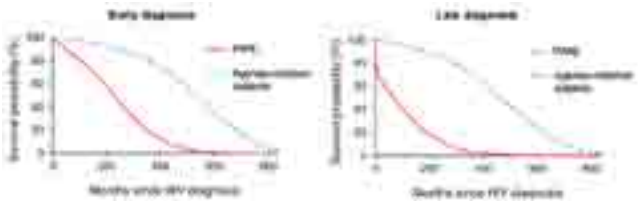
BACKGROUND: People who inject drugs (PWID) are at high risk of premature death. The benefit of early HIV diagnosis in this key vulnerable population remains controversial due to lack of correcting for lead-time bias in previous studies. We aim to measure the unbiased effect of early HIV diagnosis on life expectancy.

METHODS: This is a nationwide population-based cohort study, involving all PWID living with HIV in Taiwan diagnosed during 2005 to 2014. To correct for lead-time bias, we measure the impact of early (before the onset of AIDS) versus late (at the onset of AIDS) HIV diagnosis on life expectancy loss relative to age/sex-matched subjects from general population. To estimate the life expectancy of PWID living with HIV, we extrapolated 10 years survival curves using a constant excess hazard model. We use multivariable Cox model to evaluate the effect of early HIV diagnosis on cause-specific mortality.

RESULTS: Compared with age/sex-matched reference population, early diagnosed PWIDs (n=5,924) lost 23.4 (±0.6) years while late diagnosed PWIDs (n=108) lost 29.4 (±2.5) years in life expectancy (Figure). Early HIV diagnosis is associated with a reduction of life expectancy loss by 6.0 (±2.6) years. After adjusting for age and other confounders, early HIV diagnosis is associated with significantly lower risk for all-cause mortality (adjusted hazard ratio [aHR]: 0.42, 95%CI: 0.31-0.57) and HIV/AIDS-related mortality (aHR: 0.10, 95%CI: 0.05-0.20). There is also a trend towards lower non-HIV-related mortality (p=0.14) (Table).

CONCLUSIONS: Early HIV diagnosis is associated with improved survival of PWID living with HIV, with a net life expectancy gain of six years after correcting for lead-time bias.



[Figure. Predicted 70 years survival curves]

	All-cause		HIV-related		Non-HIV-related	
Variables	aHR (95%CI)	P	aHR (95%CI)	P	aHR (95%CI)	P
Early vs Late HIV diagnosis	0.42 (0.31-0.57)	<.001	0.10 (0.05-0.20)	<.001	0.69 (0.43-1.14)	0.146
Age at diagnosis	1.05 (1.04-1.06)	<.001	1.07 (1.04-1.09)	<.001	1.05 (1.04-1.06)	<.001
Male vs Female	1.39 (1.14-1.69)	0.001	1.64 (0.75-3.60)	0.213	1.34 (1.06-1.70)	0.015

[Table. Adjusted hazard ratios of mortality among PWID living with HIV (also adjusted for marriage status, diagnosed when stay in criminal justice system, and diagnosed in 2007 or after)]

PEC0404

HIV RISK FACTORS AMONG PRISONERS IN NIGERIA CORRECTIONAL HOMES

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BACKGROUND: Prisoners in Nigeria correctional homes or prisons are vulnerable to HIV and other sexually transmitted infections as a result of incarceration, limited prevention programs, poor health care and living conditions. Little is known about the current HIV burden among prisoners in Nigeria and their risk factors. The 2018 Nigeria population-based survey showed HIV prevalence in the general population was 1.3%. The Government of Nigeria in collaboration with UNODC commissioned the national assessment of HIV/AIDS and health services situational study in correctional homes to estimate the burden of HIV infection among prisoners. This study assessed the risk factors associated with HIV among prisoners in Nigeria.

METHODS: Secondary analysis of data collected among 2,511 prisoners in 2019 was done. This was a cross-sectional study undertaken in eleven correctional homes across the six Nigerian geopolitical zones. Structured questionnaire was used to collect sexual, behavioral and reproductive health information. HIV biomarker was collected to ascertain their HIV status. Multiple logistic regression was used to assess their HIV risk.

RESULTS: The mean age was 32.3±10.8years. The highest age group was 25-35years (51.0%). Males were 92.4%, education status: primary, secondary and tertiary were 39.0%, 38.2% and 7.7% respectively. Majority were Christians 70.0%, and Muslim were 29.5%. About 75.0% were employed, 64.7% were single and 30.8% were married. About 24.8% were convicted and 55.0% had used illegal drugs. Mean age of first drug injection was 21±4.6years. Prisoners providing sex to others for money, goods or services regularly and occasionally were 35.7% and 24.4% respectively. Prisoners that had been given infor-

mation on sexual and reproductive health (SRH) were 22.2%. HIV prevalence was 2.8%, male HIV prevalence was 2.7% and female prevalence was 6.9%. Risk factors to HIV infection include being convicted OR=2.5 95%CI 1.7-3.9, drug use OR=1.9 95%CI 1.2-2.7, being female OR=2.7 95%CI 1.3-5.6, poor access to SRH information OR=1.9 95%CI 1.1-3.4 but having tertiary education was protective with OR=0.7 95%CI 0.6-0.9.

CONCLUSIONS: There is a need for targeted HIV prevention programs to be developed and implemented in Nigerian correctional homes to reduce the prevalence of HIV among prisoners which is currently above the national average.

PEC0405

"EVEN IF YOU GET RAPED YOU ARE PROTECTED": RESULTS FROM A MIXED-METHODS, MULTI-SITE STUDY OF PREP ENGAGEMENT AMONG TRANSGENDER WOMEN IN SOUTH AFRICA

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BACKGROUND: South Africa accounts for one-third of all new infections in sub-Saharan Africa (SSA). Transgender women (TW) in SSA face a heavy HIV burden, with prevalence estimates of 25%; TW are twice as likely as men who have sex with men to be living with HIV and less likely to report consistent condom use. The South African HIV National Strategic Plan recommends PrEP for priority populations, but data on TW's PrEP engagement is understudied in SSA. This study aimed to understand South African TW's PrEP awareness and engagement.

METHODS: This parallel mixed-methods study included interviewer-administered surveys with 213 TW and in-depth interviews with 36 TW, in Afrikaans, English, Sesotho, or Xhosa. Data were collected May-November 2018 in Cape Town, Johannesburg, and East London. Stata 14 was used for descriptive statistics and logistic regression modeling. Audio-recorded, transcribed, and translated qualitative transcripts were coded and analyzed using thematic analysis.

RESULTS: The median age of survey participants was 26 years; 63% had a history of sex work, 57% had experienced sexual violence, 38% had been diagnosed with a sexually transmitted infection (STI), and 32% self-reported living with HIV. Among the 129 HIV-negative TW, PrEP awareness and uptake were low: 45% had heard of PrEP, 15% had ever taken PrEP, and 12% were currently taking PrEP. PrEP awareness was higher among TW with a history of sexual violence, sex work, or an STI, suggesting PrEP information has reached some highly vulnerable TW. However, recent condomless receptive anal sex, the highest sexual risk for HIV acquisition, was not associated with PrEP awareness. Qualitative data indicated many PrEP-aware TW knew PrEP prevented HIV, even when raped; however, confusion between PEP and PrEP was common. Additional themes included lack of awareness as a barrier to PrEP uptake, e.g. "Many of our transgender people are getting HIV and … I haven't seen or heard people talking about this PrEP, so I think a lot of people don't know about it."

CONCLUSIONS: TW are a priority population for PrEP in South Africa. Greater attention to raising PrEP awareness and disseminating accurate information to TW is warranted.

PEC0406

HIV EPIDEMIOLOGY AND RISK FACTORS AMONG TRANSGENDER PEOPLE IN MALI

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BACKGROUND: Globally transgender women are a key population in the HIV epidemic with a higher prevalence than the general population. In Mali the situation of the transgenders was unknown; as a result, the country's HIV strategy has not included trans-specific interventions. To address this gap, Plan International coordinated a size estimation, a study on HIV risk factors and prevalence, the expressed needs as well as a mapping of current interventions potentially benefiting this population.

METHODS: A study was conducted in five key administrative regions and Bamako district. A respondent-driven sampling method was used for the mapping and size estimation. A questionnaire using Kobo Toolbox for real-time data collection about risk factors, expressed needs, and an HIV test was also administered. A field survey combined to the use of geo-referenced coordinates allowed for determination and mapping of the current interventions.

RESULTS: The number of transgender people is estimated at 497 [328 - 1901] in the study area.The majority is relatively young with 75% less than 28 years old and 92% Muslim. Transgender women represent 75.5 %. More than half confirmed commercial or regular casual sex partners. Only 3% have good knowledge of HIV, defined as having knowledge of both transmission and prevention means while 83% have been tested for HIV in the last 12 months. Gender-based violence is frequent (71%) and discrimination within the health system is reported (6.7 %). The primary services accessed by them are condom and lubricant distribution (70%), STI treatment (27%), HIV care (31%) and pre- and post-exposure prophylaxis were at 3% and 6% respectively. HIV prevalence is 11.7% and is higher amongst those who are 25-43 years old (17 %) versus the 18-24 years old (7%). It's also higher among those living with partner (19.4%) versus single (10.5 %).

CONCLUSIONS: This study provides an objective basis for including transgender people in HIV interventions in Mali. While they are not a large group, they lack specific interventions and have a higher HIV incidence than the general population. They remain a marginalized group for which a specific approach is yet to be designed in a predominately Muslim context.

PEC0407

TRANSACTIONAL SEX INCREASES THE INCIDENCE OF HIV AMONG YOUNG WOMEN IN TANZANIA

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BACKGROUND: Young women across sub-Saharan Africa experience a high burden of HIV. However, HIV risks are not evenly distributed, and young women in transactional sexual relationships are particularly vulnerable to infection. In Tanzania, empirical estimates

of HIV incidence among young women engaged in transactional sex remain limited. Here, we estimate the association between transactional sex and HIV seroconversion using longitudinal program data from the Sauti Project.

METHODS: The Sauti Project is a PEPFAR/USAID-funded program which has provided combination HIV-prevention services to key and vulnerable populations across Tanzania. Out-of-school adolescent girls and young women (AGYW) aged 15-24 accessing Sauti services completed a behavioral HIV-risk assessment with subsequent HIV testing and treatment referrals. Using program data, we assembled a longitudinal cohort with 12-months of follow-up among AGYW with >1 visit (2016-2017). To estimate the association of transactional sex (sex in exchange for money or services/gifts in the preceding year) and HIV seroconversion, we used marginal structural log-binomial models to calculate risk differences (RD), risk ratios (RR), and 95% confidence intervals (CI).

RESULTS: 3,141 AGYW (median age: 20 years (IQR 18-22)) tested HIV-negative at their first program visit and completed >1 HIV tests over 12-months. 42.6% had engaged in transactional sex in the preceding year; 8.7% had a relationship with a partner ≥10 years older. Early pregnancy, IPV, and food insecurity were common. 107 AGYW seroconverted after their first visit; the overall risk of new HIV infections or annualized HIV incidence was 3.7% (95% CI 3.1-4.4). Transactional sex was associated with HIV incidence at 12-months (RD 1.76 (95% CI:0.26-3.26); RR 1.57 (95% CI:1.07-2.29)).

	No. HIV events	Risk (95% CI)	RD (95% CI)	RR (95% CI)
Unweighted				
Transactional sex	46	4.52 (3.54, 5.77)	1.58 (0.19, 2.97)	1.54 (1.06, 2.24)
No transactional sex	61	2.94 (2.21, 3.91)	REF	REF
Weighted*				
Transactional sex	46	4.86 (3.66, 6.06)	1.76 (0.26, 3.26)	1.57 (1.07, 2.29)
No transactional sex	61	3.10 (2.20, 4.00)	REF	REF

Abbreviations. No.: Number, RD: Risk difference; RR: Risk ratio; CI: Confidence interval

*A minimally sufficient set of confounders was identified using a directed acyclic graph (DAG). Weighted estimates were standardized to the baseline distribution of the following covariates: age, intergenerational sex, early pregnancy, food insecurity, family support, and early sexual debut.

[Table. Unweighted and weighted risk differences (RD), risk ratios (RR), and 95% confidence intervals (CI) for the association of transactional sex with HIV incidence among 3,141 young women in Tanzania accessing HIV-prevention services through the Sauti Project, 2016-2017]

CONCLUSIONS: Implementing differentiated HIV-prevention efforts among AGYW—including a focus on those with specific and heightened risks for HIV such as young women engaged in transactional sex, may be most impactful in realizing population-level declines in HIV incidence and ultimately achieving an AIDS-free generation.

PEC0408

HIV RAPID TESTS AS A DIAGNOSTIC ALTERNATIVE IN COUNTRIES WITH ECONOMIC CRISIS

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BACKGROUND: Venezuela, with 28 million inhabitants in 2019, has been facing a socio-political and economic situation that has negatively affected social and health indicators.
It is estimated that between 2010 and 2016, the number of new cases of HIV infection increased by 24%. According to Venezuela's Ministry of Health, for that year, the mortality rate increased to 8.3 per 100,000 inhabitants.
As of 2017, there is no official data.
Since 2012 began the shortage of antiretrovirals and by 2018 affected 84% of patients, this accompanied by total absence of prevention campaigns and failures in supply of condoms.
Currently it is estimated that there are 120,000 people infected and the prevalence of general population is 0.56%
There is great concern about the lack of reagents for diagnosis.
In private labs an HIV test exceeds USD $30.00 and minimum wage in Venezuela is USD $3.00

METHODS: Rapid HIV testing of the brands ALERE DETERMINE™ HIV-1/2, First Response was conducted free, voluntary and confidential between December 1, 2018 and December 1, 2019 in different communities in the country, including key populations such as: deprived of liberty, indigenous people, LGBTQ community, sex workers, young people.

RESULTS: A total of 1737 tests were conducted (1000 M, 737 F) and 67.7% were aged 18 to 35 years old. There were 35 positive tests (23 – 65.71% M, 12 -34.28% F) with a total prevalence of 2.01% where 29 are in ages of 18 to 35 years. The populations most affected were: MSM (16), indigenous (14), women (4), sex workers (1).

CONCLUSIONS: Rapid tests are very useful as an epidemiological tool for HIV diagnosis.
In this study it was observed a high reciptitivity especially in young adult population. It is necessary to insist on campaigns like these in key groups for early diagnosis and treatment.
www.oncetrece.org

PEC0409

PREVALENCE OF HIV AND OTHER SEXUALLY TRANSMITTED INFECTIONS AMONG YOUNG THAI MEN AND TRANSGENDER WOMEN SELLING OR TRADING SEX IN THE COPE4YMSM STUDY

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BACKGROUND: Young men who have sex with men (YMSM) and transgender women (YTGW) who sell and trade sex with other men are a vulnerable population at high risk for HIV and sexually transmitted infection (STI) acquisition and transmission. Understanding the epidemiology of HIV/STI among YMSM and YTGW will assist development of effective prevention interventions.

METHODS: YMSM and YTGW reporting selling or trading sex in the last 12 months and aged 18-26 years enrolled in a combination HIV prevention research study (COPE4YMSM) with optional HIV pre-exposure prophylaxis (PrEP) in Thailand. At enrollment, participants were tested for HIV and syphilis using rapid tests, as well as rectal Neisseria gonorrhoeae (NG) and Chlamydia trachomatis (CT) by nucleic acid amplification tests. We describe baseline HIV and STI prevalence and s using bivariable analysis.

RESULTS: Overall, 901 YMSM (n=818, 91%) and YTGW (n=83, 9%) were enrolled. At the baseline study visit, 43 (4.8%, 95% CI:3.5-6.4) had HIV infection, 126 (14%, 11.8-16.4) had syphilis, 48 (5.3%, 3.9-7.0) had rectal NG and 142 (15.8%, 13.4-18.3) had rectal CT. HIV and STI co-infection

occurred in 28 (65%), most commonly rectal CT in 19 (44%). HIV infection was more common in participants reporting no HIV testing within the preceding 12 months (POR=8.0, 3.9-17.4) and having been previously diagnosed with an STI (POR=5.0; 2.5-10.2). STIs at baseline were higher (POR=1.5; p=1.1-2.0) among participants reporting multiple sexual partners in the last seven days. Although YTGW more commonly reported multiple sexual partners (POR=2.9; 1.5-5.8) and selling or trading sex within the last seven days (POR=2.6; 1.1-6.4), the prevalence of HIV and STIs was not significantly different compared to the YMSM participants.

CONCLUSIONS: Both YMSM and YTGW who sell or trade sex are at substantial risk of HIV and other STI. Although the prevalence of HIV and STIs were similar between YMSM and YTGW, there were distinct differences in types of risk factors, which highlights the need for tailored HIV and STI interventions for this population.

PEC0410

HIGH HIV AND SYPHILIS PREVALENCE AMONG FEMALE SEX WORKERS AT THE BORDER OF SOUTH SUDAN AND UGANDA

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BACKGROUND: HIV prevalence among the general population in South Sudan, the world's newest nation, is estimated at 2.9%. Limited data exist describing the HIV epidemic among female sex workers (FSW) in the country.

METHODS: With funding from CDC, IntraHealth International conducted a respondent-driven sampling (RDS) biobehavioral survey of FSW aged >15 years in January-February 2017 who sold or exchanged sex in the last 6 months in Nimule, at the Uganda border. Consenting participants were administered a questionnaire and tested for HIV according to the national algorithm. Syphilis was tested using Determine Syphilis+ Rapid Plasmin Reagin. Data were analyzed in SAS and RDS-Analyst. Weighted results are presented.

RESULTS: We enrolled 409 FSW with median age of 23 years (IQR 18-28) and median duration in sex work of four years (IQR 2-6). Over half of FSW were illiterate. Most were from South Sudan (61.4%) and Uganda (36.8%).Only 12.9% of FSW had stayed in Nimule for less than one year. Nearly all (99.2%) FSW lacked comprehensive knowledge of HIV though almost half (48.5%) of FSW had talked to a peer educator or outreach worker about HIV in the last 30 days. More than half (55.3%) had ever tested for HIV. Only 46.4% had used a condom at last sexual act with a client. One in five (19.8%) FSW had a condom break during vaginal or anal sex in last six months. However, only 9.6% used a lubricant during anal or vaginal sex in last six months. HIV prevalence was 24.0% (95% CI: 19.4-28.5) and 9.2% (95% CI: 6.5-11.9) had active syphilis. In bivariate analysis, being non-South Sudanese, <1 year stay in Nimule, and ever testing for HIV, and having active syphilis were associated with HIV infection (P<0.0001). In multivariable analysis, HIV was associated with having active syphilis (aOR: 6.99, 95% CI: 2.23-21.89).

CONCLUSIONS: HIV and syphilis prevalence were high among FSW in Nimule compared to national prevalence. Our findings underscore the importance of providing HIV and syphilis testing for FSW in conjunction with comprehensive combination prevention including comprehensive HIV information, condom use promotion, and availing treatment services for both HIV and syphilis.

PEC0411

SCALE UP OF A MULTI-COUNTRY HIV TEST PROGRAM INDICATES AN UNMET NEED FOR TARGETING POPULATIONS AT HIGHER RISK AND STRATEGIZING IN TEST LOCATION

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BACKGROUND: AIDS Healthcare Foundation (AHF) Global Program supports HIV/AIDS prevention in 43 countries in Africa, Asia, Latin America and Europe. The cornerstone of the support is large-scale targeted HIV testing, identifying HIV positives and linking them to HIV care facilities to initiate anti-retroviral therapy (ART).

DESCRIPTION: AHF has gradually stepped up HIV rapid testing in the past 10 years. At country level, rapid test programs are implemented with its local partner organizations, in community settings, through outreach and facility based, adhering to national guidelines. Positive testers are linked to an HIV care facility. Numbers of clients tested went up from 500,000 in 2010 to over 4 million in 2019.

LESSONS LEARNED: The average HIV positivity ratio in 2019 was 3,1% (range by country 0.7% - 6.9%) identifying a total of 128,339 HIV-positive clients, of whom 77% were successfully linked to care facilities. Overall test-positivity in the age group 25-49 years was highest among women (4%), followed by men (3.6%), versus 2.4% and 1.6% respectively among 15-24 years. In the > 45years, male positivity was higher (3.1%) than in females (2.8%). Analyzed by main reason for testing, "Partner positive" scored highest (12.5%) followed by "Injecting drug use" (6.2%) and "Ill health" (3.2%). For 1,625,428 testers a key population (KP) category was reported and positivity peaked among PWID (6.2%) followed by MSM (6.1%) and Sex/Entertainment workers (3.4%). For 3,648,976 testers, positivity was significantly higher at facility (3.9%) as compared to testing in outreach or community settings (1.9%).

CONCLUSIONS/NEXT STEPS Scale-up in people tested for HIV in a large number of sites across 43 countries resulted in sustained HIV-positivity yields against a back-drop of declining estimates of PLHIV unaware of their status. Prevalence was high among young females, older men and KPs such as PWID, MSM and sex workers. Testing at the health facility is more effective in identifying new PLHIV than in community settings. These data point at an unmet need for targeting populations at higher risk and strategizing in location for testing. Further scale up of HIV testing must target difficult to reach populations at elevated risk, using innovative approaches.

PEC0412

HIV MORTALITY AMONG INPATIENTS WITH MENTAL DISORDERS IN BRAZIL, 2000-2015

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BACKGROUND: People with mental disorders (PMD) have a mortality rate 2.22 times higher than the general population, with a decade of Years of Life Lost. PMD are at increased risk mortality due to HIV infection and the majority of these deaths is preventable. Most stud-

ies of HIV among PMD occurred in high-income countries.Objective: To describe the risk of HIV mortality in a nationwide cohort of inpatients with a primary diagnosis of a mental disorder compared to inpatients with diagnoses other than mental disorders from 2000 to 2015 in Brazil

METHODS: This national retrospective cohort included all patients hospitalized through the Brazilian National Health System (SIH-SUS-Brazil) from January 1, 2000 thru May 31, 2015. Time of follow-up was measured from the date of the patients´ first hospitalization until their death, or May 31, 2015. Probabilistic and deterministic record linkages integrated data from SIH and The National Mortality System (SIM). PMD were determined as a primary diagnosis, codes "F00-F99" according to the International Classification of Diseases (ICD-10). HIV mortality was determined when the underlying cause of death was coded "B20 to B24" (ICD-10). Mortality was expressed per 100,000 inpatients and the relative risk (RR) was calculated with 95% confidence interval (CI), comparing HIV mortality among PMD with those with other diagnoses.

RESULTS: A total of 87,561,633 patients were hospitalized in a public system, SIH-Brazil from 2000 to 2015 -1,574,470(1.80%) PMD and 85,987,163 (98.2%) with non-mental disorders. Among 8,453,671 deaths registered in the period, 128,101(1.52%) were due to HIV. Among PMD, we detected 3,398 deaths due to HIV (mortality rate=216/100,000 inpatients). Conversely, we identified 124,703 HIV deaths in non-psychiatric patients (mortality rate 145.2/100,000 inpatients. The relative risk of death due to HIV was 1.49(95% CI=1.44-1.54) (p<.0001), when comparing the two groups.

CONCLUSIONS: Our analysis indicates an excess risk of dying due to HIV among PMD inpatients in Brazil. Prevention of HIV excess mortality should be considered a high public health priority among hospitalized patients in Brazil, with emphasis among PMD. Identification and management of HIV related conditions, including HIV testing and antiretroviral treatment, can reduce premature mortality among.

PEC0413

A SYSTEMATIC REVIEW OF HIV INCIDENCE MEASUREMENT AMONG FEMALE SEX WORKERS IN AFRICA: A STRATEGIC INFORMATION GAP TO BE FILLED IF WE ARE TO ACHIEVE EPIDEMIC CONTROL

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BACKGROUND: Female sex workers (FSW) in Africa are at high risk of HIV, yet HIV incidence patterns among this group are poorly understood. A Lancet 2012 systematic review included 30 studies of prevalent HIV infection in Africa but no studies measuring HIV incidence. We aimed to identify studies including measures of HIV incidence among FSW in Africa and explore regional and temporal trends in estimates.

METHODS: We conducted a systematic literature review. We screened 8,112 titles and abstracts and reviewed 16 papers, published since 2000, providing measures of HIV incidence from cohort studies among 14 distinct FSW populations in Benin, Burkina Faso, Cote d'Ivoire, Kenya, Rwanda, Tanzania, Uganda and Zimbabwe. Most studies recruited populations accessing clinical services.

RESULTS: The studies included 10,342 women, with sample sizes from 284 to 1640. HIV incidence estimates ranged from 0/100 person-years at risk (pyar) among a population enrolled in an oral PrEP demonstration project in Burkina Faso 2009-2011 to 13.1/100 pyar in a study in Kenya which enrolled women from 1993-1997. Overall, 1131 FSW seroconverted during a total of 25,263.35 person years. Measured HIV incidence was higher in Eastern Africa (3.55/100pyar, 8 studies) than Western Africa (1.4/100pyar, 5 studies), with only 1 study in Southern Africa (Zimbabwe, 9.8/100pyar). Follow up time ranged from nine months to fifteen years. Four studies showed decreased incidence over participation follow-up time, but overall temporal patterns were difficult to detect.

[Figure 1: Estimates of HIV incidence from studies among female sex workers in Africa]

CONCLUSIONS: There is a lack of data on rates, patterns or trends in new HIV infections among FSW in Africa. Available data suggest HIV incidence is high among FSW populations accessing clinical services. There are almost no data from population-based cohorts or to assess whether rates have changed over time. Moving forward this gap must be urgently filled.

PEC0414

THE ROAD TO THE END OF THE EPIDEMIC: A STUDY OF HIV TRANSMISSION ALONG THE TRANSIT CORRIDORS IN TANZANIA IN 2019

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BACKGROUND: The Tanzania HIV Impact Survey (THIS) 2016-2017 reported HIV prevalence of 5.1% among adults 15-64 years in mainland Tanzania; regions with major transit corridors have higher burden of infection. While long-distance truck drivers (LDTDs) and female sex workers (FSWs) have long been characterized as high risk for HIV, less is known about their sexual networks in communities surrounding roadside hotspots.

Our survey sampled populations along transit corridors of Tanzania to characterize sexual networks, HIV risk behaviors, and access to care.

METHODS: A bio-behavioral survey was conducted in roadside hotspots in Kagera, Geita, Mwanza and Pwani regions using time-location sampling methods from February-August 2019. Individuals 15+ years were recruited during peak hours from venues such as bars, guesthouses and truck park areas within each hotspot. HIV- and HIV+ participants were invited to refer sexual partners to the survey,

with an incentive of TZS 6,000 per referral. Face-to-face interviews, HIV counseling, rapid testing and return of results were conducted with all consenting participants.

RESULTS: We enrolled 3,587 participants from 81 venues in 17 hotspots, who recruited 446 sexual partners. HIV prevalence among venue-recruited participants varied by region and sex, ranging from 4.3-5.7% among men and 11.9-18.3% among women — higher than most regional HIV prevalence reported by THIS 2016-2017. Only 14.9% of HIV+ women and 7.5% of HIV+ men reported a known HIV+ status; of whom 90.0% and 87.5%, respectively, self-reported being on ART. Women at venues were petty traders, food vendors, FSWs, barmaids, and guesthouse workers; men at venues were petty traders, food vendors, LDTDs, casual and formal employees. Overlapping sexual networks across mobile, FSW and local populations, concurrent partnerships, transactional sex, and low levels of condom use were reported.

CONCLUSIONS: Our study described high HIV prevalence within sexual networks of mobile populations, their partners, and the communities surrounding hotspots. While prevention interventions often concentrate on LDTDs, these findings underscore high HIV risk among women, indicating a need for interventions focusing on financial independence and improved self-reliance for women. Innovative means of identifying PLHIV including index-testing, HIV self-testing and couples-testing are recommended to reach key and vulnerable populations along transit corridors.

PEC0415

KEY POPULATIONS HIV CARE CASCADES IN ZANZIBAR 2018/2019: MISSING THE MARK ON THE FIRST 90 OF THE UNAIDS 90-90-90 TARGETS

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BACKGROUND: According to the Tanzania HIV Impact Survey 2016-2017, Zanzibar HIV prevalence among people aged 15-64 years was 0.4%. However, key populations (KP) bear a disproportionate burden of the disease. KP HIV programming is key to epidemic control in Zanzibar. Bio-behavioral surveys (BBS) in 2018/2019 presents the first opportunity to assess progress towards achieving the UNAIDS 90-90-90 targets among KP in Zanzibar.

METHODS: We conducted cross-sectional BBS of MSM, FSW and PWID from September 2018 to April 2019 using respondent-driven sampling (RDS) in Unguja, Zanzibar. Consenting individuals aged 15+ who had lived in Unguja for at least three months, who self-identified as: men who have sex with men (MSM) or female sex workers (FSW) or people who inject drugs (PWIDs) were recruited. HTS was done following the national algorithm. For those HIV+, viral load (VL) was quantified and VL suppression was defined as <1,000 HIV RNA copies/mL. Status of UNAIDS 90-90-90 targets was described using weighted percentages.

RESULTS: Overall, 341 MSM, 580 FSW, and 419 PWID were surveyed, with HIV prevalence at 5.0% (95% CI: 3.1-7.9), 12.1% (95% CI: 5.1-19.0) and 5.1% (95% CI: 2.6-7.5), respectively. Among those living with HIV, 59.7% (95% CI: 35.9-79.6) of MSM, 72.5% (95% CI: 60.7-81.8) of FSW and 47.5% (95% CI: 20.8-75.6) of PWID knew their HIV-positive status. Among those who knew their status, 92.9% (95% CI: 54.3-99.3) of MSM, 94.3% (95% CI: 83.3-98.2) of FSW and 88.1% (95% CI: 31.5-99.2) of PWID were on ART. Of those on ART, 97.9% (95% CI: 80.1-99.8) of MSM, 86.9% (95% CI: 69.1-95.1) of FSW, and 97.6% (95% CI: 68.4-99.9) of PWID were virally suppressed.

CONCLUSIONS: Identification of HIV-positive KP remains the biggest challenge for achieving UNAIDS "90-90-90". There is need for increased testing coverage across all three populations, with a special emphasis on PWID and MSM. Encouragingly, once diagnosed, proportions of ART use and viral suppression among KP are approaching or exceeding the 90% targets. Concerted efforts and intense programmatic focus are needed to diagnose PLHIV among KP in Zanzibar.

PEC0416

FACTORS ASSOCIATED WITH RETENTION OF TRANSGENDER WOMEN LIVING WITH HIV IN A RESEARCH INTERVENTION LEAD BY PEER NAVIGATORS IN SÃO PAULO, BRAZIL

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BACKGROUND: In general, transgender women (TGW) are more likely to be living with HIV and face greater barriers adhering to treatment (ART). An intervention study, TransAmigas, was developed to evaluate the effect of peer navigation (PN) on retention in care and adherence to ART among TGW living with HIV in São Paulo, Brazil. The purpose of this analysis is to identify factors associated with participant retention in the study.

METHODS: From April 2018-September 2019, TGW living with HIV were recruited from a public health service and were randomly assigned 2:1 to intervention (PN) or control. Chi-square tests, and bivariate and multivariate logistic regression models were used to analyze association of participant retention in the final interview, approximately 9 months following enrollment, with allocation group; telephone contact at 3 months; sociodemographic characteristics (age, education, income, marital status, occupation and ethnicity); reported mental health challenges and violence (presence of severe mental illness – K10 scale), alcohol or substance use, suicide attempt, verbal and sexual violence). Covariate selection maintained those with theoretical relevance and covariates associated with outcome at p <0.05.

RESULTS: Of 113 participants, 75 were allocated to the intervention and 38 to the control group. Overall 79 (69.9%) responded the 9-month interview, with no difference between allocation group (p = 0.50). In bivariate models, having been contacted by telephone at 3 months (p <0.001), higher educational level (> = 12 years) (p = 0.01) were associated with higher retention at 9 months and any use of illicit substances (p = 0.05) with lower retention. In the multivariate model, 3-month telephone contact (aOR: 7.30; 95% CI: 2.70-19.72) and higher education (> = 12 years) (aOR: 3.19; 95% CI: 1.10-9.21) remained associated, adjusted for ethnicity and age.

CONCLUSIONS: Our analyses found that consistent contact was associated with retention in the research, as was higher education level. Future research with this population should include regular contact intervals.

PEC0417

STRATEGIES TO IMPROVE ENROLMENT AND RETENTION OF TRANSWOMEN IN THE TRANS*NATIONAL COHORT STUDY IN SÃO PAULO, BRAZIL

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BACKGROUND: Transwomen are among the most vulnerable to HIV infection globally. In São Paulo, Brazil, HIV prevalence among transwomen is 29%, compared to 0.4% in the general population. The unmet health and social welfare needs of transgender communities are great while research for the population lags behind. The Trans*National Cohort Study is the world's largest health study of trans femme communities, working in the United States, Brazil, China, and Namibia. The aim of this presentation is to share lessons learned and strategies to improve recruitment, linkage, and retention of transwomen to create a rigorous research platform.

DESCRIPTION: The cohort in São Paulo studies HIV incidence, risk and protective factors among transwomen. Respondent-Driven Sampling (RDS) was applied to recruit diverse participants who were subsequently recruited for the longitudinal cohort. RDS is a chain-referral sampling method in which participants invite other people they know to the study. Enrolled participants (N=606) were expected to complete follow-up visits every six months for 4 visits total. At each visit, participants completed a survey and tested for HIV, syphilis, HBV, and HCV. The field team (2 field supervisors, 2 nurses and 6 interviewers) held regular meetings to identify challenges, strengthen team cohesion, and provide ongoing staff training. Prior to fieldwork, qualitative formative research was conducted to inform study strategies.

LESSONS LEARNED: Recruitment, linkage, and retention strategies were developed and adapted to the specific needs of the population, including: use of preferred name only (no formal ID or civil name); a sensitized team; afternoon and evening working hours as identified in formative research; periodic phone calls; WhatsApp and Facebook appointment reminders at regular intervals prior to study visit dates; a progressively increasing reimbursement protocol; provision of food at study visits; and a gift kit (containing a small bag, lipstick, nail polish, condoms and a disposable enema). Retention and key outcome results will be presented.

CONCLUSIONS/NEXT STEPS Taking into consideration specific needs of transwomen was a key factor when addressing strategies for strengthening the cohort. Promoting a cohesive, well-trained and sensitive team facilitated retention. Regular team meetings focused on continuously reviewing and updating strategies contributed to better results.

PEC0418

EXAMINING THE ASSOCIATION BETWEEN CHILD REMOVAL, HIV AND MATERNAL SURVIVAL PATTERNS IN A CANADIAN COHORT OF MARGINALIZED WOMEN

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BACKGROUND: Marginalized women impacted by sex work, drug-use and HIV are dying prematurely. Little is known about the drivers of maternal mortality in this population. This study reported mortality rates among a prospective cohort of marginalized mothers in British Columbia, Canada and investigated predictors of mortality.

METHODS: Data were drawn from seven years (2010-2017) of a merged dataset of two community-based longitudinal open cohorts of over 1000 cis and trans marginalized women in Canada recruited using time-location sampling and community referrals. After restricting to women who had ever had a live birth, we calculated age-standardized mortality ratios using the Canadian female population at the midpoint of the study (2014) as the reference. We identified predictors of mortality using Cox proportional hazards regression.

RESULTS: Among 712 marginalized women aged 19-69 (median 40, IQR 32-46), 39 died between 2010 and 2017, yielding a mortality rate of 10.8 per 1000 person-years. Marginalized women in our cohort were 9.75 (95% CI 6.93-13.33) times more likely to die than Canadian women of the same age. The leading causes of death were injury related (n=19, 48.7%), with overdose (n=17, 89.5%) being the primary cause of death. This was followed by non-communicable diseases (n=9, 23.1%) and communicable diseases (n=2, 5.1%). Baseline predictors of mortality included having HIV (adjusted hazard ratio [HR] 2.55, 95% CI 1.33-4.89), maternal experience of child custody loss (adjusted HR 1.64, 95% CI 0.83-3.23) and intimate partner violence (adjusted HR 2.39, 95% CI 0.82-6.96).

CONCLUSIONS: Marginalized mothers in the cohort are almost 10 times more likely to die than Canadian females of the same age. These deaths likely reflect complex intersections of historical and current inequities, substance use and barriers to care for women living with HIV. In the context of universal, free HIV treatment the increased hazard of mortality among HIV positive women suggests an unmet need for trauma and violence informed care accessible to marginalized mothers, particularly those experiencing child custody loss. The increased hazard of overdose death highlights the need for further gender responsive strategies to prevent overdose among women, including expansion of addiction treatment services accessible to pregnant and parenting women.

PEC0419

FENTANYL AND HIV RISK AMONG URBAN AND SUBURBAN PEOPLE WHO INJECT DRUGS IN MARYLAND

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BACKGROUND: Drug overdose is the leading cause of injury death in the US, with escalating rates attributable to illicit fentanyl, a potent synthetic opioid involved in overdose deaths across the country. Receptive syringe sharing (RSS) is a key HIV risk factor, and recent outbreaks among people who inject drugs (PWID) have renewed concerns around the impact of the opioid crisis on HIV rates nationally. This study examines the role of fentanyl on injection-related HIV risk.
METHODS: Recruitment of PWID occurred in 2018-2019 through targeted sampling in a major regional city (Baltimore), and began on November 2019 in a neighboring suburban area (Anne Arundel County). Participants completed a 30-minute ACASI survey assessing their recent (past 3 month) drug use and HIV risk behaviors. Analysis was conducted in Stata/SE 15.1. We also conducted in-depth interviews (n=17/20 in Baltimore; n=2/10 in Anne Arundel) with PWID.
RESULTS: Among 270/350 recruits, mean age was 45, 58% were male, and 56% were Black. 3% initiated opioid use through non-medical fentanyl. However, most (72%) transitioned to non-medical fentanyl injection; 56% recently injected fentanyl/cocaine and 64% recently injected fentanyl. Injection frequency was 1.58 times higher per day among fentanyl injectors. After adjusting for age, gender, race, current homelessness and arrest, fentanyl injection was associated with recent RSS (aOR[Model A]=2.40; 95% CI: 1.02-5.63, p=0.044) and higher recent injection frequency i.e., >90 times (aOR[Model B]=1.83; 95% CI: 1.04-3.25, p=0.036). In-depth interviews indicated that although PWID know that fentanyl is common in the local supply, they are often uncertain about the precise contents of their drugs prior to use. Respondents also discussed structural barriers to sterile syringe access including the absence of syringe exchange in the county, refusal by pharmacists to sell sterile syringes, and fear of arrest by police for carrying syringes, which led them to reuse or share syringes.
CONCLUSIONS: The fentanyl epidemic brings new HIV prevention challenges, including higher injection-related risk of HIV transmission. We need to rapidly expand harm reduction education and services including syringe services programs and engage fentanyl injectors into HIV programs (e.g., test and treat, PrEP) in order to mitigate the risk of future outbreaks.

RISK FACTORS FOR ACQUISITION, INFECTIVITY AND TRANSMISSION OF HIV

PEC0420

IDENTIFYING CONTEXTUAL FACTORS OF THE USE OF HIV TESTING IN THE DEMOCRATIC REPUBLIC OF CONGO: ANALYSIS OF A POPULATION-BASED SURVEY

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BACKGROUND: Many studies have underlined a series of individual factors in the use of HIV testing uptake, but very few have assessed the role of contextual factors. This study aims to
(i) determine the prevalence of HIV testing among the sexually active population of the Democratic Republic of Congo (DRC), and
(ii) identify the individual and contextual factors associated to HIV testing uptake.
METHODS: The data used was collected from the second demographic and health survey conducted in the DRC from November 2013 to February 2014. A sample of 14,578 sexually active women aged 15 to 49 and 6,932 sexually active men aged 15 to 59 years were selected. The contextual factors associated with the use of HIV testing were identified using multilevel logistic regression.
RESULTS: Overall, one-quarter of the women (26%, 95% CI (22.6% -29.6%)) and less than one-fifth of the men (18.0%, 95% CI (16%) 6% -20.5%)) reported that they have been tested for HIV. HIV testing uptake was highly associated to some individual factors such as: age, education, religious affiliation (for women), wealth index, marital status, employment, media exposure, the number of sexual partners (among men), knowledge about HIV and the stigma score.
After adjusting for individual variables, women living in communities with the following characteristics higher than the median were more likely to report having tested for HIV: high knowledge of where to test (OR : 2.45 ; 95% CI : 1.92 - 3.1), the low stigma score (OR : 1.28 ; 95% CI : 1.05 - 1.56). They were less likely to report performing the test when the community level of media exposure is low (OR : 0.75 ; 95% CI: 0.60 - 0.94), and the community level of poverty is high (OR : 0.74; 95% CI: 0.58 -0.94). In men, the increased knowledge of testing centers (OR : 1.51 ; 95% CI: 1.21 - 1.90) was significantly associated with HIV testing uptake at the community level.
CONCLUSIONS: Beyond individual characteristics, community characteristics are also important factors that influence HIV testing uptake in the DRC, and these factors should be taken into account in prevention programs around the country.

PEC0421

HIGH LEVELS OF RECEPTIVE SHARING AND HIV AMONG YOUNG PWID WITH HCV FROM 10 U.S. CITIES-IMPLICATIONS FOR HIV ELIMINATION EFFORTS

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BACKGROUND: Recent HIV outbreaks in the United States were preceded by dramatic increases in hepatitis C (HCV) infection among young people who inject drugs (YPWID), even in areas where resources for HIV prevention and substance use treatment were available. To inform HIV prevention in this population and prevent future HIV outbreaks, it is critical to understand factors associated with HCV among YPWID.

METHODS: PWID ages >=18 years were recruited using respondent-driven sampling (RDS) for the 2018 National HIV Behavioral Surveillance, interviewed and offered HIV and HCV testing in 10 US cities. HCV testing included antibody and RNA testing for all participants. Behaviors were assessed for the 12 months prior to the interview. Bivariate and multivariable analyses were conducted using log-linked Poisson regression models to test for associations between current HCV infection (RNA-detected) and selected characteristics among YPWID adjusted for network size and region and clustered on RDS recruitment chain.

RESULTS: Of 3,735 PWID, 14% were 18-29 years (YPWID). HIV prevalence was 6% among YPWID and 9% among older PWID; current HCV prevalence was approximately 44% among both age groups. Receptive sharing of syringes or injection equipment was higher among YPWID compared with older PWID (64% vs. 52%, p<0.001). After adjusting for covariates, among YPWID, current HCV infection was associated with the following:

	Adjusted Prevalence Ratio	95% Confidence Intervals
White/other (Reference: black)	2.0	1.0-4.0
Receptively sharing syringes or injection equipment	1.1	1.0-1.2
Injected for two or more years	1.5	1.1-2.3
Accessing a syringe services program (SSP)	1.3	1.2-1.4
HIV positive	1.3	1.1-1.6

[Table]

CONCLUSIONS: Current HCV infection was associated with HIV and high-risk injection behaviors pointing to a vulnerability to further increases in HIV. Similar behaviors put YPWID at risk for both HCV and HIV. YPWID who attend SSPs were more likely to have HCV infection indicating SSPs may be reaching higher-risk populations, as intended. Continuing and improving SSP services will provide opportunities to prevent HIV and HCV infection. Close monitoring of HCV and HIV infection and associated risk behaviors among YPWID will be key to effective tailoring of HIV prevention efforts, prevent HIV outbreaks and respond to the call of the national Ending the HIV Epidemic Initiative.

PEC0422

CHARACTERIZING PROBLEMATIC DRUG USE AMONG TRANSGENDER WOMEN AND CISGENDER MEN DURING THE EMERGING HIV CRISIS IN THE PHILIPPINES

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BACKGROUND: Drug use and HIV are key issues for public health interventions in the Philippines. Yet, little is known about correlates of problematic drug use in the Philippines and specifically, among sexual and gender minorities. We characterized problematic drug use among Filipinx transgender (trans) women and cisgender men who have sex with men (cis-MSM).

METHODS: Using data from an online survey with Filipinx trans women and cis-MSM residing in Manila and Cebu, Philippines (n=320), we conducted multivariate logistic regression procedures to examine associations of problematic drug use (measured by the Drug Use Disorders Identification Test-Consumption; DUDIT-C) with socio-socio-demographic characteristics, social marginalization indicators, and HIV-risk and related factors.

RESULTS: The prevalence of exhibited problematic drug use in this sample was 29.38%. Adjusted for socio-demographic characteristics, significantly (p<0.05) greater odds of problematic drug use were observed among Filipinx participants who recently engaged in sex work (adjusted OR [aOR]=2.79, 95%CI=1.08-7.18), reported having HIV positive and unknown status vs. negative status (aOR=3.61, 95%CI=1.39-9.39, and aOR=13.99, 95%CI=2.04-29.69, respectively), exhibited low HIV knowledge (aOR=4.15, 95%CI=1.82-9.44), and displayed hazardous drinking (aOR=2.77, 95%CI=1.21-6.33).

CONCLUSIONS: Filipinx trans and cis-MSM display a high rate of problematic drug use. Given its correlates of HIV-related indicators, integration of HIV and harm reduction services as a public health intervention could potentially decrease problematic drug use.

PEC0423

MOBILE TECHNOLOGY: AN EVOLVING SOLICITATION PRACTICE AND A HIGH-RISK BEHAVIOUR INDICATOR AMONG FEMALE SEX WORKERS IN INDIA - OPPORTUNITY TO EVOLVE AND STRENGTHEN HIV PREVENTION

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BACKGROUND: Background: In India, National AIDS Control Program (NACP) needs to be revamped due to its limitations in accommodating the evolving solicitation approaches among Female Sex workers (FSWs).

The current interventions revolve around the traditional solicitation approaches, including, brothel, street, home, lodge/hotel, highway/ dhaba and bar, while evolving solicitation approaches get unnoticed.

An operational research with the objective understanding the evolving solicitation approaches and its HIV associated risk behaviors was conducted among FSW in 2018-19.

METHODS: Methods: The study was conducted in seven states of India, including, Andhra Pradesh, Delhi, Kerala, Maharashtra, Manipur, Punjab and Tamil Nadu using consecutive mixed method, with qualitative preceding quantitative. 57 key informant interviews (KIIs), 26 Focus Group Discussions (FGDs) and 86 In-depth interviews (IDIs) were conducted for qualitative information and 1750 survey interviews for quantitative data. Inductive analysis was conducted with qualitative data, while descriptive and chi-square analysis was conducted for quantitative data, with 5% statistical significance.

RESULTS: Results: Among 1750 study participants, 41% (724) were soliciting clients through traditional solicitation approaches, while, 59% (1026) practiced evolving solicitation approaches. Within new soliciting approaches, 33% (343) soliciting exclusively through mobile technology (MT), 8% (85) exclusively via mediators and 58% (598) through both MT and new physical spaces (NPS). FSWs soliciting exclusively via MT, have a significant association of sex under the influence of alcohol (65%, 76/117), while inconsistent condom usage and self-reported STI symptoms was found to be significant with MT and MTNPS solicitations. Further, qualitative findings validated that FSW using MT for solicitation were ready to accept the client demands, such as, sex under the influence of alcohol and unsafe sex.

Solicitation Approaches/ Characteristics	Exclusive Mobile based solicitation	Exclusive Mediator based solicitation	Mobile + New form (other than mediator based)
Median age	35	32	34
Median age of first paid sex	27	22	25
Sex under the influence of alcohol	65.0* (76/117)	56.0(14/25)	61.2(137/224)
Unsafe vaginal sex with paid partners	9.3 (30/324)	1.3 (1/77)	7.9(44/556)
Unsafe anal sex with paid partners	50.0 (25/50)	83.9*(26/31)	45.3*(53/117)
Inconsistent Condom usage	40.8*(147/360)	63.5*(54/85)	43.8*(259/592)
Reported of STI symptoms in the last 12 months (the question was asked	40.5*(109/269)	65.4(34/52)	47.0* (194/413)

*significant at p<0.05

[Table]

CONCLUSIONS: Conclusion: In India FSWs using MT for solicitation is a prominent indicator of the FSWs engaging in HIV associated high-risk behaviour. HIV program could consider this tool for identification and educating them on importance of safe-sex and alcohol-free sex.

PEC0424

WHO'S NOT BEING TESTED FOR HIV AND WHY AMONG ADULT PATIENTS IN US EMERGENCY DEPARTMENTS

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BACKGROUND: HIV testing initiatives in United States (US) emergency departments (EDs) have been successful by extending HIV testing to a broader patient population. However, an unknown number of adult ED patients likely remain untested. We sought to:
(1) Estimate the proportion of adult ED patients who have never been tested for HIV,
(2) Determine the common reasons for no previous HIV testing,
(3) Compare recent HIV risk-taking behaviors between those HIV tested vs. not previously tested, and;
(4) Identify factors associated with no previous HIV testing.

METHODS: During 2014 to 2018, English- or Spanish-speaking, 18-64-year-old patients in four EDs in Alabama, California, Ohio, and Rhode Island were surveyed about their demographic characteristics, HIV testing history, and HIV risk-taking behaviors within the past 3 months. Health literacy was assessed using a standardized instrument. Multivariable logistic regression models identified factors associated with no previous testing for HIV.

RESULTS: Of the 1,366 participants, 28% had never been tested for HIV. Of the 337 never tested for HIV, 51% were male, 50% had fewer than 12 years of formal education, and 54% had lower health literacy. Self-reported reasons cited for no previous HIV testing were: "not at risk/not necessary," (51%), "have not considered it" (27%), and "never been asked/offered a test" (14%). HIV risk-taking behaviors in the prior 3 months was similar for those never HIV tested vs tested: injection drug use (9% vs 7%, p<0.23) and condomless intercourse with casual (12% vs 15%, p<0.21) and exchange sexual partners (5% vs 6%, p<0.42). In multivariable models, participants who were white [OR 2.3, 95% CI 1.7-3.2], lacked healthcare insurance [OR 1.5, 95% CI 1.1-2.1], and had lower health literacy [OR 1.5, 95% CI 1.1-1.9] had greater odds of never having been tested for HIV.

CONCLUSIONS: HIV testing remains needed in US EDs, given that a substantial proportion of patients have never been tested for HIV and report recent HIV risk-taking behaviors. Novel interventions are needed to address barriers to HIV testing among those who have never been tested, including perceptions of low risk for HIV and discordance between perceived and actual risk for HIV acquisition.

PEC0425

ELIMINATION OF W. BANCROFTI-INFECTION LEADS TO REDUCED ACQUISITION OF HIV

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BACKGROUND: A previous study in Southwest Tanzania had revealed an increased risk for HIV acquisition in individuals infected with W. bancrofti (published in Lancet, 2016, Oct15). A government treatment program against W. bancrofti commenced in 2009. The impact of this government NTD activity on HIV incidence is studied in an ongoing research project (RHINO-STUDY: "Risk for HIV through NematOdes").

METHODS: The same individuals whose data were collected in 2007-2011 were re-visited in 2019 and screened for W. bancrofti by a filarial rapid test and for HIV using the government test algorithm.

RESULTS: Participants of the previous study activity aged 14-65 years were re-visited in Kyela in 2019. Of those 1141 re-visited, 304 had been previously infected with W. bancrofti, 837 had tested negative for that helminth species. During the previous study time of 2007 to 2011, an overall HIV incidence of 1.0 in 100 person years was seen with a significant difference between the W. bancrofti -infected individuals (1.58 new HIV cases per 100 PY) and the W. bancrofti-uninfected individuals (0.6 cases per 100 PY, p=0.012) in individuals older than 14 years of age.

Re-visiting these individuals in 2019, we found a dramatically reduced W. bancrofti prevalence from 38% (2009) to 0.6% (2019). Regarding HIV, 57 new infections occurred during 8 years (2011-2019) which equates to an incidence of 0.63 per 100 PY. The group of 304 individuals who were previously W. bancrofti- infected (but not anymore after MDA), had 21 new HIV infections (0.86 per 100 PY). While the group of 837 individuals without previous W. bancrofti-infection had acquired 36 new HIV infections (0.54 per 100 PY), the difference was not significant (p=0.422).

CONCLUSIONS: Government treatment against filarial infections almost eliminated W. bancrofti infections in the study area. A group of 304 previously filarial infected individuals is now free of the helminth apart from a few remaining cases. The increased risk for HIV acquisition which was noted among these individuals during a previous study activity, has almost been "normalized" to levels of the surrounding village population. These findings highlight that NTD program activities could help to reduce the spread of HIV.

PEC0426

HOMELESSNESS, UNSTABLE HOUSING AND HIV AND HEPATITIS C VIRUS ACQUISITION RISK AMONG PEOPLE WHO INJECT DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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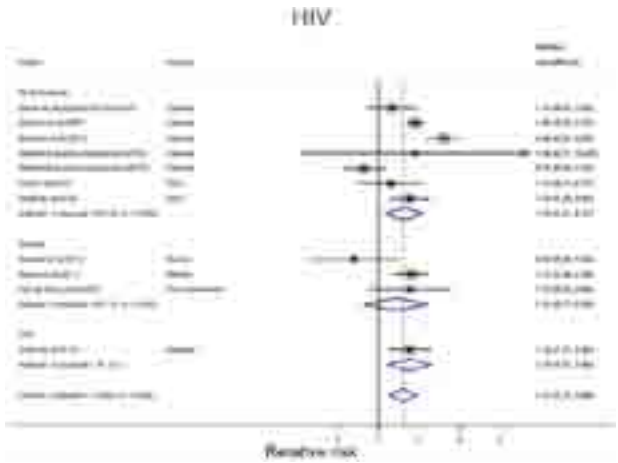
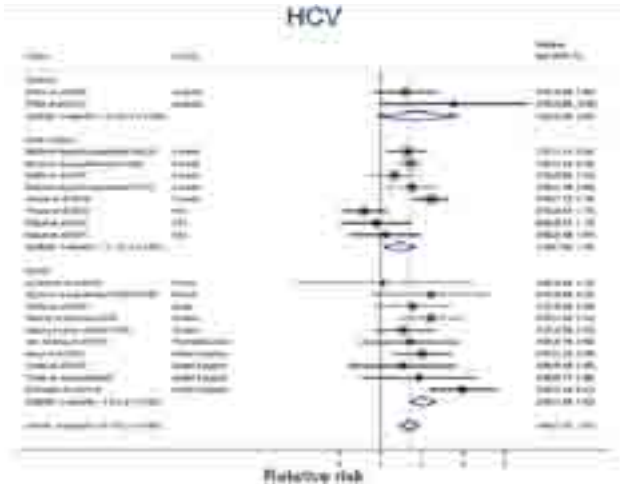
BACKGROUND: People who inject drugs (PWID) experience high rates of homelessness and unstable housing. We assessed whether homelessness or unstable housing elevates HIV or hepatitis C virus (HCV) acquisition risk among PWID.

METHODS: We searched MEDLINE, Embase and PsycINFO databases for studies in any language published from 2000 to June 2019 assessing HIV and/or HCV incidence among community-recruited PWID. Only studies reporting original results were included. We contacted authors of studies that met the inclusion criteria, but that did not report on the outcomes of interest, to request data. We extracted and pooled data from included studies using random-effects meta-analyses to quantify the associations between recent (current or past 3-12 months) homelessness or unstable housing and HIV or HCV acquisition risk among PWID. We assessed the risk of bias using the Newcastle-Ottawa Scale, and between-study heterogeneity using the I2-statistic and p-value for heterogeneity.

RESULTS: Thirty-one estimates (8 unpublished) were included in the final analysis; 11 for HIV and 20 for HCV. Studies originated from North America, Europe, Australia, and Asia. Recent homelessness or unstable housing was associated with a 53% increase in HIV acquisition risk (crude relative risk[cRR] 1.53;95% confidence interval [CI]1.21–1.94;I2=75%;p-value<0.001) and 63% increase in HCV acquisition risk with moderate-high between-study heterogeneity (cRR 1.63;95%CI 1.37-1.93;I2=53.1%;p-value<0.001). This strong association persisted when pooling adjusted estimates.



[Figure]



[Figure]

CONCLUSIONS: Homelessness or unstable housing is associated with substantial increases in HIV and HCV acquisition risk among people who inject drugs and maybe an important target for interventions to reduce blood borne virus transmission.

PEC0427

RISK FACTORS FOR RECENTLY ACQUIRED HIV INFECTION IN SOUTH AFRICAN BLOOD DONORS

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BACKGROUND: Recruiting safe blood donors amongst the largest HIV-positive population in the world requires current information on risk behaviours in the donor pool. Risk factors among incident rather than prevalent HIV infections are more germane to blood safety as early HIV infections may be sero-silent. We aimed to identify demographic and behavioural risk factors associated with incident HIV infection among blood donors in South Africa.

METHODS: We conducted a case-control study of recently HIV-infected blood donors compared to seronegative controls frequency matched 3:1 on race, age and geography. Incident HIV-infection was defined as HIV antibody negative and RNA positive by individual donation nucleic acid testing (Procleix, Grifols) or normalized optical density < 1.5 on the Limiting Antigen Avidity assay (LAg; Sedia). Risk factors in the past 6 months were ascertained by ACASI interview. We fitted separate multivariable logistic models for males and females and adjusted for multiple comparisons; all results shown were significant at p<0.05.

RESULTS: From November 2014 to January 2018, we enrolled 323 incident HIV cases and 877 controls. Women comprised 71% of cases versus 50% of controls (p<0.0001). Among women, incident HIV infection was associated with current employment (aOR=2.10); sex with an HIV-positive (aOR=27.72) or multiple (>1) male partners (aOR=10.55); no condom use (aOR=3.36); and referral to donation by a healthcare worker (aOR=2.76). The use of THC drugs (aOR=0.41) and private medical insurance (aOR=0.56) were protective. Among men, incident HIV infection was associated with age 31 to 40 years (vs. <31 years; aOR=2.97); high school education (aOR=3.05); married or single partnership (aOR=2.51); >1 sexual partners (aOR=13.55); ≥4 male sexual partners (aOR=10.98); sex partner with unknown HIV status (aOR=22.33); occasional condom use (aOR=3.97); and penetrative injury (aOR=29.96). Private medical insurance was protective (aOR=0.22).

CONCLUSIONS: We identified a set of novel, putative risk factors for incident HIV infection among South African blood donors while confirming previously known sexual risk behaviours. Lack of private health insurance and penetrative injuries may be markers of lower socio-economic status and thereby HIV risk. The detection of risk behaviours by ACASI in previously questioned donors suggests that ACASI has the potential to improve risk identification.

PEC0428

WHAT ARE THE CHARACTERISTICS OF KEY POPULATIONS (KPS) WHOSE HIV STATUS SEROCONVERTED WHILE ENROLLED IN PREVENTION PROGRAMS? RESULTS FROM A KENYAN PROGRAM

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BACKGROUND: Since 2016, LVCT Health implemented HIV prevention program for KPs in line with the National AIDS and STI Control Program guidelines 2014 in 5 Counties in Kenya. This program reached men who have sex with men (MSM), female sex workers (FSW) and people who inject drugs (PWID) in 20 service delivery points. During implementation, the HIV status of some of the KPs turned from negative to positive (seroconverted). This abstract describes key characteristics of those KPs who seroconverted.

DESCRIPTION: Routine individual level client data (client's demographics, risk profile, and services provided during a clinic visit) were collected monthly using MOH-approved tools. When a client seroconverted, a case report detailing the above data points and history of their adherence to prevention services was prepared. Data was manually abstracted from the client's case reports for the period October 2016 – September 2018, entered into MS Excel 2016 and analyzed using descriptive statistics.

LESSONS LEARNED: By September 2018, 31,691 HIV negative KPs (23,079 FSW; 6,188 MSM and 2,424 PWID) had been enrolled. 50(0.16%) clients (27 FSW, 23 MSM, 0 PWID) seroconverted during the period of review. Seroconversion rates were 0.3% MSM and 0.1% FSW. The highest seroconversions were FSW aged (years) 25-29(37%) and 20-24(26%). Among MSM, the highest were aged 20-24(43%). Overall, 37(74%) had no knowledge of HIV status of their regular sexual partners, 17 (34%) had been treated for STIs at least once and 6(12%) had been treated more than once. Majority, 39 (78%) had received condoms regularly, 10 (20%) had ever taken PrEP while 6(12%) reported to be on PrEP at the time of seroconversion.

CONCLUSIONS/NEXT STEPS: Lack of knowledge of the HIV status of regular sexual partners was the most prevalent characteristics. Others included a history of STIs, age (Infection-rate varied with age), and low uptake and possible poor adherence to PrEP. Additionally, some KPs who collected condoms may not have used them. KP programs should look out for individuals with these characteristics and proactively intervene before they acquire HIV. Programs should also extend HIV services to regular sexual partners of KPs and tailor services for young KPS.

PEC0429

RISK FACTORS FOR ACQUISITION OF HIV IN PRE AND POST ART ERAS IN MANICALAND, ZIMBABWE

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BACKGROUND: ART was introduced in Zimbabwe in 2005 and widely available from 2008, which has changed people's perception of risk of acquiring HIV infection and sexual behaviour. Increasing focus is being put on risk factor definitions to target prevention interventions and monitor progress of HIV prevention implementation, such as the HIV prevention cascade framework and risk differentiation tools. We used a proximate determinants framework of risk factors for new HIV infection to understand changes in determinants of risk following ART introduction in Manicaland, Zimbabwe.

METHODS: Data from six rounds of the Manicaland cohort study were used (1998-2013), consisting of men and women aged 15-54. Forward stepwise Cox proportional hazards models were fitted using the proximate determinants framework, stratified by sex and ART period, where entry was the first negative HIV test and failure was the first positive HIV test. Risk factors associated with HIV acquisition were compared before and after introduction of ART.

RESULTS: 9563 individuals participated in at least 2 survey rounds. Between 1998-2013, 4013 men contributed 16528 person years (PY) with 213 seroconversions. 5550 women contributed 25,164 PY with 328 seroconversions. Between 2005-2013, 3973 men contributed 14,578 PY with 143 seroconversions. 5831 women contributed 22,218 PY with 298 seroconversions. HIV incidence has declined over time, however differences in sex-specific incidence remain (2009-12 - men: 0.68/100PY (0.49-0.87), women: 0.87/100PY (0.70-1.04)).

Risk factors consistently associated with HIV acquisition included age (men 40-44 years HR 0.31, p=0.007 compared to 20-24 years), multiple sexual partners in the last year (women: HR 3.11, p<0.01), age disparate relationships (women: HR 1.43, p=0.063) and symptoms of STIs (men: HR 2.43, p=0.032).

Risk factors associated with HIV acquisition following ART introduction include being formerly married (women: HR 5.03, p=0.014; men: HR 1.83, p=0.095), self-perception of risk of future infection (women: HR 1.29 (p=0.020), having casual partnerships (women: HR 2.52, p<0.01) and visiting a beer hall (men: HR 1.50, p<0.01).

CONCLUSIONS: Risk factors for new HIV infections have changed since ART introduction. HIV prevention interventions should consider age, sex and sexual behaviour of the target population. Small sample size could prevent associations of risk factors being seen, particularly among men.

PEC0430

FACTORS ASSOCIATED WITH CONDOM USE AMONG GAY MOBILE APP USING MEN WHO HAVE SEX WITH MEN IN TOKYO

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BACKGROUND: Men who have sex with men (MSM) are disproportionately burdened by the human immunodeficiency virus (HIV), accounting for 78% of all Japanese male HIV cases in 2017. Even though biomedical interventions such as PrEP and PEP are not approved and condoms remain the primary tool for HIV prevention, condom use has been steadily decreasing among gay-venue-attending MSM in Japan. An estimated two-thirds of Japanese MSM are not attached to the gay community, and previous studies have largely sampled gay venues, and have likely failed to achieve diversity in participation.

METHODS: This study examined condom use prevalence and correlates with regular and casual male partners among 1657 MSM in Greater Tokyo. Participants were recruited through advertisements on gay mobile geo-social networking applications (gay mobile apps), which have been found to increase access to MSM not traditionally accessible through venue-based surveys.

RESULTS: Condomless anal intercourse (CLAI) was reported by 68.5% of participants with regular male partners, 54.2% with casual male partners, and 43.7% with female partners. Controlling for eight demographic and structural antecedent factors in multiple regression analysis, inconsistent condom use with casual male partners was more commonly reported among participants living in central Tokyo [adjusted odds ratio (AOR), 1.78 95% CI, 1.06-2.99] and among participants who used gay mobile apps for sex (AOR, 2.01 95% CI, 1.33-3.03). Inconsistent condom use with regular male partners was more commonly reported among participants who identified as a gay community member (AOR, 1.50 95% CI, 1.07-2.10), and who only had male partners (AOR, 1.78 95% CI, 1.13-2.80).

CONCLUSIONS: These results indicate that over half of gay mobile app using Japanese MSM use condoms inconsistently, and may be at risk for HIV. Considering that 1) Tokyo has the highest rate of HIV in Japan, 2) biomedical interventions such as PrEP and PEP are not approved, and 3) inconsistent condom use with casual partners was observed to be higher among MSM residing in central Tokyo and who used gay mobile apps for sex, promoting condom use in central Tokyo through gay apps may be an effective prevention policy to target Japanese MSM, particularly prior to and during the 2020 Olympics.

PEC0431

DISENTANGLING THE CONTRIBUTION OF DIFFERENT OVERLAPPING KEY POPULATIONS TO THE HIV EPIDEMIC IN TIJUANA, MEXICO

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BACKGROUND: Tijuana has one of the largest populations of people who inject drugs (PWID) in Mexico, and sex-work is quasi-legal for female sex workers (FSW). Tijuana also has a large population of men who have sex with men (MSM), meaning there are overlapping key populations contributing to the HIV epidemic. We model the extent to which HIV transmission is driven by specific key populations and risk behaviours.

METHODS: We developed and calibrated an overlapping dynamic HIV transmission model among PWID, FSW, clients of FSW and MSM using data from several completed and on-going studies. Baseline HIV prevalence was 3.5% (2.3-5.1%) in 2012, 2.7% (1.2-5.2%) in 2013 and 17.3% (12.2-23.4%) in 2012 among PWID, FSW and MSM, respectively. We projected the number of HIV infections over 10 years (2019-2029), and the proportion of these attributable to different key populations and sexual or injecting behaviours (defined as the percentage of new infections prevented when these modes of transmission are removed).

RESULTS: The model projects overall HIV incidence of 0.4 per 100 person-years (95% Credible Interval (95%CrI:0.3-0.6/100pyrs) in 2019 across all key populations modelled. Unprotected sex between men accounted for 56.6% (95%CrI:13.8–82.1%) of all new HIV infections among key populations over 2019-2029, while injecting drug use contributed 31.9% (95%CrI:3.5–82.0%) and unprotected commercial heterosexual sex contributed 15.3% (95%CrI:6.1–22.6%). Non-commercial heterosexual sex contributed <10%. By key population, making all behaviours safe among PWID, FSW, MSM and clients would prevent 52.3% (95%CrI:30.9–87.9%), 17.7% (95%CrI:9.8–24.2%), 57.8% (95%CrI:14.3–82.8%) or 17.7% (95%CrI:8.9–24.0%) of all infections among key populations over 2019-2029, respectively. Among PWID, HIV transmission is due to multiple risk behaviours: 69.9% (15.6–95.2%), 16.6% (2.3–46.7%) and 12.5% (4.7–23.5%) of new infections among PWID over 2019-2029 are due to unsafe injecting, unprotected sex between men and heterosexual transmission between PWID, respectively.

CONCLUSIONS: Most HIV transmission among key populations in Tijuana is due to sexual transmission, although injecting drug use still plays a large role. Removing transmission risks due to unprotected sex between men provides the biggest reduction in new infections, indicating this is a key behaviour to prioritize interventions towards.

PEC0432

SURVEY ON COMMUNITY BREASTFEEDING PRACTICES AND THEIR IMPLICATIONS FOR MOTHER-TO-CHILD TRANSMISSION IN A HIGH HIV PREVALENCE CONTEXT IN SOUTHERN MOZAMBIQUE

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BACKGROUND: WHO recommends breastfeeding for 24 months or more for mothers living with HIV while receiving ongoing support for adherence to antiretroviral therapy (ART). We aimed to explore breastfeeding duration among HIV-exposed children in the community and its association with postpartum mother-to-child-transmission (MTCT).

METHODS: From October-2017 to April-2018 a cross-sectional household survey was conducted. Births in the previous 48 months were randomly selected for interview and HIV-testing of mother and child. HIV-infection date in mothers with a first positive test during the survey was calculated as the midpoint between the last negative HIV-test and the survey date, or in women with no previous documentation, between most recent delivery date and survey. Documentation of a previous HIV-positive test was considered to be the infection date. Postpartum-MTCT was assumed for children testing HIV-positive after 6 weeks who had a previous negative result, and for HIV-positive infants born to mothers whose estimated HIV-infection date occurred after birth.

Fine-Gray competing-risk of death regression was used to estimate breastfeeding duration and to assess association with postpartum MTCT.

RESULTS: Among the 5000 mother/caregiver-child pairs selected, 3486 (69.7%) were found and interviewed. Among those, 967 (27.7%) children were HIV-exposed, 2169 (62.2%) were HIV-unexposed and for 350 (10.0%) HIV-exposure was unknown.

After adjusting for censoring, median duration of breastfeeding was 13.0 (95%CI:12.0-14.0) and 20.0(95%CI:19.0-20.0) months, p<0.001 among HIV-exposed and HIV-unexposed children, respectively.

Of the 967 HIV-exposed children, 51 (5.3%) were HIV-positive. Among those, 26 (51.0%) were infected postpartum, 14 (27.4%) peripartum and 11 (21.6%) unknown. In multivariable analysis, breastfeeding duration was not associated with postpartum-MTCT (aSHR:1.0[95%CI:0.9-1.0], p=0.892) whereas children having a hospital admission at any time prior to the survey, or having a mother who initiated ART after birth were more likely to have postpartum-MTCT, (aSHR:71.2[95%CI:13.1-387.4], p<0.001), (aSHR:9.9[95%CI:2.9-33.5], p<0.001), respectively.

CONCLUSIONS: Duration of breastfeeding in HIV-exposed children was lower compared to non-exposed children and no association between breastfeeding duration and post-partum MTCT was found. Child hospitalization and mother's ART initiation after birth were associated with postpartum-MTCT. Identifying and providing early treatment to mothers newly infected during the breastfeeding period should be a priority to reduce postpartum-MTCT.

PEC0433

MODELLING THE FUTURE IMPACT OF UNDERAGE AND COERCED ENTRY INTO SEX WORK ON HIV TRANSMISSION IN TIJUANA, MEXICO

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BACKGROUND: Some female sex workers (FSW) are initiated into sex work underage (<18), or are forced/coerced, likely increasing their vulnerability to exploitation, violence and infections, including HIV. We undertake epidemiological analyses and HIV transmission modelling to understand the potential contribution that underage or forced/coerced entry into sex work has on HIV transmission among FSW in Tijuana, Mexico.

METHODS: Data from a 2013/14 bio-behavioural study of FSWs in Tijuana were analysed using regression to determine whether initiating sex work underage or reporting being coerced into sex work (considered separately from underage entry) were related to increased sexual or injecting risk behaviours. A dynamic HIV transmission model amongst FSW and their clients stratified by entry into sex work (coerced/not and minor/adult at initiation) was developed. The model was calibrated to HIV prevalence estimates among adult FSW who initiated as non-coerced adults (1.1%; 95% confidence interval [95%CI]:0–3.8%), coerced adults (4.8%; 95%CI:0.1–16.5%), non-coerced minors (7.8%; 95%CI:2.1–18.9%) and coerced minors (0%; 95%CI:0–16.1%).

RESULTS: Of 300 FSW, 24% reported having initiated sex work underage, which was associated with: higher client volume (incidence rate ratio:1.42; 95%CI:1.12–1.81), higher levels of injecting drug use (IDU) (odds ratio [OR]:2.76; 95%CI:2.24–7.15) and less consistent condom use (OR:0.45; 95%CI:0.25–0.82). Similarly, 20.7% report forced/coerced entry into sex work, which was associated with higher levels of IDU (OR:1.98; 95%CI:1.07–3.65).

The model projects HIV prevalence of 1.8% (95% credible interval [CrI]:1.2–2.4%) among FSW in 2020, with prevalence 1.2 (95%CrI:1.2–1.4) or 1.2 (95%CrI:1.0–1.3) times higher, respectively, if they started sex work underage or were forced/coerced into sex work. Eliminating

additional risks associated with underage or coerced entry into sex work would prevent 38.6% (95%CrI:15.5–49.8%) or 3.4% (95%CrI:-0.2–7.3) of the estimated 305 (95%CrI:203-430) new infections among FSW over 2020-2030, respectively, or 41.8% (95%CrI:18.2–51.0%) in combination.

CONCLUSIONS: Underage and coerced initiation of sex work increase HIV risk among FSW in Tijuana and our modelling suggests underage initiation is an important epidemic driver. For the protection of human rights and the prevention of HIV, addressing underage initiation of sex work should be prioritised.

PEC0434

INCIDENT BACTERIAL SEXUALLY TRANSMITTED INFECTIONS AMONG A PROSPECTIVE BIOBEHAVIOURAL COHORT OF GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN WHO ARE HIV-NEGATIVE OR LIVING WITH HIV IN CANADA

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BACKGROUND: We examined chlamydia (CT), gonorrhea (GC) and syphilis infection among gay, bisexual and other men who have sex with men (gbMSM) in Vancouver, Canada where HIV Treatment as Prevention (TasP) has been policy since 2010 and pre-exposure prophylaxis (PrEP) has been publicly-funded since January 2018.

METHODS: Sexually-active gbMSM (cisgender and transgender) aged ≥16 years were recruited using respondent-driven sampling (RDS) into a prospective biobehavioural cohort and followed from 02/2012-08/2019 every 6 months. Participants self-completed questionnaires, provided venous blood samples for syphilis serology, and optional urine testing and/or pharyngeal, rectal or urethral swabs for CT/GC. We calculated incidence rates (IR) stratified by HIV status and used generalized estimating equations accounting for clustering by repeated visits to identify predictors of CT/GC infection and syphilis infection. Multivariable models were built using backward selection to minimize QIC.

RESULTS: Of 584 gbMSM (30.1% living with HIV) with a median follow-up of 3.51 years, 217 (37.2%) had any incident STI. Incident CT/GC did not differ between gbMSM living with HIV (IR=14.53/100 person-years) and HIV-negative gbMSM (IR=16.22/100 person-years; RR=1.22, 95%CI:0.94-1.58). The CT/GC IR increased over time for gbMSM living with HIV (aRR=1.11, 95%CI:1.05-0.18) and was stable for HIV-negative gbMSM (RR=1.01, 95%CI:0.94-1.08). Incident syphilis was more likely among gbMSM living with HIV (IR=8.46/100 person-years) than HIV-negative gbMSM (IR=2.68/100 person-years; RR=3.16, 95%CI:1.96-5.10). The syphilis IR was stable among gbMSM living with HIV (RR=1.00, 95%CI:0.94-1.06), but increased over time for HIV-negative gbMSM (aRR=1.19, 95%CI:1.01-1.41).

Predictors varied by HIV status and STI. However, recent condomless anal sex with a serodifferent/unknown status partner predicted incident CT/GC for gbMSM living with HIV (aRR=3.91, 95%CI:1.89-8.06) and HIV-negative gbMSM (aRR=2.98, 95%CI:1.94-4.58). Incident STIs were not associated with PrEP (5.8% ever used) nor HIV optimism-skepticism scale scores.

CONCLUSIONS: STI incidence increased or was stable over time, with syphilis persistently higher among gbMSM living with HIV. STI trends from these cohort data correspond with surveillance data; future multi-jurisdictional research should further evaluate TasP and PrEP policy impact with multiple data sources. In our cohort, incident STIs were generally attributable to condomless seroadaptive HIV prevention practices, indicating the centrality of sexual mixing by HIV status to future primary STI prevention efforts.

PEC0435

FACTORS ASSOCIATED WITH VERTICAL TRANSMISSION OF HIV AMONG EXPOSED INFANTS DURING THE ERA OF PMTCT OPTION B+ IN KYEGEGWA DISTRICT: A CROSS-SECTIONAL STUDY

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BACKGROUND: Despite high anti-retroviral treatment (ART) coverage (93%) for prevention of mother to child HIV transmission (PMTCT), vertical transmission of HIV in Uganda remains high (7.4 %). District PMTCT program data showed a higher level of HIV positivity among exposed infants in Kyegegwa district compared to the regional average (3.1% vs. 2%). We examined factors associated with vertical transmission of HIV in the era of PMTCT option B+ in Kyegegwa district.

METHODS: We conducted a cross-sectional study targeting HIV exposed infants who were alive and receiving clinical care at three health facilities in Kyegegwa district between July and September 2018. Data on infant age, infant gender, infant HIV status and maternal viral load results were abstracted from patient clinic records while data on non-routinely collected data was obtained through interviewing mothers to exposed infants. The study outcome was level of HIV positivity among HIV-exposed infants and the independent variables were attendance of antenatal care, maternal ART status during pregnancy, presence of sexually transmitted infections during pregnancy, place of birth, timing of infant HIV test, status of infant nevirapine prophylaxis at birth and adherence to infant nevirapine syrup. We analyzed descriptive statistics and examined factors associated with vertical transmission of HIV using mixed effects logistic regression.

RESULTS: A total of 208 HIV exposed infants were included in the study; their median age was 17 months [IQR=14-25 months] and majority (57.7%) were male. Eighty six percent (179/208) were tested for HIV within the recommended 6-8 weeks of age. The level of HIV positivity among exposed infants was 3.8% (2.6%-4.2%). At multivariate analysis and application of mixed effects logistic regression, being on ART during pregnancy (aOR 0.02, 95% CI 0.01-0.65; p-value=0.027) was associated with lower odds of vertical transmission of HIV while missed infant nevirapine prophylaxis was associated with higher odds of vertical transmission of HIV (aOR 102, CI 95% 2.60-4087; p-value=0.014).

CONCLUSIONS: Not being on ART during pregnancy and missed infant nevirapine prophylaxis drive vertical transmission of HIV in Kyegegwa district therefore access to and timely initiation of ART during pregnancy and infant nevirapine syrup at birth should be strengthened.

PEC0756

HIV PREVALENCE AMONG CHILDREN OF FEMALE SEX WORKERS IN TWO URBAN COUNCILS OF TANZANIA

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BACKGROUND: The vulnerabilities of children of female sex workers (CoFSWs) in Tanzania are difficult to observe because sex work is criminalized and highly stigmatized. Field observations from community workers suggest that children of sex workers experience risks in health and safety. Sex workers may engage in risky behaviors including multiple sexual partners, inconsistent condom use, and drug use. This can put their children at increased risk of HIV infection through mother-to-child transmission and may reduce the parents' ability to care for their children. This study explores the prevalence of HIV among CoFSWs enrolled in an orphans and vulnerable children service delivery project in Tanzania.

METHODS: This study examines the PEPFAR/USAID- OVC project data from Kinondoni Municipal and Arusha City Councils in Tanzania. The data was collected by trained lay social welfare volunteers during enrollment of CoFSWs between July and September 2018. Project monitoring tools designed to capture beneficiary information, including risk of HIV infection and access to HIV services were used. Multivariate analysis was conducted using logistic regression to identify characteristics associated with HIV status of the child.

RESULTS: Of the 626 CoFSWs (46% male, 54% female), 13.2% were living with an HIV-positive FSW. HIV prevalence in CoFSWs <15 years was 5%. This was much higher than the national estimate of 0.4% observed in the general population of the same age. In the multivariate analysis, children of HIV-positive FSWs were 8.4 times more likely to be HIV positive than those of HIV-negative FSWs (adjusted odds ratio (OR)=8.41, 95% confidence interval (CI) 3.41–20.76). Children living in Kinondoni council were 3.53 times more likely to be HIV positive than those in Arusha council (OR=3.53, 95% CI 1.37–9.05).

CONCLUSIONS: HIV prevalence among CoFSWs was significantly higher than the general child population in Tanzania. FSWs living with HIV should be targeted with index testing of their biological children. The program's use of FSW trained as lay social welfare volunteers improved identification of CoFSWs and improved their ability to access health, HIV and social services.

EPIDEMIOLOGY OF AIDS EVENTS (E.G., AIDS-RELATED OPPORTUNISTIC INFECTIONS AND CANCERS)

PEC0436

THE TRENDS OF HIV LATE PRESENTERS IN NON-GOVERNMENTAL HOSPITAL, CAMBODIA

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BACKGROUND: HIV treatment and care have become over burden on the Cambodia's current public health system. Despite the ART availability, HIV patients continued to die and hospitalize, mostly because of their HIV advanced stages to appropriate care services. We aimed to describe the trends of late HIV patients at care entry point over time from 2003-2007, 2008- 2012 to 2013-2017 and to identify risk factors associated with late stage of HIV disease.

METHODS: We conducted a cross sectional study using routinely collected data from a non-government hospital in Phnom Penh, Cambodia. We included all ART naïve adult (age ≥ 18 years old) who enrolled in HIV program from 1st March 2003 to 31st December 2017 into the analysis. HIV late presenters is defined as the presence of CD4 cell count <200 cell/mm3. Data was analyzed by using STATA version 13.

RESULTS: Of the 5369 HIV patients, the mean age at enrollment were between 35 (SD =8.6) and 37 (SD =10.2) years old over these three periods from 2003-2017. Men represented 47% while women represented closely to 53%. HIV late presenters were slightly decreased from 66% (2003- 2007) to 58% (2008- 2012) and remained stable 57% (2013-2017) (P-value <0.001). In these three periods, the first three common clinical presentations for the patients were oral candidiasis (21.6%, 18.5% and 20.5%) followed by chronic diarrhea (13.7%, 6.7% and 5.4%) and extra pulmonary tuberculosis (12.9%, 14.5% and 13.9%). Male sex, age group (>30 years old), marital status (single/divorce), occupation (small business), residence (around great lake region) and WHO advanced clinical stage (stage 3/4) were most significantly associated with HIV late presenter in the three different studies period with P-value <0.05.

CONCLUSIONS: Late presenter was remained high in our study. The most prevalence of opportunistic infections were oral candidiasis, chronic diarrhea and extra pulmonary tuberculosis. Being male, older age, single/divorced, small business, and people from Great lake region were identified as a risk factors for late presentation. More effort need to be done for these special population to improve HIV counseling, testing and linkage system to early ART care to prevent severe opportunistic infections and death.

PEC0437

TUBERCULOSIS TREATMENT CURE AMONG PEOPLE LIVING WITH HIV / AIDS- SAO PAULO- BRAZIL

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BACKGROUND: Tuberculosis (TB) remains the leading cause of death among people living with HIV / AIDS (PVHA). The overall goal for TB is to reduce deaths by 95% and 90% of new cases until 2035. Therefore, it is necessary to monitor and evaluate TB prevention and control activities in PVHA that are well below this target. The aim of this study is to verify the termination of TB treatment among HIV-positive people (TBHIV) in the state of Sao Paulo (ESP) - Brazil.

METHODS: A descriptive analysis of the reported cases of TBHIV from 2011 to 2017 was performed. It were considered to study the termination of treatment: directly observed (DOT) or self-administered (AA) treatment and use of antiretroviral therapy (ART) for HIV and among cases of new TB.

RESULTS: During the period, 142,187 cases of TB were reported in ESP. Among these, 85.5% had HIV serology, 13.1% seropositive. Over these eight years, HIV seropositivity decreased from 14.2% in 2011 to 10.0% in 2017. Of the 2,035 cases of TBHIV in 2017, only 1,144 (56.2%) had a high cure, 402 died (19.8%), 411 (20.2%) abandoned treatment and 78 (3.8%) had no information. Still in 2017, the cure rate among cases on ART was 65.8%.

Among cases with TDO were cured in 65.3%, abandonment was 15.7% and death 15.1%; for those with AA treatment, cure occurred in 49.9%, abandonment was 20.7% and death 25.4%. In the general population, abandonment was 11% and death 7%.

CONCLUSIONS: The cure rate among cases of TBHIV is low; the percentage of abandonment and death among PLHIV was much higher than the general population. TOD when compared to AA contributes to better cure compliance and closure of it, as does the use of TARV. There is a need to investigate the causes of these two unfavorable outcomes in each location, to improve the care process and improve indicators.

PEC0438

USING A MULTI-STATE MODEL TO EXAMINE ADVANCED HIV DISEASE AND ENGAGEMENT IN CARE AMONG PATIENTS ON ANTIRETROVIRAL THERAPY IN SOUTHERN AFRICA

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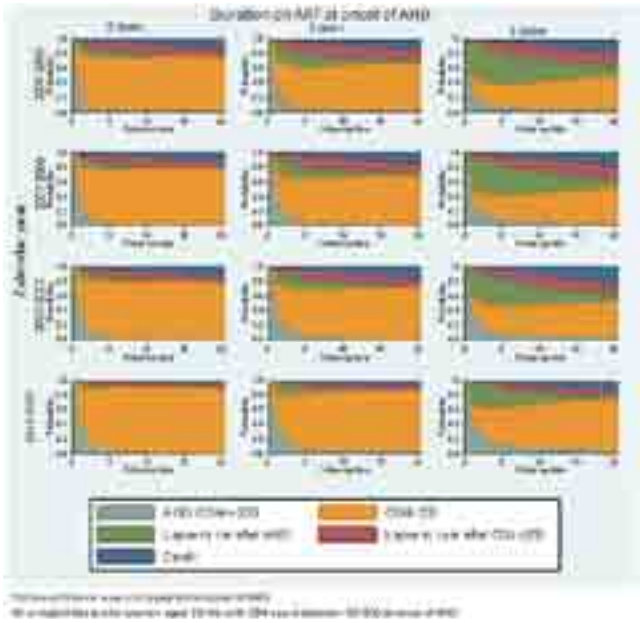
BACKGROUND: Patterns of patient engagement in care and clinical stability have changed as ART programmes have expanded and matured in Southern Africa. Increasingly advanced HIV disease (AHD) is found among ART-experienced patients who have interrupted treatment. We explored patterns and predictors of transition from and to AHD.

METHODS: Using data from IeDEA Southern Africa, five states of ART care were defined based on most recent CD4: "AHD" [CD4<200], "CD4≥200", lapse in care [no visit in previous ≥1 year] after AHD, lapse in care after CD4≥200, death. We included data from all patients aged >5 years with CD4 counts at ART start, and ≥1 subsequent CD4 measure. A multistate model was used to estimate transition probabilities between states over time.

RESULTS: Median age at ART start of 462713 patients was 35.5 years (IQR 29.6-42.3), (35.4% male, 68.8% from South Africa). The proportion with AHD at ART start was 50.5% overall and decreased over time [2004-2006: 73.9% vs 2016-2018: 29.3%]. Among patients with CD4≥200 at ART start, the probability of ever having AHD was higher for men and adolescents. By 2 years after starting ART with CD4≥200 in 2010-2012, for those aged 25-40 years, the probability of ever having AHD was 8% for women and 11% for men. For adolescents aged 10-19 years initiating in the same calendar period, the probability was 12% for females and 16% for males.Longer duration on ART prior to AHD onset reduced the probability of transition to CD4≥200 and increased the probability of lapse in care (Figure).



[Figure. Probability of being in each ART care state over time, for different calendar years of ART start and duration on ART at advanced HIV disease (AHD) onset; measured from the date of AHD onset]

CONCLUSIONS: Transition to AHD from a clinically stable state is more likely among men and adolescents. Compared to those initiating ART with AHD, those who experience AHD at longer durations on ART, are less likely to recover to CD4≥200 and more likely to have lapses in care.

PEC0439

EVALUATION OF MENINGEAL CRYPTOCOCCOSIS DIAGNOSIS IN PEOPLE LIVING WITH HIV AND NEUROLOGICAL SYNDROMES IN SANTA CRUZ, BOLIVIA

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BACKGROUND: Cryptococcal meningitis (CM) is a common neurological complication in people living with HIV (PLWH). Diagnosis of CM using Cryptococcal antigen (CrAg) detection by Lateral Flow Assay (LFA) may improve the prognosis of this complication by improving detection rates, accelerating diagnosis, and allowing earlier treatment than microscopy- and culture-based methods.
METHODS: From December 2018 to December 2019 we conducted a comparative study to diagnose CM from a prospective cohort of PLWH with neurological syndromes in San Juan de Dios Hospital of Santa Cruz, Bolivia. India Ink (Pelikan) in CSF was compared with CrAg LFA (IMMY kit) in serum and CSF. Patients with other neurological diagnoses were included to assess the specificity of CrAg LFA. Stata SE 15.0 version and Epi Info 7.2 version were used for the statistical analysis.
RESULTS: 29 PLWH with neurological complications were recruited. Mean age was 42 ± 13 years, 25 were men and 4 were woman, and 22 were on retroviral therapy. 12 participants died during the study. The prevalence of CM by CrAg LFA was 38% (11 positives and 18 negatives), but by India ink, only 4 CM cases were detected (14% prevalence). Compared to CrAg LFA, India ink had a sensitivity of 36.3%, specificity of 100%, PPV of 100%, and NPV of 72.0%. The Kappa coefficient showed a moderate concordance to diagnosed CM between India Ink and CrAg LFA (Kappa 42%, 95% CI: 0.11-0.72).
CONCLUSIONS: The CrAg LFA showed substantially greater sensitivity for the diagnosis of CM in people with HIV and neurological syndromes compared to India Ink, detecting almost 3 times as many cases as India ink. The CrAg LFA should be incorporated for the diagnosis of CM in PLWH in hospitals in under developed countries where HIV and its complications are prevalent.

PEC0440

FEMALE VETERANS WITH HIV HAVE AN INCREASED RISK OF HPV-ASSOCIATED GENITAL TRACT CANCERS

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BACKGROUND: Women living with HIV (WLWH) are thought to be at higher risk for HPV-associated female genital tract cancers (FGTCs) due to their immune status. However, disparities in access to cervical cancer screening often confound the observed difference in cancer incidence between WLWH and their HIV-negative counterparts. We conducted this study to determine if there have been any changes in risk among WLWH who develop FGTCs during the anti-retroviral era in a single-payer health system.
METHODS: Veteran WLWH and age-matched controls receiving care between 1999-2016 were retrospectively identified using Veterans Health Administration (VHA) electronic medical records (EMR). FGTC (cervical, vulvovaginal, anal/rectal, and endometrial/uterine cancer) diagnoses were identified through VHA Cancer Registry review and ICD-9/10 codes.
Demographic, lifestyle, and clinical variables were extracted from EMR for analysis. Incidence Rates (IR), Incidence Rate Ratios (IRR), and 95% confidence intervals (CI) for cancer risk were estimated and Kaplan-Meier survival analysis were conducted.
RESULTS: We identified 1,454 WLWH and compared them to 5,816 age-matched female HIV-negative controls. Twenty-eight WLWH developed HPV-associated FGTCs (2.0% of the cohort), including cervical=22, vulvovaginal=4, and anal/rectal=2. Thirty-two HIV-negative women developed HPV-associated FGTCs (0.6% of the cohort), including cervical = 24, vulvovaginal=5, and anal/rectal=5. The age-adjusted cervical cancer incidence rate (IR) was >6-fold higher in WLWH (203.9 per 100,000 person years [py] [CI 83.6-324.3]) than HIV-negative women (IR = 31.2 per 100,000 py [CI 17.86-44.54]; incidence rate ratio [IRR] = 6.535). The IRs for vulvovaginal and anal cancers were also >3-fold higher in WLWH.
Overall, WLWH were more likely to develop HPV-associated FGTC compared to their HIV-negative counterparts (log rank p values <0.0001). Cervical cancer screening rates were similar between WLWH and HIV-negative women; 601/1,454 (42.2%) of WLWH had cervical cancer screening visits compared to 2,407/5,816 (41.6%, p=0.665) of HIV-negative women.
CONCLUSIONS: Veteran WLWH are more likely to develop FGTCs despite equal access to health care. Even in single-payer health systems, WLWH continue to require special attention to ensure guideline-based high-risk HPV screening for prevention of FGTCs.

EPIDEMIOLOGY OF NON-AIDS INFECTIONS AND COMMUNICABLE DISEASES (E.G., VIRAL HEPATITIS, STIS)

PEC0441

HEPATITIS C INCIDENCE AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN BEFORE AND AFTER THE AVAILABILITY OF DIRECT ACTING ANTIVIRALS IN AUSTRALIA 2012-2018

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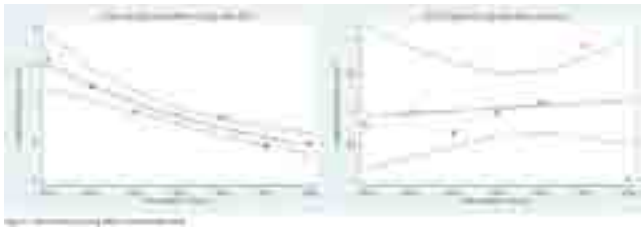
BACKGROUND: While hepatitis C virus (HCV) infection among gay and bisexual men (GBM) has been concentrated among GBM living with HIV, there is concern about an increase among HIV negative GBM. With the unrestricted availability of new HCV treatments in Australia since March 2016, modelling suggests HCV elimination is possible among GBM. We examined trends in HCV incidence among GBM from 2012-2018.

METHODS: Data were drawn from 50 sites in seven of eight Australian states and territories participating in the Australian Collaboration for Coordinated Enhanced Sentinel Surveillance. Poisson regression was used to examine trends in incidence by calendar year with date of infection estimated as a random date between the previous negative test and the diagnosis test dates.

RESULTS: Among 7,907 GBM living with HIV there were a total of 35,009 HCV tests with a median of four tests (IQR 3-7) per-person and median test interval of 9.7 months (IQR 5.7-14.8). There were 241 incident HCV cases over 28,204 person-years (PY). Overall incidence was 0.85/100PY, which declined by an average of 18% per year (IRR 0.82, 95%CI 0.76-0.89) from 1.64/100PY in 2012 to 0.47/100PY in 2018 (Figure 1).

Among 18,928 HIV negative GBM there were a total of 61,557 HCV tests with a median of three tests (IQR 2-5) per-person and median test interval of 7.8 months (IQR 3.5-14.8). There were 93 incident cases over 45,476PY. Overall incidence was 0.20/100PY with no significant change over time (IRR 1.02, 95%CI 0.90-1.15).



[Figure 1. HCV incidence among GBM in Australia 2012-2018]

CONCLUSIONS: HCV incidence has declined among GBM living with HIV but not among HIV negative GBM in Australia. A plateau in incidence in 2017 & 2018 among GBM living with HIV underscores the need for a combination of frequent testing, timely treatment uptake, effective behavioural interventions and identifying networks of ongoing transmission to make further progress towards HCV elimination among GBM in Australia.

PEC0442

ESTIMATING THE NUMBER OF PEOPLE WITH HIV WHO WILL SOON HAVE AN INDICATION FOR HEPATITIS A VACCINATION

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BACKGROUND: People with HIV who contract hepatitis A (HepA) may have prolonged HepA viremia. Many people with HIV have risk factors for which HepA vaccination is recommended, including male-to-male sexual contact, injection and non-injection drug use, homelessness, chronic liver disease, and clotting factor disorders. However, the U.S. Advisory Committee on Immunization Practices (ACIP) recently approved a recommendation that all people with HIV aged ≥1 year be routinely vaccinated for HepA. This recommendation will become official in 2020. The number of adults with HIV who lacked an indication for vaccination prior to the 2020 ACIP update is unknown and could inform public health practice.

METHODS: The Medical Monitoring Project (MMP) is a population-based survey designed to produce nationally representative estimates of the behavioral and clinical characteristics of U.S. adults with diagnosed HIV. We used MMP interview and medical record data collected from 7634 adults during 6/2016-5/2018 to estimate the number and percentage of adults with diagnosed HIV who lacked an indication for HepA vaccination pre-2020 ACIP update.

RESULTS: During the past 12 months, 49% (95% confidence interval [CI], 48%-51%) of U.S. adults with diagnosed HIV reported male-to-male sexual contact, 2% (95% CI, 2-3%) injected drugs, 29% (95% CI, 28%-30%) used non-injection drugs, 8% (95% CI, 8%-9%) experienced homelessness, 14% (95% CI, 13%-14%) had chronic liver disease, and <1% had a clotting factor disorder. An estimated 275048 (95% CI, 264347-285750) had no indication for HepA vaccination pre-2020 ACIP update, representing 31% (95% CI, 30%-32%) of adults with diagnosed HIV. An estimated 145875 (95% CI, 140776-150974) women had no indication, representing 68% (95% CI 66%-70%) of women with diagnosed HIV. An estimated 121796 (95% CI, 113690-129902) of men had no indication, representing 19% (95% CI, 17%-20%) of men with diagnosed HIV.

CONCLUSIONS: More than one-quarter million adults with diagnosed HIV, including two-thirds of women with HIV, had no risk factors for which HepA vaccination was recommended prior to the 2020 ACIP recommendation to vaccinate all people with HIV. Focusing efforts on vaccinating this population may reduce the occurrence of prolonged HepA viremia and the potential to transmit HepA.

PEC0443

MODELLING THE IMPACT OF SCALING-UP HCV SCREENING AND TREATMENT ON THE EPIDEMIOLOGY OF HCV INFECTION IN HIV-POSITIVE MEN WHO HAVE SEX WITH MEN IN HONG KONG

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BACKGROUND: The WHO target for the elimination of hepatitis C virus (HCV) by 2030 includes, among other things, a 90% fall of HCV incidence, and an increase in HCV diagnoses to 90%. Scaling-up HCV testing, along with effective treatment would be essential for achieving the goal. This study aimed to examine the impact of scaling-up HCV screening and treatment on HCV incidence and prevalence among HIV-positive men who have sex with men (MSM) in Hong Kong.

METHODS: A deterministic compartmental model was developed to simulate HCV transmission through sexual contacts among HIV-positive MSM in 2005-2030. Four strategies to control HCV were evaluated, each with different treatment coverage, regimens [traditional and direct-acting antiviral (DAA)], and screening strategies. HCV incidence, prevalence and proportion of new infections averted above basecase scenario were projected from 2019 to 2030.

RESULTS: In basecase scenario, simulated HCV incidence among HIV-positive MSM increased from 0.1% per 100 person-years (PY) in 2005 to 8.3% in 2015, and to 6.3% PY in 2030, while its prevalence increased from 0.3%, 20%, and to 42%, respectively. Applying the estimated baseline value of HCV treatment coverage in 2019 (44% coverage, of which 20% on DAA), full baseline screening and 30% annual screening would increase the projected number of new HCV infections (including re-infections) from 544 in 2019 to 739 in 2030. Scaling-up of HCV treatment (90% coverage, of which 20% on DAA) had minimal effect on HCV incidence (0.5% of new infections averted above basecase scenario in 2019-2030). An expansion of DAA therapy (90% HCV treatment coverage, all on DAA) was projected to reduce

new HCV infections by 2.9% in the period. Expansion of DAA treatment for all acute HCV cases (treating all with acute HCV) would further decrease new HCV infections by 7.7%. Scaling-up HCV testing rate (twice annually) without HCV treatment and DAA coverage expansion was projected to give 1.5% more new HCV infections than basecase scenario in 2019-2030.

CONCLUSIONS: This study demonstrated that scaling-up HCV screening alone is not sufficient to reduce HCV incidence. Increasing HCV treatment coverage and access to DAA therapy would effectively reduce HCV incidents among HIV-positive MSM in Hong Kong.

PEC0444

SYPHILIS PREVALENCE AND INCIDENCE AMONG TRANSGENDER WOMEN ATTENDING TANGERINE COMMUNITY HEALTH CLINIC IN BANGKOK, THAILAND

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BACKGROUND: Data on the prevalence and incidence of syphilis among transgender women (TGW) in Thailand is limited. As the country is preparing to launch pre-exposure prophylaxis (PrEP) under Universal Health Coverage (UHC) in 2020, baseline syphilis prevalence and incidence data from TGW is needed to monitor potential increase in sexually transmitted infections (STIs) after PrEP scale-up. We studied syphilis prevalence and incidence, as well as factors associated with incident syphilis cases, among TGW clients of the Tangerine Community Health Clinic in Bangkok, Thailand.

METHODS: Tangerine Community Health Clinic has provided integrated hormone and sexual health services to transgender people since 2015. We retrieved treponemal test (CMIA/EIA) screening and RPR confirmatory results, along with demographic characteristics and risk behaviors, from TGW clients between January 2017 and October 2019. Logistic regression was used to evaluate factors associated with incident syphilis infection.

RESULTS: Of 1,462 TGW, 133 (9.1%) had syphilis and 131 (8.9%) had HIV infection at their first visit. At baseline, almost two-thirds (64%) had multiple sex partners and 22.5% reported having had gender-affirming surgery. Around half (54.1%) had educational levels lower than bachelor's degree, 30.1% were unemployed, and 19.7% engaged in sex work. PrEP use at any visits was reported by 4.7%. The incidence of syphilis and HIV infections were 3.4 (95% CI 1.8-6.5) and 0.6 (95% CI 0.2-1.7) per 100 person-years, respectively. No HIV seroconversion was found among those reported PrEP use. Incident syphilis infection was significantly higher in those with HIV (aOR 7.15, 95% CI 4.08-12.51, p<0.0001) and was also associated with being employed (aOR 2.77, 95% CI 1.38-5.59, p=0.004), post-gender-affirming surgery status (aOR 4, 95% CI 1.49-10.72, p=0.006), multiple partners (aOR 3.15, 95% CI 1.56-6.39, p=0.001) and STIs in the past year (aOR 18.48, 95% CI 6.17-55.32, p<0.0001).

CONCLUSIONS: Multiple partners and recent STIs were associated with incident syphilis infection. Effective scale-up of PrEP is expected to attract TGW at high-risk of HIV. Inclusion of screening and treatment of syphilis and other STIs as part of UHC will be crucial for PrEP scale-up. Routine syphilis testing of HIV-positive TGW's should also be ensured.

PEC0445

BURDEN OF AND FACTORS ASSOCIATED WITH SEXUALLY TRANSMITTED INFECTIONS AMONG MEN WHO HAVE SEX WITH MEN IN KIGALI, RWANDA

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BACKGROUND: Globally, sexually transmitted infections (STIs) among men who have sex with men (MSM) continue to increase. In Rwanda, surveillance of STIs relies on syndromic diagnosis with limited empiric data characterizing the burden of specific STIs among MSM. In response, this study evaluated the prevalence of Syphilis, Neisseria gonorrhoeae(NG) and Chlamydia trachomatis(CT) and associated factors among MSM living in Kigali, Rwanda.

METHODS: From March-August 2018, 737 MSM >18 years were enrolled using respondent-driven-sampling (RDS). Structured interviews and HIV/STI screening were conducted. Syphilis was screened with rapid plasma reagin (RPR) confirmed by Treponema Pallidum hemagglutination assay (TPHA). CT/NG were tested by Cepheid GeneXpert. Based on a socioecological conceptual framework, a multivariable robust Poisson regression was used to assess associations of STIs and covariates of interest. Furthermore, multivariable logistic regression analyses were used to evaluate the determinants of urethral and rectal STIs.

RESULTS: Mean age was 27.4 years (range:18-68). The RDS-adjusted HIV prevalence was 9.2% (95%CI:6.4-12.1) and of any STI was 16.7% (95%CI:13.2-20.2%). Syphilis prevalence (RPR+/TPHA+) was 5.7%(42), CT was 9.1%(67) and NG was 8.8% (65). STIs were significantly more common among older MSM and those with HIV (P<0.05). Of 67 CT infections, 67% were urethral, 27% rectal and 6% were dual-site. For the 65 NG infections, 52% were rectal, 29% genital and 19% were dual-site. A quarter 25.8%(23/89) of those with confirmed STI and who returned for their results were symptomatic at time of testing.

Greater age – (25-34) aPR:2.00 (95%CI:1.36-2.94) and (>35 years) aPR:1.87(95%CI:1.12-3.11) compared to 18-24; and STI symptoms in the previous year aPR:1.59(95%CI:1.18-2.17) were positively associated with any STI. Being circumcised was negatively associated with any STI aPR:0.72 (95%CI:0.52-0.98).

HIV was positively associated with rectal- aOR:2.43 (1.00-5.89) but negatively associated with urethral -STIs aOR:0.1 (0.01-0.76). Hazardous alcohol consumption was moderately associated with urethral aOR:2.14 (0.93-4.58) but negatively associated with rectal STIs aOR:0.28 (0.14-0.53).

CONCLUSIONS: MSM, especially those living with HIV, are at high risk of STIs in Rwanda with the vast majority being asymptomatic. Taken together, these data suggest the potential utility of active STIs surveillance strategies using highly sensitive laboratory methods among those at high risk given the anatomic distributions and limited symptomatology of STIs observed among Rwandan MSM.

PEC0446

CHANGES IN STI RATES AT AN UK URBAN SEXUAL HEALTH CLINIC OUTSIDE OF LONDON IN THE ERA OF PREP: MORE FREQUENT TESTING AND CHANGING SEXUAL BEHAVIOURS – UNPICKING THE COMPLEXITY

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BACKGROUND: We explore the role of increased STI testing, condom-use and HIV pre-exposure prophylaxis (PrEP) in the increasing number of STI diagnoses among men/trans-persons-who-have-sex-with-men (MSM/TPSM) at a sexual health clinic in Bristol, UK.

METHODS: We examined 13,546 electronic patient clinical records concerning 3,906 MSM/TPSM to identify trends in condom use and STI diagnoses for 3 years from January 2017. We performed linear regression analyses on temporal trends in condomless anal intercourse (CAI) and diagnoses of chlamydia, syphilis and gonorrhoea over this period. All MSM/TPSM clinic attendees (n=2818) were sent an electronic questionnaire (from November 2018 for 12 months), resulting in 617 eligible respondents. Eligibility required completed responses to questions concerning HIV-status and sexual decision-making regarding PrEP use by partners or self; consent to participate; and self-identification as MSM/TPSM.

RESULTS: The total number of visits resulting in diagnoses of chlamydia, syphilis or gonorrhoea in quarter 1 (Q1) 2017 were 112 compared to 177 in Q4 2019, over 1074 and 1202 visits respectively. Hence the proportion of visits resulting in a common STI diagnosis rose from 10.4% to 14.7%, peaking at 17.2% in Q2 2019; regression analysis indicating an average of a 2.3% absolute increase in the proportion of visits resulting in diagnoses per year (p<0.0001). CAI in the 3 months prior to date of clinic visit, increased from 45.9% to 68.5%, regression analysis indicating a 7.1% absolute increase per year (p<0.0001). Questionnaire results also indicated 339/578 (58.7%) of HIV-negative and 29/39 (74.4%) of HIV-positive TPSM/MSM would be more likely to have CAI with someone who was on PrEP than someone who was not on PrEP, whilst 356/578 (61.6%) and 162/578 (28.0%) of HIV-negative individuals said that if they were using PrEP they would be more likely to have CAI with someone who they believed were HIV-negative/positive respectively.

CONCLUSIONS: Rising STI diagnosis rates are not attributable to more frequent testing alone, as the proportion of visits in which STIs are diagnosed wouldn't be expected to increase. However, CAI is being more commonly reported, alongside willingness to forgo condom use among PrEP users and sexual partners of PrEP users (regardless of their HIV-status).

PEC0447

CORRELATES OF ACTIVE SYPHILIS INFECTION AND HIV/SYPHILIS CO-INFECTION AMONG MEN WHO HAVE SEX WITH MEN, TRANSGENDER WOMEN, AND GENDER QUEER INDIVIDUALS IN TWO CITIES IN ZIMBABWE

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BACKGROUND: Syphilis infection increases HIV acquisition risk for HIV-negative persons and impacts the immunologic and virologic response among people living with HIV (PLHIV). We assessed the prevalence of active syphilis infection and HIV/syphilis co-infection and their determinants among men who have sex with men (MSM), transgender women (TGW), and gender queer (GQ) individuals—populations vulnerable to HIV and syphilis—in Zimbabwe.

METHODS: MSM and TGW/GQ ≥18 years (n=1538) were recruited into cross-sectional surveys using respondent-driven sampling between March-July 2019 in Harare and Bulawayo, Zimbabwe. Participants were tested for HIV, using a three-test algorithm, and syphilis using Chembio DPP Syphilis Screen and Confirm Assay. PLHIV were tested for viral load (VL). Bivariate analyses were used to calculate sample prevalence estimates. A multiple logistic regression model was built to assess correlates of active syphilis infection, adjusting for sociodemographic characteristics which were significant (p<.05) in logistic regression. All analyses were unweighted and did not account for survey design as data did not reach convergence for HIV.

RESULTS: 98.2% of participants consented to biomarker testing (1511/1538). In Harare, 5.5% had active syphilis infection (38/695) and 10.1% of PLHIV were co-infected (15/149). In Bulawayo, 5.6% had active syphilis infection (46/816), and 11.0% of PLHIV were co-infected (21/191). Participants were more likely to have active syphilis infection if they were TGW/GQ (aOR:1.9, CI:1.1-3.2, p=.02), HIV positive (aOR:2.2, CI:1.4-3.6, p=.001), 25-34 years compared to 18-24 years (aOR:2.2, CI:1.3-3.8, p=.003), or had self-reported STI symptoms in the past 12 months (aOR:1.8, CI:1.1-3.0, p=.02). Among PLHIV, co-infection ranged from 13.0% among TGW/GQ (12/92) to 9.7% among MSM (24/248). There were no significant differences in co-infection by gender identity, city, sexual orientation, education, VL suppression (<1000 copies/mL), or awareness of HIV status in logistic regression however the crude odds of co-infection among PLHIV 25-34 years was 3.70 (CI:1.3-11.6, p=.02) compared to <24 years.

CONCLUSIONS: In both cities, active syphilis infection was >6 times higher than estimates for adult males in Harare and Bulawayo (0.8%), and co-infection was nearly fourfold that in the general male PLHIV population (2.8%). Findings highlight that MSM and particularly gender minorities bear a disproportionate burden of syphilis infection in Zimbabwe.

PEC0448

INSUFFICIENT HIV, HBV AND HCV SCREENING IN FRENCH PENAL INSTITUTIONS AND IMPACT ON ACTUAL ACCESS OF INMATES WITH CHRONIC HCV INFECTION TO DIRECT-ACTING ANTIVIRAL (DAA) THERAPY

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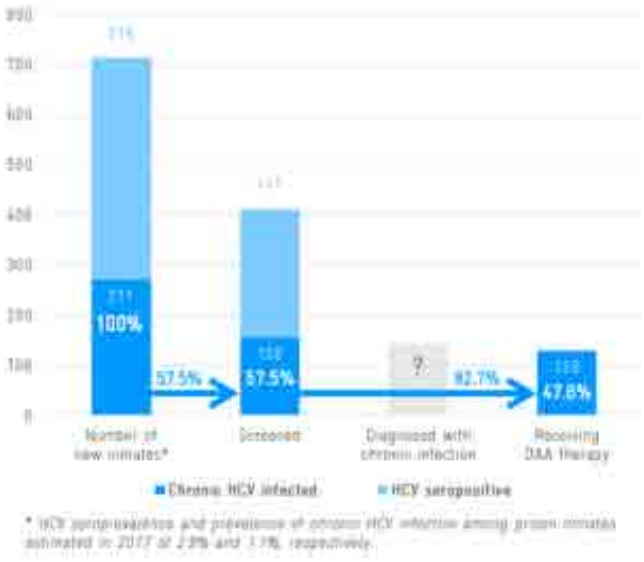
BACKGROUND: Prison inmates represent in France a key population regarding the implementation of a test-and-treat strategy against both HIV and HCV epidemics, with a seroprevalence estimated at 2.0% (2010) and 2.9% (2017), respectively. According to current guidelines, HIV, HBV and HCV screening should be systematically offered at prison admission. Inmates benefit from free access to medical care and treatment during detention, including HCV treatment with Direct-Acting Antivirals (DAAs). However, data on effective implementation of HCV screening and treatment is lacking.

METHODS: Since there is no routine collection of epidemiological data in prison healthcare units, we used activity data from administrative reports to document the number of HIV, HBV and HCV tests performed and to assess the proportion of inmates effectively screened for these infections during their imprisonment in France, in 2017. In three representative regions accounting for 30% of the overall prison population, we conducted an additional survey combining different data sources and collection methods in order to estimate the proportion of inmates with chronic HCV infection having accessed DAA therapy.

RESULTS: The screening rates were similar for HIV, HBV and HCV, suggesting that these tests were offered, accepted and performed as a package. Overall 52% of people entering a penal institution in 2017 were actually screened, with disparities across regions (36% to 67%) and single prison settings. The data used did not allow to distinguish between female and male inmates, while the latter account for 96% of prison population. In our additional survey, overall 47.6% of the inmates estimated to have a replicative chronic HCV infection received an AAD therapy.



[Figure. Engagement in care of HCV-infected inmates detained in three representative French regions in 2017]

CONCLUSIONS: Efficient implementation of test-and-treat strategies against HIV and HCV epidemics in the inmate population requires a drastic improvement of screening in penal institutions. Less than half of chronically HCV infected inmates currently access DAA therapy, mostly due to insufficient screening.

EPIDEMIOLOGY OF NON-AIDS NON-COMMUNICABLE DISEASES (E.G., NON-AIDS CANCERS, CVD)

PEC0449

OCCURRENCES AND INTERACTIONS OF CHRONIC COMORBIDITIES AMONG CLINICALLY STABLE HIV PATIENTS ON LONG-TERM ANTIRETROVIRAL THERAPY IN BELO HORIZONTE, BRAZIL: A CROSS-SECTIONAL STUDY

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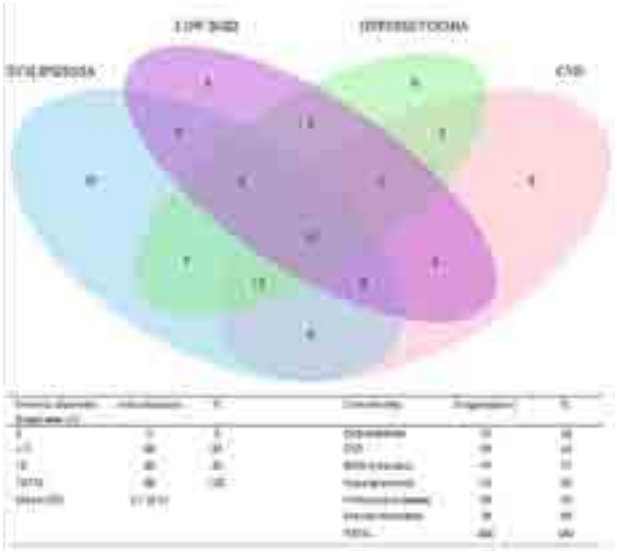
BACKGROUND: The frequency of chronic-medical-conditions among people living with HIV (PLHIV) is higher than in general population. These disorders may be associated in a complex/synergic interaction, leading to chronic-diseases, that represent the main mortality causes in PLHIV. In order to provide better quality of life to PLHIV, we aimed to estimate the frequency of chronic-comorbidities and assess their risk-factors among PLHIV on antiretroviral-therapy (ART).

METHODS: Cross-sectional study was carried-out during 2017-2018 in 98 PLHIV (≥18 years) who began ART between 2001-2005 and have been monitored in public health-care (Belo Horizonte-Brazil). The outcome was defined as the count of comorbidities: hyperglycemia, dyslipidemia, cardiovascular-diseases (CVD), low bone-mineral-density (BMD), infectious-diseases and mental-disorders, collected through interviews, laboratory-testing and medical-records. Other variables comprised age/10, gender, immune-recovery (defined as CD4≥500 cells/µl) and physical-activity (Baecke-Questionarie). Descriptive-analyses, absolute/relative frequencies were estimated. The association between the outcome and age and physical-activity was perfomed using Quasipoisson-multilinear-regression model, adjusted by gender and immune-recovery (R-Software version:3.0.1).

RESULTS: Most participants were male (53%), with mean(SD) age=51.8(9.4) years. Approximately 38% presented physical-activity and 76% immune-recovery. We identified 266 comorbidities. 26% of participants had more than 3 comorbidities, resulting on mean(SD)=2.7(1.4) comorbidities/individual. Among the major co-morbidities, dyslipidemia, CVD, BMD and hyperglycemia highlighted with 70 (26%), 59 (22%), 44 (17%) and 42 (16%) respectively. None individual presented hyperglycemia individually, and 14 individuals presented the four major chronic-disorders simultaneously (Figure-1) . Older age presented poor association, however the presence of physical-activity showed considerable protective effect on the number of comorbidities (Table 1).



[Figure 1 - Occurrences and interactions between chronic disorders in people living with HIV under long-term antiretroviral therapy in Belo Horizonte, Brazil.]

Variables			Comorbidites occurences (mean)	Quasipoisson multilinear-regression		
		n (%)		Estimator (β)	CI-95%	p-value
Age/10 (years)	<43	77 (79)	2.0			
	≥43	21 (21)	3.2	0.21	(0.10;0.31)	<0.05
Physical-activities	No	58(62)	3.7			
	Yes	36(38)	3.2	-0.23	(-0.42;-0.04)	<0.05

Table 1: Relationship between the number of chronic-comorbidities and age and habitual physical activities adjusted by gender and immune-recovery in people living with HIV under antiretroviral therapy, Belo Horizonte city, Brazil.

CONCLUSIONS: Currently, due to avaiability of ART, PLHIV live longer, however facing many health challenges on non-communicable diseases. The lifestyle modifications such as physical-activity should be included to improve the health of PLHIV.

PEC0450

EARLY WEIGHT CHANGES ASSOCIATED WITH BICTEGRAVIR-BASED REGIMENS COMPARED TO OTHER INTEGRASE INHIBITORS FOLLOWING ART-INITIATION IN ART-NAÏVE PEOPLE LIVING WITH HIV

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BACKGROUND: Initiation of antiretroviral therapy (ART) has been associated with weight gain among people living with HIV (PLWH), particularly among those starting regimens containing integrase strand transfer inhibitors (INSTIs). Little is known about weight gain associated with bictegravir (BIC), a recently approved INSTI. We evaluated short-term weight gain after ART initiation among ART-naïve PLWH initiating a regimen containing BIC compared to other INSTIs in a US cohort.

METHODS: We included ART-naïve PLWH initiating INSTI-based ART regimens between 2012-2019 across 8 Centers for AIDS Research Network of Integrated Clinical Systems (CNICS) sites. ART regimens included raltegravir (RAL), elvitegravir (EVG), dolutegravir (DTG), and BIC-based regimens with tenofovir disoproxil fumarate (TDF), tenofovir alafenamide fumarate (TAF) or abacavir (ABC) and emtricitabine or lamivudine. We compared weight gain on BIC vs other INSTI-based regimens within six months after ART initiation. Data were modeled using linear mixed models adjusted for age, sex, race, hepatitis B and/or C virus coinfection, nadir CD4, smoking, diabetes, site, anti-psychotic medication use, and regimen, with an interaction between time and regimen.

RESULTS: We included 2,005 PLWH who initiated an INSTI-based regimen. PLWH who began a BIC/TAF-based regimen gained the most weight in the first six months after initiation (5.3 kg; 95%CI: 3.2-7.5). Participants taking BIC/TAF gained significantly more weight than those taking EVG/TDF and EVG/TAF-based regimens, but not significantly more compared to participants taking RAL/TDF, DTG/TDF, and DTG/ABC (Table). PLWH taking BIC/TAF experienced similar weight gain compared to PLWH taking DTG/TAF in the first six months after ART initiation.

	n	Coeff[b] (Δ kg/6 mo)	95% CI		P-value
BIC/TAF (ref)	115	5.31	3.15	7.46	0.00
Regimen type x Time on regimen					
RAL/TDF	96	-2.57	-5.34	0.20	0.07
EVG/TDF	790	-2.82	-5.08	-0.56	0.02
EVG/TAF	252	-2.63	-4.98	-0.27	0.03
DTG/TDF	233	-2.03	-4.41	0.36	0.10
DTG/TAF	116	-0.09	-3.29	3.10	0.95
DTG/ABC	383	-2.30	-4.63	0.04	0.05

[a] Model adjusted for time on regimen, regimen, age, sex, race, Hepatitis C, Hepatitis B, nadir CD4, smoking, diabetes, site, anti-psychotic medication use (time-updated)
[b] Estimated difference in weight change compared to referent group (BIC/TAF)

[Table. Weight change among previously ART-naive individuals over the first 6 months after initiating an INSTI-based regimen in adjusted[a] analyses (linear mixed models). Outcome = weight (kg) - 2005 people, 3.4 observations per person on average]

CONCLUSIONS: In the first six months following ART initiation, PLWH initiating BIC/TAF-based regimens appeared to gain more weight than those initiating some other INSTI-based regimens, with similar gains among those initiating DTG/TAF. Longer-term studies are needed to further investigate these weight gain disparities between INSTI regimens over a longer time period.

PEC0451

THE INCIDENCE OF OROPHARYNGEAL AND ORAL CAVITY CANCERS BY HIV AND MSM STATUS IN BRITISH COLUMBIA, CANADA (1990-2015)

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BACKGROUND: The incidence of HPV-associated oropharyngeal cancers is increasing in Canada. Despite this, little is known about the epidemiology of these cancers as it relates to HIV status, sex, and sexual behaviour.

METHODS: In this retrospective cohort analysis (1990-2015), we created a subset of ~1.2 million individuals from the Integrated Data and Evaluative Analytics (IDEAs) cohort who had tested for or been diag-

nosed with HIV in British Columbia (BC). Squamous cell carcinomas of the oropharynx (tongue–base, soft palate, tonsils, mid-pharynx) and oral cavity (tongue–front 2/3, hard palate, gums, floor of mouth) were assigned using ICD-O-3 codes. Follow-up began at 01/01/1990, date of 16th birthday, or HIV detection (HIV-positive stratum), whichever occurred last, and ended at first cancer diagnosis, HIV diagnosis (HIV-negative stratum), death, or 31/12/2015, whichever occurred first. Individuals aged ≥16 years with ≥6 months of follow-up time were included. Crude incidence rates per 100,000 person-years were calculated over the entire period, stratified by HIV status, sex, and, among males, whether they were men who have sex with men (MSM).

RESULTS: From 1990-2015, there were 663 incident oropharyngeal cancers (n=60 MSM; n=474 male non-MSM; n=129 female) and 511 incident oral cavity cancers, (n=42 MSM; n=295 male non-MSM; n=174 female). Overall, crude incidence rates among HIV-positive individuals, compared with HIV-negative individuals, were higher for both oropharyngeal cancer (13.51 vs. 2.41 per 100,000 person-years, respectively) and oral cavity cancer (8.26 vs. 1.87 per 100,000 person-years, respectively). Oropharyngeal cancer incidence rates were highest among HIV-positive non-MSM males (21.23, 95% confidence interval [95%CI]: 11.05-40.80) and lowest among HIV-negative females (0.82, 95%CI: 0.69-0.98). For oral cavity cancer, incidence rates were highest among HIV-positive MSM (12.46, 95%CI: 6.23-24.92).

CONCLUSIONS: Considering the paucity of oral cancer screening programs in Canada, these results highlight the importance of HPV prevention initiatives, particularly among men living with HIV.

PEC0452

PROJECTING THE BURDEN OF MULTIMORBIDITY AMONG MEN WHO HAVE SEX WITH MEN LIVING WITH HIV IN THE US

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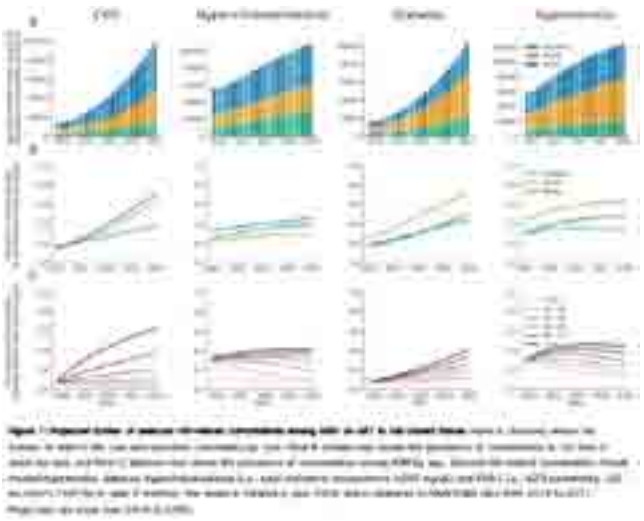
BACKGROUND: As people living with HIV (PLWH) survive to older ages, the overall burden and racial disparities of age-related comorbidities among key populations, including men who have sex with men (MSM), remain uncertain.

METHODS: ProjEcting Age, MultimoRbidity, and PoLypharmacy (PEARL) is an agent-based simulation model of multimorbidity among PLWH in the US (2009-2030), including four HIV-related comorbidities (treated hypertension, diabetes, hypercholesterolemia and chronic kidney disease (CKD)), and presence/absence of four underlying conditions (smoking, Hepatitis C virus (HCV), depression and anxiety). Using data from the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD), we estimated the prevalence of each comorbidity/condition among MSM receiving ART in 2009 and those starting ART from 2010-17. The incidence of each comorbidity was estimated as a function of age, calendar year, ART initiation year, CD4 at ART initiation, current ART use and prevalence of other comorbidities/conditions. Annual mortality rate was estimated separately for people on and off treatment. All analysis was carried separately by race (for White, Black, and Hispanic MSM).

RESULTS: Along with the underlying increase in number of MSM receiving ART in the US (from 195,000 in 2009 to 444,000 in 2030), the prevalence of HIV-related comorbidities and racial disparities are increasing over time (i.e., Fig.1A: largest concentration of CKD and hypercholesterolemia among White MSM, and diabetes and hypertension among Black MSM). Prevalence of HIV-related comorbidities at the time of death is increasing similarly (Fig.1B). There is a significant increase in prevalence of HIV-related comorbidities with age (e.g., Fig.1C: CKD prevalence increasing from 7.3% in 2009 to 43.9% in 2030 among MSM >60-years-old).



CONCLUSIONS: The projected burden of HIV comorbidities among MSM is increasing over time, with higher prevalence among older MSM, and with sustained racial disparities. Efforts to end the HIV epidemic should be expanded to address the projected comorbidity burden.

PEC0454

INCIDENCE RATES OF ANAL SQUAMOUS CELL CARCINOMA AMONG HIV-POSITIVE AND HIV-NEGATIVE INDIVIDUALS BY MSM STATUS IN BRITISH COLUMBIA, CANADA: A RETROSPECTIVE COHORT STUDY (1990-2015)

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BACKGROUND: Anal squamous cell carcinoma (ASCC) is an HPV-associated malignancy that disproportionately impacts people living with HIV and men who have sex with men (MSM). However, population-based incidence rate (IR) estimations that draw on precise laboratory data and MSM statuses are scarce.

METHODS: The Integrated Data and Evaluative Analytics (IDEAs) Cohort includes ~1.7 million individuals who have tested or been case-reported for HIV and other infectious diseases in British Columbia (BC). We created a sub-cohort of HIV-negative and HIV-positive individuals aged ≥16 years with ≥6 months of follow-up time. ASCC diagnoses were ascertained from the BC Cancer Registry (1990-2015).

Follow-up began at first HIV detection (HIV-positive stratum), date of 16th birthday, or 01/01/1990, whichever occurred last. Follow-up ended at first ASCC diagnosis, HIV diagnosis (HIV-negative stratum), death, or 31/12/2015, whichever occurred first. We assessed crude IRs of ASCC stratified by sex, HIV status, and imputed MSM status.

RESULTS: From 1990-2015, there were 425 incident ASCC cases (n=78 MSM, n=119 male non-MSM, n=228 female). Among 1,279,903 HIV-negative individuals (6% MSM, 34% male non-MSM, 59% female), ASCC IRs per 100,000 person-years were 1.81 (95% confidence interval [95%CI]: 1.27-2.59) for MSM, 1.04 (95%CI: 0.85-1.27) for male non-MSM, and 1.45 (95%CI: 1.27-1.65) for females. Among 11,972 HIV-positive individuals (45% MSM, 34% male non-MSM, 21% female), ASCC IRs per 100,000 person-years were 74.94 (56.47-99.44) for MSM, 47.23 (30.47-73.21), for male non-MSM, and 3.79 (0.53-26.91) for females. Among HIV-positive MSM, crude ASCC IRs per 100,000 person-years increased over time: 1990-1999: IR=55.05 (95%CI: 20.66-146.68); 2000-2009: IR=73.74 (95%CI: 48.11-111.99); 2010-2015: IR=82.14 (95%CI: 54.09-124.75).

CONCLUSIONS: ASCC incidence was highest among HIV-positive MSM in BC, with rates in this population increasing over time. These results highlight the need for formalized anal cancer screening programs among people living with HIV in Canada.

DESCRIBING THE SPREAD OF HIV THROUGH MOLECULAR EPIDEMIOLOGY

PEC0455

TEMPORAL ANALYSIS OF HIV SEQUENCE AMONG THE JAPANESE POPULATION REVEALED TRANSMISSION CLUSTERS THAT DO NOT HAVE ACCESS TO THE SUCCESSFUL PREVENTIVE MEASURES WHICH WERE IMPLEMENTED IN JAPAN

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BACKGROUND: In Japan, the number of new HIV cases being reported is slowly decreasing after having peaked in 2013. Since the number of reported cases of HIV differs from the incidence of viral transmission, it is unclear whether this infection is suppressed in Japan. Further, the fact that the first set of the 90-90-90 goals is largely unmet in Japan raises concern. Combining information from the Search Program of HIV Nation-wide Cluster database by Sequence (SPHNCS) with time-based phylogenetic analyses within these clusters, we analyzed the transmission dynamics of the recently reported HIV/AIDS cases in Japan.

METHODS: SPHNCS estimates the genetic distance of pol region between a query and the cases collected by Japanese drug resistance surveillance (JDRS) and identifies the domestic transmission cluster (dTC) of the query as the most closely linked neighbor cases (distance of <1.5%). We thus identified dTCs of 2,191 HIV-1 subtype B infected cases collected by JDRS in 2013-2016. We analyzed the phylogeny to estimate the transmission time and fluctuation of the relative population size of the 10 largest dTCs and 8 recently emerging dTCs using Bayesian inferences.

RESULTS: Among 6,797 cases, 5,781(85.1%) belonged to any dTC. Between 2013-2016, 8 of the top 10 dTCs showed a decrease in the transmission events and number of reported cases. Approximately 40% of the top 100 dTCs did not grow much during these 4 years. Conversely, the growing dTCs included sub-clusters with recently reported outbreaks and/or long-term undiagnosed groups. The former and latter groups comprised mostly urban youth and older individuals, respectively. Moreover, dTCs derived from recent cases among singletons could also be classified into two similar backgrounds.

CONCLUSIONS: The results demonstrate the positive and negative consequences of HIV/AIDS prevention strategies implemented in Japan. The positive aspect is that new infection is suppressed in some local populations that are at risk. This may be the consequence of inducement campaigns for HIV testing in several key populations. However, a significant population is still infected and/or hidden away in areas inaccessible to these preventive actions. Detecting such populations using SPHNCS and delivering a matching countermeasure may help in bringing awareness.

PEC0456

TRANSMISSION CHARACTERISTICS OF HIV-1 STRAINS AMONG NEWLY REPORTED HIV INFECTED PEOPLE IN CHINA IN 2018

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BACKGROUND: To provide scientific data for the accurate prevention and control of the HIV-1 transmission epidemic in China by studying the transmission characteristics of HIV-1 strains among newly reported HIV infected people in China in 2018.

METHODS: Field survey and sample collection were carried out in 31 provinces of China in 2018 (stratified sampling was carried out in cities where the number of newly reported infections in the same year was the median of the province), and partial sequences of pol region were obtained; sequences with length ≥ 1000bp and mixed base ≤ 5% were selected to carry out phylogenetic tree analysis and construct molecular network with HIV-TRACE, and the threshold of gene distance was set as 0.015; Statistical analysis using logistic regression.

RESULTS: A total of 4276 cases of newly reported HIV infection in 2018 were analyzed. It was found that CRF07_BC (39.7%, 1696/4276) and CRF01_AE (36.9%, 1578/4276) were the main subtypes of HIV-1 in China. We identified that 2241/4276 (52.4%) sequences belonged to molecular transmission clusters, and a total of 375 molecular clusters were identified. Among them, there are 39 cross-regional molecular clusters (clusters with sequences of 3 provinces or more), and the number of people entering the network with cross-regional transmission (1300 cases) is higher than the number of people entering the network with non-inter-regional transmission (941 cases); MSM clusters accounted for the largest proportion (35.9%, 467/1300). Through logistic regression analysis, it was found that MSM transmission was more likely to form cross-regional molecular clusters than heterosexual transmission. In southern China, infected persons were more likely to form cross-regional molecular clusters than those in central, eastern, north, northeast, southwest, and northwestern China.

CONCLUSIONS: A high proportion of HIV-1 cross-regional transmission exists in China; the CRF07_BC subtype is the main driving factor for the formation of cross-regional molecular clusters; South China is the region where HIV-1 transmission is most prevalent. To better control the HIV epidemic in China, there is an urgent need to strengthen information exchange and cooperation among provinces and implement joint prevention and control.

PEC0457

GLOBAL AND REGIONAL EPIDEMIOLOGY OF HIV-1 RECOMBINANTS IN 1990-2015: A SYSTEMATIC REVIEW AND GLOBAL SURVEY

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BACKGROUND: Global HIV-1 genetic diversity and evolution form a major challenge to treatment and prevention efforts. An increasing number of distinct HIV-1 recombinants have been identified worldwide, but their contribution to the global epidemic is unknown. We aimed to estimate the global and regional distribution of HIV-1 recombinant forms during 1990-2015.
METHODS: We assembled a global HIV-1 molecular epidemiology database through a systematic literature review and a global survey. We searched PubMed, EMBASE, CINAHL, and Global Health databases for HIV-1 subtyping studies published between Jan 1, 1990 -Dec 31, 2015. Unpublished data was collected through a global survey. We included prevalence studies with HIV-1 subtyping data collected during 1990-2015. Countries were grouped into 14 regions and analyses conducted for four time periods (1990-99, 2000-04, 2005-09 and 2010-15). The distribution of circulating recombinant forms (CRFs), and unique recombinant forms (URFs) in individual countries was weighted according to the number of HIV-infected people in each country to generate regional and global estimates of HIV-1 recombinants in each time period.
RESULTS: Our global data collection yielded an HIV-1 molecular epidemiology database of 383,519 samples from 116 countries over 1990-2015. We found that the proportion of recombinants increased over time, both globally and in most regions. This was due to increases in both the proportion and the number of distinct CRFs detected over time, with 57 CRFs identified globally in 2010-2015. The global and regional distribution of HIV-1 recombinants was highly diverse and evolved over time, and we found extraordinary regional variation in the numbers (0-44 CRFs), types (58 distinct CRFs) and proportions (0-80.5%) of HIV-1 recombinants. Globally, CRF02_AG accounted for 33.9% of recombinants in 2010-2015, followed by URFs(26.7%), CRF01_AE(23.0%), and other CRFs(16.4%). Although other CRFs played smaller roles globally they played increasingly important roles in regional epidemics. East(12.6%), West(15.5%) and Central(21.3%) Africa and Latin America(9.6%) had high proportions of URFs.
CONCLUSIONS: Recombinants play an increasing role in global and regional HIV epidemics, which has important implications for the development of an HIV vaccine, as well as design of diagnostic, resistance and viral load assays. Continued and improved surveillance of the global molecular epidemiology of HIV is crucial.

PEC0458

THE INTERNATIONAL DIMENSION OF HIV-1 CLUSTERS

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BACKGROUND: For more than a decade, numerous studies have reported an increasing frequency of clustering in newly diagnosed (ND) HIV-1 infections in many countries, commonly associated with men who have sex with men. Here we aim at determining the frequency with which HIV-1 infections ND in Spain group in clusters and the countries involved in them, using all protease-reverse transcriptase (PR-RT) sequences obtained by us and available at databases.
METHODS: HIV-1 PR-RT sequences were obtained through RT-PCR amplification from plasma RNA using samples collected from individuals attended at clinical centers from 10 Spanish regions ND of HIV-1 infection in 2017-2019. Phylogenetic analyses were performed with FastTree using all PR-RT sequences obtained by us from samples collected in Spain in 1999-2019 (n=14,886) and those available at the Los Alamos HIV Sequence Database. These were downloaded using the option "one sequence per patient"; sequences < 960 nt long, containing deletions or stretches of ambiguous positions >6 nt long, or without information on country of sample collection were excluded. Two separate analyses were performed, using database subtype B (n=72,345) and non-subtype B (n=80,482) sequences, respectively. Analyses including only viruses collected in Spain were also performed. Transmission clusters (TCs) were defined as those comprising ≥4 individuals supported by local SH-like values ≥0.95.
RESULTS: Of 1,585 PR-RT sequences obtained from ND individuals in Spain, 1,037 (65.4%) grouped in 377 TCs. When only viruses collected in Spain were used in the analyses, 853 (53.8%) grouped in TCs. Of the 377 TCs, only 118 comprised exclusively viruses collected in Spain. 31 clusters observed in the Spanish-only tree were broken up when non-Spanish sequences were included. 18 Spanish TCs were nested within larger predominantly non-Spanish TCs. Countries more frequently participating in TCs comprising viruses from individuals ND in Spain were Germany (participating in 78 TCs), UK (n=74), USA (n=74), Brazil (n=38), Portugal (n=26), Belgium (n=22), and Italy (n=21).
CONCLUSIONS: HIV-1 infections newly diagnosed in Spain frequently group in clusters, which often comprise non-Spanish viruses. When analyzing HIV-1 clustering, inclusion of all available sequences provides a more informative and epidemiologically relevant view of HIV-1 propagation in the global pandemic.

SURVEILLANCE IN KEY POPULATION GROUPS

PEC0459

EARLY SEX WORK INITIATION AND ITS ASSOCIATION WITH CONDOMLESS SEX AND SEXUALLY TRANSMITTED INFECTIONS AMONG FEMALE SEX WORKERS IN IRAN

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BACKGROUND: Early sex work initiation among female sex workers (FSW) increases their vulnerabilities to HIV and other sexually transmitted infections (STIs) as well as high-risk sexual practices. This study aimed to examine the prevalence of early sex work initiation, and its association with condomless sexual practices, and HIV/STIs among FSW in Iran.

METHODS: We recruited 1,347 FSW from 13 cities in Iran in 2015. Eligible women were FSW who were ≥18 years and reported selling sex in exchange for livelihood with more than one client within the previous 12 months. We examined the association of early sex work initiation (<18 years old) with HIV and human papillomavirus, chlamydia, trichomoniasis, syphilis, and gonorrhea, and two condomless sex indicators. Adjusted odds ratios (aOR) and 95% confidence intervals (CI) were reported using multivariable logistic regression.

RESULTS: A total of 131 (10.1%) FSW reported early sex work initiation. In comparison with those who had started sex work ≥ 18, early initiators were younger (mean (SD): 28.7 vs. 36.0 years), reported never being married (22.1% vs. 4.5%), had lower educations (77.9% vs. 61.6%), and were involved in sex work >10 years (55.0% vs. 30.2%). Early initiators were also more likely to report last-month inconsistent condom use (aOR = 3.31, 95% CI:1.82, 6.02, P-value <0.001), and last-sex condomless intercourse (aOR = 1.72, 95% CI: 1.15, 2.56, P-value = 0.007). There was no statistical association between early sex work and HIV (aOR = 1.40, 95% CI: 0.43, 4.53, P-value = 0.544), and any STIs (aOR = 1.01, 95% CI: 0.69, 1.48, P-value = 0.934), except for chlamydia (aOR = 2.09, 95% CI:1.08, 4.04, P-value = 0.027).

CONCLUSIONS: Our findings highlight the need to develop, implement and evaluate evidence-informed interventions for FSW who initiated sex work early in Iran. While specific interventions such as screening for STIs are helpful, advanced counselling for condom use are required to encourage safe sex practices among FSW who initiated sex work early. Future research in the area of condom use in Iran can focus on identifying and tackling the barriers to condom use among FSW who initiated sex work early.

PEC0460

DISTRIBUTION AND TEMPORAL TREND IN TIME FROM HIV INFECTION TO DIAGNOSIS AMONG MSM: EVIDENCE FROM A SYSTEMATIC REVIEW

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BACKGROUND: The HIV epidemic disproportionately affects men who have sex with men (MSM). As such, characterizing the time from infection to HIV diagnosis in this population is crucial to assess transmission risk potential and the effect of HIV testing practices in recent decades. Thus, the objective of the study was to examine the distribution and temporal trend in time from HIV infection to diagnosis for MSM using a systematic review of the literature.

METHODS: Following PRISMA guidelines, two authors independently searched MEDLINE and Embase without geographic or date restrictions, and bibliographies of included citations. Authors utilized a combination of keywords and Medical Subject Heading terms for the search. Eligibility criteria for inclusion were met if the study investigated MSM with HIV, reported any measure on time from HIV infection to diagnosis, and was published in English in a peer-reviewed journal. Data on study setting, modeling techniques, and measures of time from HIV infection to diagnosis were extracted. Subsequently, a narrative synthesis and pooled mean analysis with equal weighting of eligible studies were done.

RESULTS: The search identified 1651 unduplicated citations. After screening titles and abstracts, 146 of 1651 were included for full-text review; nine articles were eligible for inclusion in the study. All eligible studies were conducted in high-income countries: United Kingdom (n=3), United States (n=2), France (n=2), Australia (n=1) and the Netherlands (n=1). While earlier studies utilized the CD4-staged back-calculation modeling technique (n=6), recent studies used the CD4-depletion model (n=3). Overall, the mean time from HIV infection to diagnosis for MSM was 4.2 years. Before the advent of antiretroviral therapy in 1996, mean time from HIV infection to diagnosis was 7.8 years (range: 5.6–11.6 years). The mean times in subsequent cohorts were: 2000–2006 (mean: 4.2 years, range: 2.3–6.2 years); 2007–2011 (mean: 3.3 years, range: 0.9–5.0 years); and 2012–2015 (mean: 3.2 years, range: 2.7–3.7 years).

CONCLUSIONS: In high-income countries, MSM live with undiagnosed HIV for approximately 3 years. Decreases in mean time from HIV infection to diagnosis for MSM over time were observed. Findings highlight need for targeted initiatives to increase routine HIV testing in this population.

PEC0461

DECLINE IN HIV PREVALENCE AMONG MEN WHO HAVE SEX WITH MEN IN DAR ES SALAAM, TANZANIA: EFFORTS TOWARDS THE ATTAINMENT OF THE 2030 GOAL

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BACKGROUND: Implementation of a comprehensive package of HIV interventions for key populations in Tanzania started in 2014 to accelerate progress towards the 2030 goal of ending the epidemic. No study has so far examined the state of the epidemic among men who have sex with men (MSM) after the launch of this package. We estimated the prevalence of HIV infection and associated sexual behaviors among MSM in Dar es Salaam nearly half a decade after the implementation of the package.

METHODS: A cross-sectional survey using respondent-driven sampling was used to recruit MSM aged 18 and above. We carried out structured interviews followed by blood sample collection for HIV testing. Independent risk factors for HIV infection were examined using weighted logistics regression modelling.

RESULTS: A total of 777 MSM with mean age of 26 were recruited. The weighted HIV prevalence was 8.3% (95%CI: 6.3-10.9) as compared to 22.3% (95%CI: 18.7-26.4) observed in a similar survey in 2013. Half of the participants had had sex with more than 2 partners in the month preceding the survey. Among those who had engaged in transactional sex, 80% had used a condom during last anal sex with a paying partner. Participants aged 25 and above had 4 times higher odds of being infected than those aged 15-19. HIV infection was associated with multiple sexual partnerships (AOR, 3.0; 95%CI: 1.8-12.0), not using a condom during last sex with non-paying partner (AOR, 4.1; 95%CI: 1.4-7.8), and ever engaged in group sex (AOR, 3.4; 95%CI: 1.7-13.6). Having used a condom during transactional sex was associated with 60% reduced odds of infection.

CONCLUSIONS: HIV prevalence among MSM in Dar es Salaam has decreased by more than half over the past 4 years, coinciding with the implementation of a comprehensive package for HIV interventions among key populations. It is nonetheless twice as high as that of men in the general population. Increased protected anal sex and a decline in infection in the general population could have played a role. To achieve the 2030 goal, behavioral change interventions and roll-out of new intervention measures such as pre-exposure prophylaxis are urgently needed.

PEC0462

TRENDS IN PREVALENCE OF HIV AND OTHER STIS AMONG KEY POPULATIONS IN THREE DISTRICTS IN BOTSWANA: RESULTS OF THE 2017 BEHAVIORAL AND BIOLOGICAL SURVEILLANCE SURVEY AMONG KEY POPULATIONS IN BOTSWANA

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BACKGROUND: The first Behavioral and Biological Surveillance Survey (BBSS1) in Botswana was conducted in 2012 to generate baseline information on the prevalence and incidence of HIV and other STIs among female sex workers (FSWs) and men who have sex with men (MSM). The study results highlighted critical gaps in the provision of HIV and STI services for key populations (KPs). Five years later, the second BBSS (BBSS2) was conducted to better understand the dynamics of HIV transmission in these populations. We compared trends in the prevalence of HIV and other STIs between BBSS1 and BBSS2.

METHODS: Both studies used a cross-sectional design to establish the prevalence of HIV and other STIs among the selected KP groups. A mapping exercise of all venues where FSWs solicited clients was used to create a time-location sampling frame, while respondent-driven sampling was used for the often hidden MSM population. Comparisons were only made for the three districts represented in BBSS1 (Gaborone, Francistown, Chobe) and only for the STIs previously studied in BBSS1 (syphilis, gonorrhea, and chlamydia).

RESULTS: Overall, HIV prevalence among FSWs decreased from 61.9% (BBSS1) to 51.3% (BBSS2). HIV prevalence among MSM increased significantly from 13.1% (BBSS1) to 19.1% (BBSS2) (p=0.016). The most common STI for both groups in both studies was chlamydia. FSWs experienced an increase in the prevalence of chlamydia (11.9% to 13.7%) and syphilis (3.5% to 6.7%) and decline in gonorrhea (10.5% to 7.2%) from BBSS1 to BBSS2. Among MSM, there was decline in prevalence for all three STIs from 2.9% to 1.7% for gonorrhea, from 11.3% to 9.2% for chlamydia, and from 2.7% to 1.8% for syphilis. Finally, self-reported access to ART treatment improved significantly, from 25% to 88% (p=0.000) for FSWs, and from 13.1% to 82.1% for MSM from BBSS1 to BBSS2.

CONCLUSIONS: Prevalence of HIV and STIs remains high among KPs in Botswana. Given the correlation between STIs and HIV transmission, there is a need to scale up combination prevention strategies that include prevention education, pre-exposure prophylaxis (PrEP), and promotion of condom and lubricant use.

PEC0463

TRANSITIONS BETWEEN PREP ELIGIBILITY STATES AND HIV INFECTION IN A COHORT OF HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN IN LISBON: A MULTI-STATE MODEL ANALYSIS

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BACKGROUND: At any one point in time, eligibility for preexposure prophylaxis (PrEP) is based on self-reported risk behavior together with clinical data. We aimed to describe the transitions between PrEP eligibility states comprising HIV infection, among HIV-negative Men who have Sex with Men (MSM).

METHODS: We used data from 1177 adult MSM enrolled in the open, prospective Lisbon Cohort of MSM who had at least one follow-up visit and two consecutive measurements of PrEP eligibility from March 2014 to March 2018. A time-homogeneous Markov multi-state model was applied, describing transitions between PrEP eligibility states (eligible and ineligible) and from each of these to HIV infection, by estimating its intensities and probabilities. The Portuguese National Health Service guidelines were used to define eligibility.

RESULTS: The estimated transition intensities were similar for ineligible–eligible (I–>E) (1.591 [1.323; 1.913] and eligible–ineligible (E–>I) (1.493 [95% CI 1.241; 1.795]) while the transition eligible–HIV infection (E–>HIV) was 22 times more likely than ineligible–HIV infection (I–>HIV) (0.032 [95% CI 0.020; 0.050] vs. 0.001 [95% CI 0.000; 0.982]). The transition probabilities estimated for 90 days were similar for the transition I–>E and E–>I (0.275 [95% CI 0.233; 0.310] vs. 0.258 [95% CI 0.218; 0.290]) while the transition E–>HIV was 4.4 times more likely than I–>HIV (0.007 [95% CI 0.005; 0.032] vs. 0.002 [95% CI 0.001; 0.143]). The transition probabilities increased with time; they were similar between the two eligibility states, but the ratios between the transition probabilities to HIV infection decreased.

CONCLUSIONS: The transition probability to HIV infection was higher at any time from the eligible state than from the ineligible state, but ratios between these probabilities decreased with time, indicating being ineligible was only a short-time indicator of a lower probability of acquiring HIV. Additionally, once an individual met any of the eligibility criteria for PrEP, the risk of seroconversion increased 22-fold. Therefore, anticipating and avoiding changing to an eligible state is challenging and demands delivering PrEP sooner than later.

PEC0464

CORRELATES OF HIV INFECTION AND VIRAL LOAD SUPPRESSION AMONG MEN WHO HAVE SEX WITH MEN IN GHANA

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BACKGROUND: Men who have sex with men (MSM) are disproportionately affected by HIV in Ghana with limited data on number on treatment and virally suppressed. In 2017, PEPFAR through CDC funded a Biological Behavioural Survey (BBS) among MSM covering all 10 regions in Ghana. Results indicated low self-reported ART status. HIV Positive Samples were analyzed for viral load levels to validate self-reported ART status results and estimate viral suppression.

METHODS: The study recruited 4,095 MSMs using respondent-driven sampling across 10 regions in Ghana in an average of 14 weeks. HIV antibody and viral load testing were performed on collected samples. HIV testing used First Response rapid test, reactive specimens were confirmed using OraQuick rapid test, and viral load testing was done using COBAS AmpliPrep/TaqMan 96, 23 months after being drawn. Population-based estimates of the cascade indicators were derived using individualized RDS weights. Bivariate descriptive analysis was done using RDS A, Stata v31.1 and MS Excel.

RESULTS: Estimated number of MSM in Ghana is 54,759, (0.72% of adult male population). HIV prevalence is 18.1% (95% CI; 15.8-20.3). Viral load test showed overall viral suppression of 39.6% (95%CI:34.2-45.3). 8.7% (95%CI:6.3-11.9) had undetectable HIV-1 RNA and 6.5% (95%CI:4.1-10.1) showed <20 copies. 3.7% (95%CI:2.4-5.8) HIV positives self-reporting to have taken ARVs in the last 12 months, of which 80.5% (95%CI; 55.6 -93.2) were suppressed. 38.3% (95%CI; 32.8-44.2) who did not self-disclose their last 12 months ART status were found to be suppressed. Viral suppression among 18-24 years (40.0%, 95%CI:32.1%-48.5%) and those greater than 24 years (39.9%, 95%CI:32.6-47.7%) were not significantly different (p=0.991).

Region	N	Suppressed (n)	Crude	Adjusted (95% CI)
Greater Accra	244	118	48.8	47.8 [39.8-56.0]
Ashanti	132	41	31.1	26.7 [18.2-37.4]
Brong-Ahafo	23	4	17.4	19.0 [6.5-44.0]
Central	60	12	20	16.8 [8.4-30.9]
Eastern	55	12	21.8	22.9 [12.9-37.2]
Northern	21	5	23.8	16.5 [6.1-37.6]
Volta	69	23	33.3	31.2 [19.9-45.4]
Western	65	25	38.5	38.5 [25.6-53.2]
Total	669	240	35.9	39.6 [34.2-45.3]

[Table 1 HIV Viral Suppression by Region; Ghana]

CONCLUSIONS: Data shows significantly higher HIV prevalence and lower viral suppression among MSM compared with the general population. BBS self-reported ART status underestimate UNAIDS FastTrack 1st and 2nd 90s targets. Viral load testing should be integral to BBS.

PEC0465

OUTCOMES OF HIV POSITIVE SURGICAL PATIENTS ADMITTED TO A SOUTH AFRICAN REGIONAL HOSPITAL: A RETROSPECTIVE CLINICAL AUDIT

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BACKGROUND: The outcomes of HIV-positive surgical patients admitted to ICUs in regional hospitals in settings with high HIV prevalence rates are not well described. There is a need for a better understanding of outcomes to inform ICU management strategies for HIV-positive surgical patients. The aim was to determine the testing rates and impact of HIV on patient outcomes based on HIV status and CD4 count.

METHODS: A retrospective clinical audit was conducted of surgical patients, admitted to the open ICU at Thelle Mogoerane Regional Hospital in South Africa, from 2016 through 2017. All surgical patients (pediatric and adult) were treated by the general surgical team. Data was collected from the ICU register and clinical records, then imported into SPSS 25 for analysis using Pearson chi-squared tests to explore associations with mortality in ICU.

RESULTS: Of the 361 surgical patients, the median age was 37 years and 69.81% were male. 52 patients (14,4%) were HIV positive, 29 patients (8%) were negative and 280 (77.6%) were untested. No significant association between HIV and mortality were noted in the overall sample comparing HIV-positive versus HIV-negative versus HIV-unknown [30.0%, 37.1%, 30.4%] but ICU admissions of longer than 5 days were associated with higher mortality among HIV-positive patients [p = 0.027]. There was a significant association between HIV and developing sepsis in the ICU [HIV-positive = 17.1%, HIV-negative = 1.7%, HIV-unknown = 3.5%, p < 0.001]. Of the 52 HIV positive patients, 36 (69.2%) had their CD4 count tested. There was a 50.0% mortality rate among patients with CD4 counts less than 200 cells/μL and a 5.9% mortality rate in those with CD4 counts greater than 200 cells/μL (p = .047). Trauma patients with CD4 counts of less than 200 cells/μL had a 40.0% mortality rate, whereas all trauma patients with CD4 counts greater than 200 cells/μL were discharged (p = .042).

CONCLUSIONS: The HIV testing rate of surgical patients was low. Low levels of HIV testing are a significant barrier to improving outcomes of surgical ICU patients in high HIV prevalence settings. Among HIV-positive patients, longer ICU admissions and low CD4 counts were associated with higher mortality rates.

PEC0466

HOMELESSNESS AT HIV DIAGNOSIS IS ASSOCIATED WITH LOWER VIRAL SUPPRESSION DESPITE HIGH RATES OF LINKAGE IN SAN FRANCISCO

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BACKGROUND: The proportion of people newly diagnosed with HIV (PWH) in San Francisco (SF) who are experiencing homelessness is increasing. We compared time to HIV care linkage, retention, and viral suppression (VS) among PWH in SF by housing status at time of HIV diagnosis.

METHODS: Housing status (stable or homeless) was determined through partner services investigations. Homeless included those residing in a vehicle, couch-surfing or staying temporarily in a single room occupancy. We compared housed and homeless PWH by sociodemographic and risk characteristics, proportion linked to care at 1 month, retained at 3-9 months, and VS at 3 and 12 months, and median time from diagnosis to care, ART initiation, and VS.

RESULTS: Of 197 people diagnosed with HIV in 2018, 175 (89%) had housing status data, of which 29% were experiencing homelessness. Homelessness was not associated with sex, race, age or median CD4, but was associated with insurance status and transmission category (p<.0001). Overall 94% were linked to care within one month. There were no differences by housing status in median days from HIV diagnosis to first care visit, first care to ART initiation and diagnosis to first VS, as well as proportions linked to and retained in care (Table). Stably housed persons had higher VS than homeless at 3 months (79% versus 60%; p=.03) and at 12 months (88% versus 74%; p=.03).

	Stably housed (n=125)	Homeless (n=50)	P-value
Median CD4 count at diagnosis	440	511	0.26
Median days from HIV diagnosis to first care	3	2	0.33
Median days from first care to ART initiation	0	1	0.13
Median days from ART to first viral suppression	37	45	0.17
Median days from diagnosis to viral suppression	47	61	0.09
% Linked to care in 1 month	116/123 (94%)	43/47 (91%)	0.50
% Retention at 3-9 months after linkage within 1 month	96/116 (83%)	36/43 (84%)	1.00
% Viral suppression at 3 months	90/114 (79%)	26/43 (60%)	0.03
% Viral suppression at 12 months	104/118 (88%)	34/46 (74%)	0.03

[Table]

CONCLUSIONS: PWH experiencing homelessness were significantly less likely to have VS after diagnosis, despite having high rates of linkage and retention. Stable housing is critical to achieve 90-90-90 in SF.

PEC0467

HIV PREVALENCE AND INCIDENCE TRENDS AMONG KEY POPULATIONS IN UKRAINE, 2013-2017

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BACKGROUND: Ukraine is experiencing one of the biggest HIV epidemic in the World, the epidemic is concentrated in all three key populations: PWID, MSM and SWs. Efforts that community-based organizations investing in HIV prevention slow down the disease spread among KP. To have a better understanding of where transmission is still ongoing we have conducted this analysis.

METHODS: We performed secondary analysis of data obtained in the 3 subsequent rounds of the integrated bio-behavioral surveys among PWID, MSM and CSW conducted in 2013, 2015 and 2017. We analyzed HIV prevalence and incidence and used the multiple logistic regression to identify the key factors associated with the HIV incidence. To measure HIV incidence we have used LAg rapid recency tests (Asante) followed by the VL count for each positive sample to discard false recent results.

RESULTS: HIV prevalence among all three KPs hasn't changed much in the last 4 years and accounted among PWID 19.7% in 2013; 21.9% in 2015 and 22.6% in 2017. Among MSM 5.9%; 8.5 and 7.5% respectively.

Among SWs 7.3% in 2013; 7% in 2015 and 5.9% in 2017. HIV incidence has shown an increasing trend among PWID and SWs. Among PWID it increased from 0.74% in 2013 to 1.36% in 2015 and 2.44% in 2017. Among SWs it dropped down from 0.44% in 2013 to 0.21% in 2015 and increased to 0.56% in 2017. MSM 0.91% in 2013; 1.39% in 2015 and 0.56% in 2017.

The logistic regression indicated that HIV incidence in all groups is strongly associated with the male gender and the injecting drug use. The HIV incidence among those who inject has been associated with injecting several times a day OR 1.2(95%CI 1.1-1.4) use of non-sterile syringe OR 2.7(95%CI 1.2-6.4) and purchasing drug in a pre-filled syringe OR 1.5(95%CI 1.1-2.4).

CONCLUSIONS: Injecting drugs continues to contribute to HIV transmission in Ukraine. The only group demonstrating a steady growing HIV incidence is PWID; among other KPs incidence is also linked to injecting. More efforts need to be invested in harm reduction and the new prevention methods. PrEP for PWID might be considered as a perspective prevention method.

PEC0468

USE AND WILLINGNESS TO USE PREEXPOSURE PROPHYLAXIS FOR HIV AMONG MEN WHO HAVE SEX WITH MEN

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BACKGROUND: The Portuguese National Health Service (NHS) provides preexposure prophylaxis (PrEP) for HIV prevention, free of charge, since February 2018. About 1000 individuals are on PrEP, and most are men who have sex with men (MSM). We aimed to describe PrEP use and willingness to use in a large cohort of HIV-negative MSM and to compare PrEP users and non-users.

METHODS: We used data from 6164 participants in the Lisbon Cohort of MSM – an open, prospective cohort of HIV-negative MSM testing at a community-based center in Lisbon, with a baseline visit between April 2011 and July 2019, who answered either in a baseline or follow-up interview to the question: did you use PrEP in the last 12 months/since the last visit? We report the proportion of participants who used PrEP at least once, and the willingness to use PrEP at their most recent visit.

RESULTS: PrEP use was reported by 198 (3.2%) participants, of whom 57 (28.8%) started using after its introduction. Out of the 122 that provided additional information on their PrEP use, 86 (70.5%) were using daily, 31 (25.4%) on-demand, and 5 (4.1%) reported other regimes. The sources of PrEP varied according to the timing of the initial PrEP experience – prescribed by a physician (13.0% before Feb/2018 vs. 71.9% after Feb/2018), and online self-medication (40.7% before Feb/2018 vs. 15.8% after Feb/2018). PrEP users presented more frequently eligibility criteria for PrEP at baseline (83.2% vs. 66.4%). Half non-PrEP users reported wanting to use PrEP, 29.3% said maybe or to not know, and 20.7% were not willing to use. Willingness to use PrEP was positively associated with having an indication for PrEP (OR: 1.52; 95% CI 1.32-1.77). Among non-users, HIV incidence per 100 person-years was 1.31 (95% CI 1.08-1.58), while among PrEP users, it was 0.67 (95% CI 0.25-1.79).

CONCLUSIONS: PrEP use and willingness to use were related to behavioral indication, showing an appropriate self-risk assessment, and were higher than previously reported among MSM in Portugal. The proportion of men obtaining PrEP from a physician increased significantly after PrEP became available at the Portuguese NHS, making proper care more likely.

PEC0469

COUNTING 'HARD-TO-REACH' POPULATION IN A DATA CONSTRAINED SETTING: A BSS OF MSM IN GHANA

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BACKGROUND: Men who have sex with Men (MSM) are a hidden population , who are affected by HIV in Ghana with limited national data on their population size. In view of this, a Biological Behavioural Survey (BSS) among MSM was conducted on a national scale covering all 10 regions.

The primary objectives were to measure the prevalence of HIV and other sexually transmitted infections, their associated risk behaviors and estimate the population size of MSM in Ghana.

METHODS: The study was undertaken in 2017 and used multiple methods to estimate the size of the MSM population in Ghana. Size estimation methods used were service multipliers, unique object multiplier, RDS size estimation, Literature review and consensus on estimates using a modified Delphi Approach. RDS-A tool was employed for data analysis.

Fifty semi-structured interviews with key informants using purposive sampling technique to determine network size and seed selection in the first phase led to recruitment of 100 MSM. Focus group discussion (FGD) of 50 MSM comprising 5 per region was undertaken to map out MSM hot spots in each region using an ethnographic mapping approach. Respondent Driven Sampling was used to recruit participants in the Phase 2 with a target sample size of 500 MSM per region.

RESULTS: The overall size estimate of MSM in Ghana is 54,759 with plausibility bounds of 18 126 - 79 313. This represents 0.72% (0.24% to 1.04%) of adult male population aged 18 years and above in Ghana. Region specific estimates range from a size estimate of 4,018 MSM (0.62% of adult male population) in Volta to 11,435 MSM (0.78% of adult male population) of MSM in the Ashanti region of Ghana.

CONCLUSIONS: Using multiple methods provide a better estimate for MSM population size especially when they are hidden. It has policy change implications to reach the MSM population nationwide with needed prevention, treatment, care and support services.

PEC0470

ASSESSING THE HIV CARE CASCADE AMONG BRIDGING POPULATIONS, INCLUDING GAY AND BISEXUAL MEN AND TRANSGENDER WOMEN AND THEIR SEXUAL PARTNERS IN COASTAL KENYA

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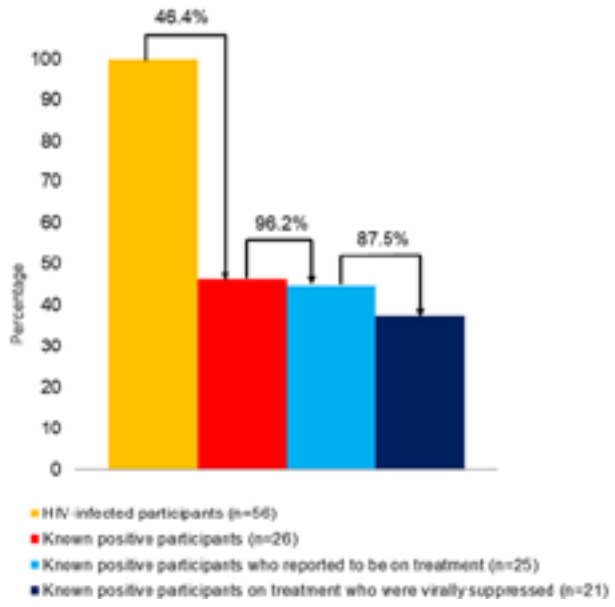
BACKGROUND: Data on the HIV care cascade among bridging populations, including gay and bisexual men and transgender women (GBT) and their sexual partners in sub-Saharan Africa, are scarce. We assessed care cascade indicators among newly diagnosed and previously known to be HIV positive GBT in coastal Kenya.

METHODS: From April through August 2019, participants were recruited for HIV testing by lay GBT peer mobilisers, clinic staff, and through assisted partner notification services (APNS). We compared characteristics of newly diagnosed and known positive participants using chi-square or Wilcoxon signed-rank tests. Viral load was determined with GeneXpert for 53/56 participants with sufficient blood plasma sample volume.

RESULTS: HIV prevalence was 11.2% (56/500). Out of the 56 HIV-infected participants, 30 (53.6%) were newly diagnosed, and 26 (46.4%) were previously known to be HIV positive (Figure).



[Figure. The HIV testing and care cascade among gay and bisexual men and transgender women and their sexual partners in coastal Kenya]

Of these, 46 (82.1%) were male, 7 (12.5%) female, and 3 (5.4%) transgender women. Compared with known positive participants, a larger proportion of newly diagnosed participants was mobilised (70.0% vs. 26.9%, p=0.001), identified as male (93.3% vs. 69.2%, p=0.045), and reported to be bisexual (50.0% vs. 15.4%, p=0.019). Median viral load was 149,000 copies/ml (IQR: 63,600-391,000) among newly diagnosed bisexual men, and 63,200 copies/ml (IQR: 14,150-482,500; p=0.354) among newly diagnosed gay/homosexual men. Twenty-five (96.2%) known positive participants were on treatment, and 21 (87.5%) were virally suppressed. Median viral load was 35,600 (IQR: 17,350-121,800) copies/ml among the four unsuppressed known positive participants.

CONCLUSIONS: Peer mobilisation and APNS enabled identification of newly diagnosed participants, including mostly bisexual men with high viral loads, potentially a bridging population in coastal Kenya. Among known positive participants, care cascade indicators met the second and third 90 indicators. In order to reduce HIV incidence, HIV prevention programmes should encourage uptake of regular HIV testing, specifically among bisexual men.

PEC0471

HIV AMONG PEOPLE EXPERIENCING HOMELESSNESS IN LOS ANGELES COUNTY

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BACKGROUND: Homelessness is a major crisis in Los Angeles County (LAC). Approximately 59,000 persons are homeless in LAC and vulnerable to health disparities, including HIV disease. Despite an increased risk, HIV among homeless in LAC has not been measured using surveillance data. We describe HIV diagnoses and care indicators among homeless persons in LAC.

METHODS: Using LAC's Enhanced HIV/AIDS Reporting System, we quantified HIV diagnoses in 2013-2018 by housing status. Housing status was: "homeless" if (1) the person's medical record or address was recorded as homeless or not housed, or (2) the address was a homeless shelter; and "non-homeless" if these criteria were not met. We examined HIV care indicators based on HIV laboratory tests: (1) linked-to-care (any test performed ≤1 month post-diagnosis), (2) retained-in-care (≥2 tests performed within 3 months within 12-months post-diagnosis), and (3) virally suppressed (VS: HIV-1 RNA<200 copies/mL within 12-months post-diagnosis). We tested for differences in demographic and behavioral characteristics in diagnoses and care indicators by housing status using bivariate analyses. Log-binomial generalized regression modeling tested for differences in care indicators by housing status.

RESULTS: Overall, 633 of 11466 (5.5%) persons diagnosed with HIV in a 6-year period were homeless, increasing from 4.6% of diagnoses in 2013 to 7.2% in 2018. Compared with non-homeless persons diagnosed with HIV in 2013-2018, homeless persons were significantly more likely to be transgender persons, African Americans, injection drug users (IDUs), and men who have sex with men who inject drugs (p<0.001). After controlling for gender, age, race/ethnicity, and mode of transmission, newly diagnosed homeless persons vs. non-homeless were as likely to link-to-care but less likely to remain retained-in-care (Adjusted Prevalence Ratio [APR] 0.88, 95% Confidence Interval [CI] 0.80-0.97) and achieve VS (APR 0.74, 95% CI 0.66-0.83). VS was lowest among homeless IDUs.

CONCLUSIONS: Increasing numbers of HIV diagnoses are among homeless in LAC. Homeless persons are as likely to access care but may require additional support to stay in care and achieve VS. Local jurisdictions should include housing status when considering HIV disparities. Further research is needed to understand the resources needed by homeless clients for successful retention in HIV care.

PEC0472

SOCIAL DETERMINANTS OF HEALTH AMONG PERSONS DIAGNOSED WITH HIV, 2017, SAN FRANCISCO, CALIFORNIA, USA

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BACKGROUND: Measurements of social determinants of health (SDH) help to quantify health differences between populations or geographic areas and can provide insight for identifying populations or areas that may benefit from HIV prevention, testing, and treatment initiatives. We undertook an exploratory analysis of the SDH among people with HIV in San Francisco (SF) California to help inform program expansion.

METHODS: Using the SF HIV case surveillance registry, we identified persons 18 years and older who resided in SF at time of HIV diagnosis during 2017. Census tract level SDH data was derived from the U.S. Census Bureau American Community Survey (ACS) 2013-2017. The three SDH indicators were: federal poverty level, educational attainment, and median annual household income. Residential addresses at diagnosis were geocoded to the census tract level and assigned SDH indicator values by linking to the ACS. HIV diagnosis rates per 100,000 population were calculated by SDH indicators and demographic characteristics. The proportions of SDH indicators by transmission category were calculated.

RESULTS: Among 247 SF residents diagnosed with HIV in 2017, 207 (84%) had SDH information and were included in the analyses. The overall HIV diagnosis rate was 27.7 per 100,000; diagnosis rates were highest among people living in areas with ≥19% below poverty level (52.6/100,000), ≥18% less than high school diploma (34.7/100,000), and annual household income below $54,000 (54.0/100,000). Among men, the highest HIV diagnosis rates also occurred among people living in areas with highest poverty level (81.9/100,000), lowest education level (54.9/100,000), and lowest median household income level (85.8/100,000). By age, rates increased with increasing percent below poverty for all age groups younger than 65 years old. For racial/ethnic groups, Latinx and whites experienced higher rates with increasing poverty level and decreasing income. A greater proportion of people who injected drugs (PWID) resided in the highest poverty level areas; heterosexuals resided in the lowest education areas; and men who have sex with men (MSM) resided in the highest education and income areas.

CONCLUSIONS: Targeting neighborhoods with lower socio-economic status for HIV prevention, testing, and treatment efforts may improve HIV outcomes, especially among Latinx, whites, PWID and heterosexuals.

PEC0473

DEVELOPMENT OF A UNIQUE IDENTIFIER CODE TO IMPROVE SURVEILLANCE AND ACCESS TO SERVICES FOR KEY POPULATIONS' IN SIERRA LEONE

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BACKGROUND: Sierra Leone's fragile health system was weakened by the Ebola outbreak in 2015 and a series of natural disasters including severe mudslides. Sierra Leone is classified as a mixed HIV epidemic with an estimated adult prevalence of 1.4% and 2,800 AIDS-related deaths (UNAIDS, 2017). Female Sex Workers (FSWs), Men who sex with men (MSM) and People who inject drugs (PWIDs) have higher prevalence rates (estimated 6.7%-14%). Cascade of care data disaggregated by key population is not currently available. Unique Identifier Codes (UICs) are valuable tools in helping to protect the privacy of key populations, while also assisting organizations in ensuring program quality and retention along the HIV care and treatment cascade.

DESCRIPTION: Working in partnership with the National HIV/AIDS Secretariat, we developed a simple and cost effective alpha numeric UIC system to improve coverage of services to key populations (KPs) most affected by HIV in Sierra Leone. In October 2018 we conducted 6 site visits, 40 key informant interviews and 3 focus groups and 3 pilots with 66 beneficiaries to assess the acceptability and feasibility of the UIC.

LESSONS LEARNED: From Nov 1, 2018 to Jan 1, 2020 over 102,397 unique clients have been registered in the new UIC database with participation from 100% (n6) of funded organizations serving key populations in Sierra Leone and no recorded client refusals. The duplication rate is currently estimated at 2.36% (n2,418). A robust pilot phase with ongoing monitoring for feasibility and patient preference is needed to eliminate non-stable characters in the code such as district where client was reached or highly confidential questions like last name. Similarly, extensive training and ongoing clinical supervision is needed to minimize duplication and ensure the code is consistently applied by all organizations.

CONCLUSIONS/NEXT STEPS A functioning UIC system, in conjunction with the countries ongoing efforts to improve prevention, treatment and care for key populations, aims to decrease morbidity and mortality related to HIV in Sierra Leone. There remain important opportunities to integrate the country's monitoring and evaluation system and UIC code with a robust evaluation of the entire cascade of care for key populations in Sierra Leone.

DETERMINING THE INCIDENCE OF HIV

PEC0474

COMPARISON OF POC RTRI RESULTS WITH LABORATORY-BASED LAG AVIDITY AND VIRAL LOAD TEST RESULTS

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BACKGROUND: In order to assess the feasibility of identifying newly HIV infected individuals and interrupting transmission, Malawi conducted a field test for HIV surveillance using Point-of-Care (POC) rapid tests for recent infection (RTRI). The aim was to evaluate the performance of the POC RTRI in routine HIV testing services (HTS) settings and compare with laboratory-based Limiting Antigen (LAg) Avidity Enzyme Immunoassay (EIA).

METHODS: POC RTRI tests were conducted by trained HTS providers at 12 health facilities randomly selected among recency surveillance sites in Blantyre district from June to August 2019. POC RTRI was integrated to routine HTS algorithm, using the Asante HIV-1 Rapid Recency Assay (Sedia Biosciences, Portland OR, USA). Eligible participants (≥13 years of age, no prior HIV diagnosis) and who consented to recency testing were tested with the Asante. Dried blood spot samples obtained at POC were later tested for LAg and VL at the National HIV Reference Laboratory. Asante test results were compared with laboratory-based Sedia HIV-1 LAg Avidity EIA results, with LAg optical density number ≤ 1.5 being recent. Both tests were analyzed in combination with viral load (VL) testing using a recent infection test algorithm (RITA). Individuals testing recent on either test and with unsuppressed viral load (≥1000 copies/ml) were classified as RITA recent. POC and laboratory-based results were assessed for kappa (κ) and percent agreements.

RESULTS: A total of 578 samples were tested using Asante RTRI at POC, of which 8.9 % (52/578) were recent. When the same 578 samples were subjected to Sedia LAg EIA in laboratory setting, 9.3% (54/578) were recent, representing a 92.7% agreement with a kappa of 0.56. When comparing of POC Asante RITA results and laboratory-based LAg RITA, recent HIV infection rates were 6.1% (35/578) and 5.5% (32/578), respectively, with a 95% agreement and κ=0.54.

CONCLUSIONS: POC RTRI, conducted by trained HTS providers, had moderate agreement with laboratory-based recent infection determination tests. Including viral load testing helped identify false recents. POC RTRI can be used to conduct population-level surveillance of new HIV infections and observe trends in population subgroups as percent agreement was similar across subgroups.

PEC0475

THREE HIV INCIDENCE ESTIMATION METHODS REVEAL HIGH INCIDENCE AMONG FEMALE SEX WORKERS IN JUBA AND NIMULE, SOUTH SUDAN

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BACKGROUND: Novel approaches are needed to estimate HIV incidence among key populations because of their relatively small population size. We utilized three methods to estimate HIV incidence among female sex workers (FSW) in South Sudan's capital, Juba, and Nimule, on the border with Uganda. HIV prevalence among FSW was 38.7% and 24.0% in the two cities, respectively. HIV incidence in the general population is 1.17% (95% CI: 0.65–2.16) in South Sudan and 1.37% (95% CI: 1.15–1.64) in Uganda.

METHODS: We conducted respondent-driven sampling surveys of FSW aged ≥15 years who sold sex in the last 6 months. Data collection in Juba occurred November 2015-March 2016 and in Nimule January-February 2017. HIV testing followed the national testing algorithm. Incidence was estimated using Osmond's method, testing history, and a biomarker-based method. Osmond's method considers date of first risk behavior and HIV diagnosis. The biomarker-based method used Sedia™ HIV-1 Limiting Antigen-Avidity (LAg) confirmed by an algorithm of LAg≤1.5 normalized optical density units plus viral load ≥1000 copies/mL. The mean duration of recent infection was 161 (95% CI: 148–174) and proportion false recent 0.0%.

RESULTS: We enrolled 838 FSW in Juba and 409 in Nimule. HIV incidence in Juba was estimated at 3.84% (95% CI: 3.32–4.40) with Osmond's method, at 2.47% (95% CI: 1.77–3.17) with the testing history method, and at 9.51% (95% CI: 5.50–13.36) with the LAg+VL algorithm. In Nimule, incidence was 2.25% (95% CI: 1.79–2.82) with Osmond's method, 1.09% (95% CI: 0.51–1.67) with the testing history method, and 2.29% (95% CI: 0.00–4.85) with the LAg+VL algorithm.

CONCLUSIONS: All three estimation methods showed high HIV incidence among FSW in Juba and Nimule compared to the general population in South Sudan and Uganda. These results indicate an urgent need for HIV prevention services for FSW in Juba and Nimule. Of the three methods, LAg+VL is least prone to response bias but is sensitive to assumptions about the MDRI and PFR. LAg+VL produced the highest estimates and its estimates were closer to those from Osmond's method in Nimule than in Juba.

PEC0476

ESTIMATION OF HIV INCIDENCE AMONG MEN WHO HAVE SEX WITH MEN USING ANONYMOUS BIOMETRIC UNIQUE IDENTIFIER SYSTEM IN YANGON, MYANMAR

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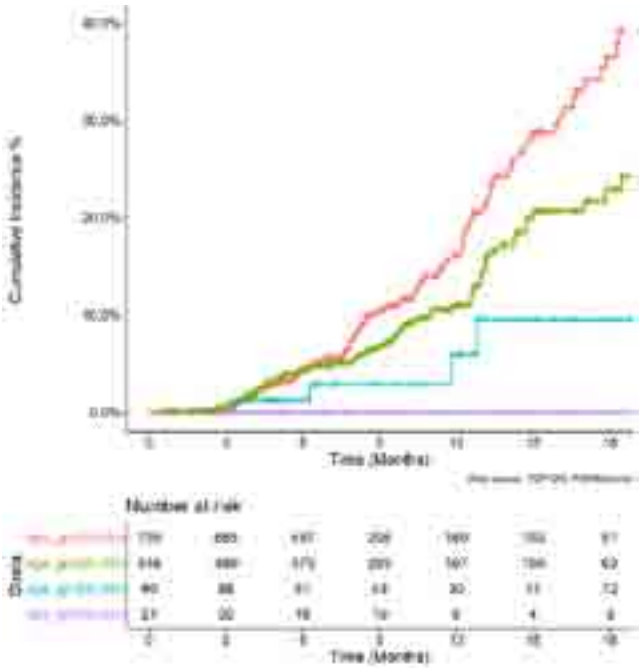
BACKGROUND: Myanmar is one of the countries with concentrated HIV epidemics among key populations, including men who have sex with men (MSM). Population Services International Myanmar (PSI/Myanmar) runs a Targeted Outreach Program (TOP) drop in center (DiC) for MSM in Yangon. At TOP DiC, MSM can choose to get tested

for HIV with appropriate counseling and linkage to care services. TOP DiC started using a fully anonymous biometric unique identifier system with binocular iris scanners in 2016. This enabled tracking the clients over time without compromising their privacy and anonymity.

METHODS: From HIV testing records in Yangon TOP DiC, the data of MSM who had initially tested negative and then underwent repeated HIV tests from 2016 to 2018 were extracted. From this data, cumulative incidence of new HIV infections was estimated using Kaplan-Meier method.

RESULTS: A total of 1364 MSM had repeated HIV tests during the period and 174 (12.8%) had become HIV-positive within a median time of 297 days [Interquartile range (IQR): 224 days]. The incidence rate was 16.5 per 100 person-years (PY). Estimated cumulative incidence of new HIV infections at 18 months of follow-up was 28.1% [95% confidence interval (CI): 23.4 - 32.5%]. The incidence rates were higher among younger MSM (19.7/100PY in 15-24 years, 15.0/100PY in 25-34 years, 6.8/100PY in 35-44 years). Estimated cumulative incidence at 18 months were 36.5% (95%CI: 28.8-43.4%), 22.9% (95%CI: 16.6-28.8%), and 9.5% (95%CI: 0.0-18.7%) respectively.



[Figure. Estimation of new HIV infections among MSM, Yangon, Myanmar]

CONCLUSIONS: Estimation of new HIV infections among MSM was made possible by the use of biometric unique identifier method, while maintaining client anonymity and confidentiality. This new evidence on disproportionate number of estimated new HIV infections among younger MSM in Yangon has led to successful advocacy of Pre-Exposure Prophylaxis (PrEP) implementation for MSM in Myanmar.

PEC0477

PERIODS OF EXTREME RISK AMONG WOMEN WHO SELL SEX IN ZIMBABWE: ESTIMATING PATTERNS OF HIV INCIDENCE FROM CHANGES IN HIV PREVALENCE OVER TIME

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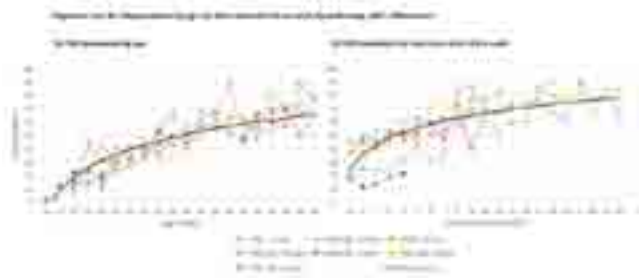
BACKGROUND: HIV risk is high among women who sell sex in Africa. However, very little is known about patterns of HIV incidence because cohort studies are complex to undertake with these mobile, marginalised populations. We explored HIV prevalence by age and by years since start of sex work to estimate HIV incidence among women who sell sex in Zimbabwe.

METHODS: We pooled data from respondent-driven sampling (RDS) surveys covering 23 locations across Zimbabwe, conducted between 2011 and 2017. Each survey recruited 6-10 seeds who distributed two coupons for onward recruitment. RDS diagnostics revealed little evidence of biased recruitment. We plotted HIV prevalence by age and self-reported years since start of sex work. We fitted a logarithmic curve to the pooled data and estimated annual HIV incidence as the average prevalence increase / 1– prevalence at each year: I(t)=(P(t+1)-P(t))/(1-P(t)).

RESULTS: HIV prevalence across all surveys (n=11,711) was 52.9%. HIV prevalence rose from 16.8% among 16-19 year olds to 69.9% among 35-39 year olds. HIV prevalence rose from 39.5% for those in sex work for <2 years, to 73.6% among those in sex work for 16-25 years. We estimated HIV incidence among sex workers as 5.9/100 person-years at risk (pyar) based on prevalence increases by age between 16-35 years. Among 16-19 year olds, incidence was 10.8/100 pyar. Based on prevalence increases by years since start of sex work, we estimated an overall incidence of 12.2/100 pyar during the first 2 years of sex work and 6.0/100 pyar over the first 20 years.



[Figures 1a and 1b: HIV prevalence by age and time since start of sex work, by each study, with a fitted curve]

CONCLUSIONS: Despite limitations, our data suggest a very high incidence of HIV among women selling sex in Zimbabwe, especially among the young and those in early sex work. This indicates there is an important need to engage young people and those in early sex work in services providing targeted interventions to reduce HIV incidence.

NOVEL METHODS/ALGORITHMS FOR DETECTING ACUTE AND RECENT HIV INFECTIONS

PEC0478

QUANTITATIVE INTERPRETATION OF SEDIA LIMITING ANTIGEN AVIDITY ASSAY FOR HIV RECENCY AT DIAGNOSIS

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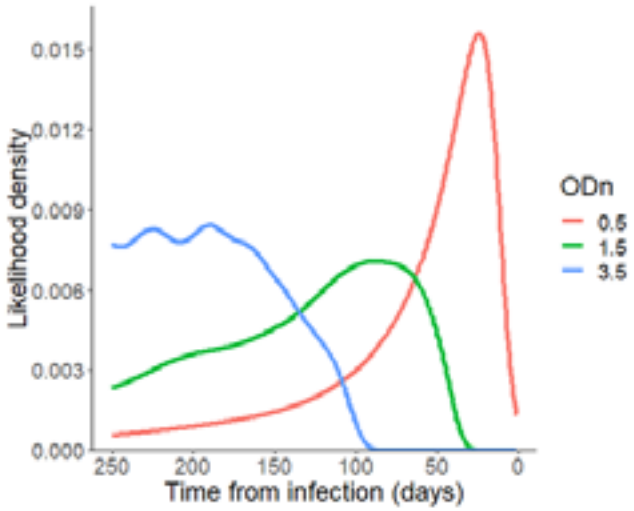
BACKGROUND: Laboratory based testing for recent HIV infection has become common to estimate HIV incidence from cross-sectional surveys. Individual-level uses are less clear, but numerous studies and pilots of diagnostic services have been returning results of recency tests to individuals. There is considerable interest in using such information to support post-test counselling, disclosure decisions, and contact tracing. The formal information content of individual recency test results, as pertaining to estimation of timing of infection, is disputed.

METHODS: We calibrated a simplistic 'anti-HIV antibody avidity' biomarker progression model (exponential approach to subject-specific asymptote) for the Sedia LAg avidity Elisa assay, to a previously described rich data set from the CEPHIA collaboration. This effectively provides an approximate likelihood function describing the distribution of assay results as a function of time since seroconversion. We considered possible assay values obtained at a first HIV positive test, assuming a uniform prior on seroconversion time since the last negative test, and calculated the infection time posterior.

RESULTS: The informativeness of the Lag results varies significantly depending on the seroconversion interval size and LAg ODn. Figure 1 shows the infection time posteriors for ODn values 0.5, 1.5, and 3.5, obtained on a first positive test performed 250 days after a last negative. Our analysis can vary all parameters to demonstrate diverse scenarios.



[Figure 1. Likelihood density of a specific normalized Optical Density (ODn), using LAg-Sedia assay, after an HIV+ test vs time from infection. The red, green and blue lines are the likelihood density curves for a subject with an ODn of 0.5, 1.5 and 3.5 respectively. Given 3 subjects with 250 days between last negative and first positive HIV results, a subject with ODn = 0.5 has a high likelihood of having been infected 24 days prior to the first HIV positive test, while ODn = 1.5 would be 89 days. For ODn = 3.5, the likelihood of being infected was highest at 190 days prior to their first HIV positive test]

CONCLUSIONS: Infection time estimates for frequent testers cannot be substantially improved with additional recency testing, but for infrequent testers, it is clear that these estimates are substantially improved through the use of quantitative recency testing, rather than just relying on testing history. Such timing information would be expected to strengthen psychosocial aspects of post-diagnosis counselling and management as have already been identified as being of interest, and it is also relevant to studies of early post-infection biology.

PEC0479

RECENTLY ACQUIRED HIV INFECTIONS AND ASSOCIATED FACTORS AMONG MEN WHO HAVE SEX WITH MEN DIAGNOSED AT DUTCH SEXUAL HEALTH CENTRES

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BACKGROUND: Recent Infection Testing Algorithm (RITA) surveillance was implemented at Dutch sexual health centres (SHC) in 2014-2017 to support prevention strategies. We explored recent HIV infections (RHI) and associated factors among men who have sex with men (MSM) attending SHC, by comparing two explanatory models.

METHODS: Samples from MSM newly diagnosed with HIV were tested with an avidity assay. Avidity Index (AI) values were AI≤0.75 for RHI (acquired ≤6 months), AI between 0.76-0.84 for indeterminate, and AI≥0.85 for established infection (acquired >6 months). Indeterminate results and AI≥0.85 were reclassified as RHI if an HIV negative test result was registered within 6 months prior to diagnosis. Multivariable multinomial logistic regression was used to analyse risk factors for RHI with
1) established HIV infection and
2) HIV-negative test result as reference group.

RESULTS: In 2014-2017, 128,635 consultations were registered. In total, 1,057 MSM were newly HIV diagnosed (0.8%). Coverage of RITA-testing was 59% (622/1,057), of which 207 (33%) were classified as RHI by avidity and 354 (57%) as established infection. Based on an HIV negative test result in past 6 months, 61 MSM with AI≥0.85 and 26 with indeterminate result were recoded as RHI, and 102 additional RHI were identified, resulting in 54% MSM with a RHI (396/724). In both models, RHI was associated with having an STI in the prior year, multiple sex partners, and no condom use with last sex contact. Additionally, relative to HIV-negative reference group, RHI was associated with low/medium education, non-Western origin, and having a non-Western partner. In contrast, relative to established HIV infection reference, RHI was associated with being of Western origin.

CONCLUSIONS: Percentage of RHI was substantial among MSM attending SHC, indicating ongoing HIV transmission. Differentiation by reference group in explanatory models for RHI is important, as inverse associated factors ((non-)Western origin) were identified. Likely, associations relative to the HIV negative reference group fol-

low those of acquiring HIV infection in general, whereas the comparison with established HIV infection reference rather reflects the testing behaviour of subgroups of MSM. Increased (repeated) HIV testing among MSM at risk should be strongly encouraged for early diagnosis of HIV.

PEC0480

CAN ROUTINE DIAGNOSTIC TEST DISCRIMINATE BETWEEN RECENT AND LONG STANDING HIV INFECTIONS?

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BACKGROUND: Application of high dynamic range immunoassay platforms may transform the ability to identify recent HIV infection in those receiving HIV diagnoses in clinical settings. Interpreting clinical diagnostic test data for evidence of recent HIV infection is not new (seroconversion in paired samples, HIV RNA or p24 Ag positive specimens in absence of anti-HIV) but applying signal strength to infer recency by comparison to results obtained in bespoke HIV recency assays is a relatively new development.

METHODS: Our laboratory receives an aliquot from about 50% of all new HIV diagnoses in England and Wales annually for HIV incidence testing using the Sedia Limiting Antigen assay. Very little data accompanies the initial specimen with linking of patients test results and demographic data is performed later. However, many specimens come with diagnostic test result data. This pilot study used diagnostic Abbott Architect OD/CO values to differentiate recent or long-standing infections using the Sedia LAg assay as the gold standard but can be extended to other assays.

RESULTS: Of the 113 samples, 53were classified long-standing infections (>1.5 ODn) and 60 recent infections (ODn<1.5) by Sedia LAg. Sedia and Architect reactivities were compared by regression analysis. With Architect OD/CO value of 200, 78% (47/60) were classified as recent infection by Sedia, while 17% (10/60) gave Architect OD/CO value of between 200-300. 3 recent infection by Sedia gave OD/CO of between 300-400.Of the long-standing infections by Sedia assay, 83% (44/53) gave OD/CO of >300 in Architect assay, while 7% (4/53) gave architect S/CO of 200-300 and 9% (5/53) gave value under 200.

CONCLUSIONS: The use of serological diagnostic assays to distinguish recent from long-standing infections enables quicker diagnosis and patient management as the need for additional testing using bespoke assays is reduced. The overall correlation between the two assays was disappointing (r2 = 0.60), due to discrepancy in the range of Architect 200-400 OD/CO. However, results below or above this range are strongly indicative of recent or longstanding infection, respectively, minimising the need for additional testing. This work lays a foundation for enhanced analysis of test results to support quicker identification of recent HIV infections.

MONITORING ACUTE HIV INFECTIONS

PEC0481

BARRIERS TO PREP USE AMONG PEOPLE WHO RECENTLY ACQUIRED HIV IN ENGLAND DURING 2018-2019

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BACKGROUND: HIV transmissions are declining in the UK. Using enhanced surveillance of people diagnosed with recently acquired HIV (Surveillance of HIV Acquired Recently: Enhanced, 'SHARE'), we aimed to better understand circumstances leading to HIV acquisition and barriers to HIV prevention in an era of rapid PrEP scale-up.

METHODS: Through record linkage, we identified individuals newly diagnosed with HIV who had a documented negative test in the last year within the same clinic, as well as those with an avidity test at diagnosis indicating recent infection through the recent infection testing algorithm ('RITA recents'). We invited the treating clinicians and patients to complete a questionnaire.

RESULTS: 383 people with recent HIV infection were identified during 2018 and 2019, with 97% identified through documented negative tests in the year preceding diagnosis. Most (79%) were gay and bisexual men (GBM). Of 301 GBM, 43% were aged 25-34 years, 69% white ethnicity, 58% were UK-born, 20% born in Europe outside UK and 7% in Latin America & Caribbean; 53% had a documented anogenital bacterial STI within the same clinic in the last year. Of the 39 heterosexuals, 31% were aged 25-34, 46% were white and 39% black ethnicity; 54 % were UK-born and 21% born in Africa and 28% had a documented bacterial STI within the same clinic in the last year. Questionnaire response rate was 64% (232/383 clinician questionnaires and 43/383 patient questionnaires). Of respondents, 71% (134/190) of GBM had never been on PrEP: of these 41% (55/134) reported the main reason for not being on PrEP as never been offered or unaware of PrEP, 28% (38/134) did not feel at risk, and 13%, (18/134) had declined PrEP. None of the 16 heterosexual respondents had a history of PrEP use: 71% (10) were unaware of PrEP or had not been offered; 29% (4) did not feel at risk.

CONCLUSIONS: As England moves towards HIV elimination, increasing awareness of PrEP among both GBM and heterosexuals and comprehensive assessment of HIV risk and eligibility for PrEP is critical to preventing new HIV transmissions.

PEC0482

ACUTE HIV AT THE TIME OF INITIATION OF PRE OR POST EXPOSURE PROPHYLAXIS: IMPACT ON DRUG-RESISTANCE AND CLINICAL OUTCOMES

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BACKGROUND: Initiating 2-drug Pre/Post-Exposure Prophylaxis (PrEP or PEP) in the setting of undiagnosed acute HIV (AHI) could lead to anti-retroviral resistance.

METHODS: In our San Francisco City Clinic PrEP/PEP program, patients are tested for HIV using a point-of-care antibody test. If negative, patients are started on prophylaxis and screened for AHI using

pooled HIV RNA (5-10 days turn-around). We used 2-drug PEP until 05/2016. We identified patients who had AHI on the day of PrEP/PEP start, then used our clinical record and surveillance data to describe HIV resistance mutations and clinical outcomes. Study dates were 2014-2018 and 2011-2018 respectively for PrEP and PEP patients.

RESULTS: Of 1,458 PrEP and 2,242 PEP starts, there were 7 cases of AHI among PrEP users (0.50%) and 6 among PEP users (0.30%). All were men who have sex with men (median age 29).

Three patients (23%) were found to have an M184 mutation on initiation of HIV care. All three had genotyping performed on stored serum available from the date of their PrEP/PEP initiation. The stored samples demonstrated wild-type virus prior to PEP/PrEP start, indicating that the M184 mutation developed within 8-12 days of exposure. All 3 patients achieved viral suppression and were most recently on 2-3 class HIV treatment regimens.

Median times for linkage to HIV care, initiation of HIV treatment, and viral suppression in our case series were 7, 15, and 43 days respectively. Details of cases who received two-drug therapy with tenofovir/emtricitabine and had available genotypes are shown (Table 1).

Age (yrs)	Year of AHI diagnosis	HIV viral load (copies/ml)	PrEP/PEP	Genotype data	Time to first care (days)	Time to anti-retrovirals (days)	Time to viral suppression (days)
40	2018	4,194	PrEP	No M184 or K65R mutation	7	7	23
27	2013	668	PrEP	Acquired M184M/I after 8 days on PrEP	7	12	43
29	2018	687	PrEP	No M184 or K65R mutation	4	4	17
32	2018	Unavailable (pool testing not done)	PrEP	No M184 or K65R mutation	3	7	115
26	2018	2,607,865	PrEP	No M184 or K65R mutation	4	4	43
33	2018	661,296	PrEP	No M184 or K65R mutation	5	Unavailable	Unavailable
25	2013	3115	PEP – Tenofovir + Emtricitabine	Acquired M184I after 12 days on PEP	17	131	182
25	2012	113,240	PEP – Tenofovir + Emtricitabine	Acquired M184MIVafter 8 days	8	49	112
34	2012	174,454	PEP – Tenofovir + Emtricitabine	No M184 or K65R mutation	5	15	36

[Table]

CONCLUSIONS: Although rare, AHI in the setting of 2-drug PrEP/PEP initiation can result in M184 mutation within days of exposure. Even with M184, persons with AHI achieve viral suppression quickly when rapidly linked to care. It is unknown how clinical outcomes would change if AHI had remained undiagnosed, underscoring the importance of rapid/accurate diagnosis.

PEC0483

THE UCSF ACUTE HIV COHORT: HIGH VIROLOGIC SUPPRESSION AND LONG-TERM RETENTION RATES IN A CONTEMPORARY SAN FRANCISCO BAY AREA COHORT OF ACUTE HIV-INFECTED INDIVIDUALS RECEIVING IMMEDIATE ART AT DIAGNOSIS

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BACKGROUND: Differences in host immune response by timing of ART initiation may affect the effectiveness of future HIV eradication strategies. Individuals treated during acute HIV have aborted and/or delayed immune responses due to early ART initiation, rapid suppression of virus, and reduced time to develop antigen-specific host immunity. Predisposing psychosocial conditions leading to acute HIV acquisition may also create challenges in accessing clinical care and medications. We sought to establish a San Francisco Bay Area-based cohort of acute HIV-treated individuals eligible for future HIV cure studies.

METHODS: Leveraging the San Francisco Getting to Zero campaign, from 2015-2019 we enrolled HIV-infected individuals (<100 days from estimated date of infection), provided immediate ART (tenofovir/emtricitabine +dolutegravir), linkage to care, and long-term longitudinal follow-up. Participants were referred from Department of Public Health (DPH), community-based organization (CBO), and private health clinic/hospital (PHC) HIV testing sites.

RESULTS: A total of 60 (65% of those screened) were eligible for study, with 43% participants referred from SFDPH, 40% from CBOs, and 17% from PHCs. The proportions of Fiebig I, II, III, IV, V stage disease were 17%, 12%, 7%, 12%, and 53%. The median age was 30; 100% male (98% men-who-have-sex-with-men, 2% heterosexual); 15% African-American; 30% Latino; 20% Asian/Pacific Islander; 21% Caucasian; 3% unstably housed; 33% mental health illness; 13% substance use disorder (primarily alcohol and methamphetamine). Median CD4 count was 505 cells/mm3 and plasma HIV RNA was 5.0 log10copies/mL at diagnosis. The false negative/indeterminate rate of initial Ag/Ab (Architect) and differentiation (Geenius) antibody testing was 27% and 28%, respectively. Six individuals reported taking PrEP at the time of HIV diagnosis. Genotype data (N=50 participants) demonstrated 76% wild-type, 8% possible acquired M184/PrEP, and 16% presumed transmitted resistance (Monogram). The virologic suppression rate was 82% among N=54 participants retained in study by week 24; their current median follow-up is 2.8 (IQR:1.9-3.4) years. There were no differences in retention rates by unstable housing, mental health illness, or substance use disorder in this small sample.

CONCLUSIONS: Early development of a public health/research relationship allowed identification, treatment, and high virologic suppression and retention of acute HIV-infected patients eligible to participate in future HIV interventional cure studies.

MEASURING THE EPIDEMIC THROUGH POPULATION-BASED SURVEYS (INCLUDING THE UNDIAGNOSED FRACTION)

PEC0484

SELF-REPORTED ANTIRETROVIRAL THERAPY STATUS VERSUS DETECTABLE BLOOD LEVEL (NIGERIA 2018)

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BACKGROUND: The Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) was conducted in 2018 to estimate the country's progress toward the UNAIDS targets for epidemic control (95% of people living with HIV [PLHIV] know their status; of these, 95% are receiving antiretroviral therapy; and of these, 95% have viral load suppression). We assessed whether self-reported ART status matched detectable blood levels of antiretroviral drugs (ARV).

METHODS: The NAIIS was conducted in all 36 states of Nigeria and the capital city, Abuja. Participants consented to an interview and HIV-related blood tests. In addition to basic socio-demographic questions, participants were asked if they knew their HIV status and if they were on antiretroviral therapy (ART). The survey involved interviewing and HIV testing in the household using the national rapid testing algorithm (Determine HIV-1/2 assay – screening; Uni-Gold – confirmatory) with immediate return of results. HIV positive samples were tested for the presence of antiretroviral (ARV) drugs through collection of dried blood spots using liquid chromatography tandem mass spectrometry. Nucleoside and non-nucleoside transcriptase inhibitor-based ARVs used as first line drugs and protease inhibitors used as second line were tested.

RESULTS: A total of 2,739 PLHIV were identified in NAIIS of which 2,654 (96.9%) provided information about their HIV status and had their blood tested for ARVs. Seventy one percent [95% confidence intervals (CI) 68.7% – 73.3%] reported not knowing their HIV-positive status (newly identified PLHIV) and 29.0% [26.7% - 31.3%] reported knowing their HIV-positive status (known PLHIV). Of the known PLHIV, 89.8% [87.1% - 92.4%] reported being on ART and 10.2% [7.6% - 12.9%] reported not being on ART. Antiretroviral were detected among 24% of newly identified PLHIV [21.8 - 27.0] and 42% of the known PLHIV who reported not being on ART [27.8% - 56.2%].

CONCLUSIONS: Almost one quarter of newly identified PLHIV were already on ARVs and likely knew their HIV status. Use of self-reported ARV and HIV status with laboratory ARV results can help with monitoring national ARV coverage as measured in population based surveys.

PEC0485

WHICH GAPS ARE LEFT TO CLOSE FOR WHOM? RESULTS OF HIV POPULATION SURVEYS IN HOMA BAY, KENYA, 2012 AND 2018

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BACKGROUND: HIV is hyper-endemic in Homa Bay, Kenya. Following a first population survey in Ndhiwa sub-county in 2012, Médecins sans Frontières supported implementation of strategies to improve the HIV cascade of care. Moreover, universal test and treat was implemented in Kenya starting 2016. A second survey was carried out in 2018 to identify progress and remaining gaps.

METHODS: Cross-sectional population-based surveys using cluster sampling and geospatial random selection were conducted in Ndhiwa Sub-County in Homa Bay in 2012 and 2018. Consenting participants aged 15-59 years were interviewed and tested for HIV at home. Viral load and LAg-Avidity EIA assay were done for HIV positive cases. Viral load suppression (VLS) was defined as a HIV-RNA viral load below 1,000 copies/ml.

RESULTS: Overall, 6,076 individuals were included in the 2012 survey and 6,029 in 2018. There was substantial improvement in all cascade of care indicators: awareness of HIV status increased from 59.6% (57.1-62.1) to 93.4% (91.7-94.8) in 2018, p<0.001, ART coverage among the ones who know their status improved from 68.2% (65.0-71.2) to 96.9% (95.6-97.8) p<0.001 and VLS among participants under treatment increased from 82.5% (79.2-85.4) to 95.2% (93.6-96.5), p<0.001. This is consistent with observed trends in HIV incidence (1.9% (1.1-2.7) vs. 0.7% (0.2-1.2). NS). Prevalence decreased from 24% (95%CI: 23.0-25.2) to 17% (16.0-17.9) p<0.001. Among the untested, 62.3% were men and 68.3% were less than 20 years. Women 15-19 years emerged as a priority group with low HIV status awareness (57.1% (35.9-76.0%)). While men and women showed similarly high viral suppression once on ART (92.5% (88.5- 95.2) and 96.3% (94.5- 97.5) respectively), half of unsuppressed women (50.6% (39.7- 61.5%) were unaware of their HIV status.

CONCLUSIONS: These two surveys highlight progress in HIV treatment and prevention in Homa Bay. The increase in VLS and subsequent reduction in people with potential to transmit HIV is in line with a trend in declining incidence. Young women were identified as a priority group to improve status awareness. Key challenges remain, particularly in reaching men and young adults who have never been tested for HIV. Subsequent programing should consider specificities of age and gender to close remaining gaps.

PEC0486

HIV EPIDEMIC DYNAMICS IN NIGERIA: THE NEED FOR LOCATION-SPECIFIC STRATEGIES TO END THE EPIDEMIC IN NIGERIA

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BACKGROUND: Nigeria has been known to have the second largest HIV burden in the world with an estimated 3.4 million people living with HIV, and with conflicting prevalence across the States. The country had in the past relied upon a combination of periodic epidemiological surveys and routinely collected programme data to monitor the trend of HIV in the country; but there were identified limitations with some of these approaches. Consequently, this study aimed to determine the true distribution of Human Immunodeficiency Virus (HIV) disease in Nigeria.

METHODS: In 2018, we conducted the Nigeria AIDS Indicator and Impact Survey (NAIIS), in 36 States of Nigeria plus the Federal Capital Territory (Abuja). NAIIS was a quantitative, cross-sectional, two-stage cluster survey of 88,775 randomly-selected households, sampled from among 3,551 nationally-representative enumeration areas (EAs), and included approximately 230,053 participants, ages 15-64 years and children, ages 0-14 years, from the selected households.

Data collection occurred between July to December 2018, using interviewer-administered structured questionnaire programmed on android tablets. Home-based HIV counselling and testing services were provided to the respondents.

Data was analyzed using SAS. Furthermore, Modelling (Spectrum) was used to estimate HIV burden, incidence and unmet treatment needs.

RESULTS: Of the 230,053 participants, 186,405 were adults (45% males and 55% females); and 43,648 were children (51% males and 49% females). Among the adult respondents, 42% lived in urban areas; while 58% lived in rural areas.

National HIV prevalence was 1.4% (15-49 years), with a burden of 1.9 million persons living with HIV. Seven States have prevalence of 2.0% and above; thirteen States plus the Federal Capital Territory have prevalence between 1.0% -1.9%; and sixteen States have prevalence below 1.0%.

Furthermore, 7 States contribute to 50% of the HIV burden and 13 States responsible for 60%.

Moreover, 8 States contribute more than 50% of new infections. Also, 8 States account for unmet treatment need greater than 30,000.

CONCLUSIONS: HIV epidemic dynamics varies State by State in Nigeria. Therefore, new high level location-specific strategies (focusing on the high burden States) are required to end HIV epidemic in Nigeria by year 2030.

PEC0487

CHARACTERIZING KEY POPULATIONS SERO-CONVERSION RATES: AN ASSESSMENT OF PREVENTION PROGRAMS TOWARDS REDUCING HIV AMONG KEY POPULATIONS IN KENYA

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BACKGROUND: Key populations (KP) in Kenya are people who inject drugs (PWID), men who have sex with men/male sex workers (MSM/MSW), and female sex workers (FSW). KP contribute a disproportionately high number of new HIV infections annually despite their small population size. KPs are however often difficult to reach for program service delivery due to stigma and discrimination, higher rates of gender-based violence and police harassment. For those that do access services, it is important to characterize their characteristics, risk behaviors and HIV/STI status including quantifying sero-conversion rates for effective response by programs.

METHODS: The study collected retrospective longitudinal data from 5703 eligible client files, who were accessing services at 24 KP-specific facilities prior to January 2018 regardless of HIV status. We abstracted demographic, behavioral, clinical and laboratory data for eligible KP from client files. We analyzed data from 3153 (55.3%) KPs who were negative at enrollment. Person time years were computed from day of enrollment to the program to December 2018. Sero-conversion time was taken at the midpoint time between the last negative test and the subsequent positive test. Cox regression was used to determine independent factors associated with sero-conversion.

RESULTS: FSWs, MSM/MSWs and PWIDs constituted of 52.1% 24.3% and 23.7% of the sampled respectively. Sero-conversion in person-time years was 1.3%, 2.3%, and 3.3% for FSW, MSM/MSW and PWID respectively . FSWs who had taken prep 3 times prior to enrollment were more likely to sero-convert compared to those who tool once (adjusted hazard ratio [AHR] 3.2, p=0.046). PWIDs who never had sex with another man in the past year were less likely to be associated with sero-conversion (aHR = 0.15, p = 0.001). PWIDs who had 5 sex acts (aHR=26.3, p = 0.011) and 6+ sex acts (aHR = 3.88, p = 0.046 per week) were more likely to sero-convert compared to those who had 1 or less sex act per week.

CONCLUSIONS: Sero-conversion rates seem to be highest among PWIDs. Higher frequency of weekly sex acts were associated with sero-conversion among PWIDs. FSWs who had taken prep 3 time were also likely to sero-convert while in KP Programs.

MEASURING THE POPULATION IMPACT OF PREVENTION AND TREATMENT INTERVENTIONS

PEC0488

UNDISCLOSED ANTI-RETROVIRAL DRUG USE AMONG SOUTH AFRICAN BLOOD DONORS: AN UNEXPECTED ADVERSE EFFECT OF TREATMENT ROLL-OUT

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BACKGROUND: Undisclosed antiretroviral drug (ARV) use among blood donors who tested HIV antibody (Ab) positive but RNA negative (Ab+/RNA-), so-called False Elite Controllers (EC), was previously described by our group. Such undisclosed ARV use represents a risk to blood safety in a country with a growing treated HIV population. We assessed the prevalence of and associations with undisclosed ARV use among HIV-positive donors in South Africa.

METHODS: South African blood donors are screened by self-administered questionnaire, a semi-structured interview and individual donation laboratory testing. HIV-positive donations were classified as acute (Ab-/RNA+), prevalent (Ab+/RNA+), and potential EC (Ab+/RNA-) cases. Prevalent cases were further classified as recent (Ab+/RNA+; Limiting Antigen Avidity [LAg] ODn<1.5) or longstanding (Ab+/RNA+; LAg ODn>1.5). Stored plasma samples from these donations were tested for ARV using qualitative liquid chromatography-tandem mass spectrometry.

RESULTS: Of the 1671 HIV-positive donations detected in 2017, 1250 had plasma samples available for ARV testing. Overall prevalence of undisclosed ARV use was 9.8% (n=122) but differed by HIV classification with 85% (68/80) of potential EC donors compared to 4.9% (54/1108) of prevalent cases (p<0.0001). Among prevalent cases, 5.3% of the recent and 4.9% of the longstanding cases tested ARV positive (p=0.376). None of 62 acute cases tested ARV positive. Undisclosed ARV use was more frequent among donors aged >40 (16.9%) versus <21 (6.8%) years (p<0.0001) and first-time (14.1%) than repeat (2.5%) donors (p<0.0001). Non-disclosure was highest in the KwaZulu Natal province (15.0%). Multivariable logistic regression found ARV positivity to be independently associated with first-time (versus repeat) donor status (aOR = 4.11, 95% CI 2.48 -6.79), age >40 years versus <21 years (aOR=4.02, 95% CI 2.11-7.63) and KwaZulu Natal versus Gauteng province (aOR=2.24; 95% CI 21.34-3.75).

CONCLUSIONS: The 9.3% prevalence of undisclosed ARV use among HIV-positive South African donors is alarming and likely represents a hitherto unrecognized adverse effect of national ARV rollout. Early ARV initiation or infection while on PrEP could lead to low Ab and absent RNA levels, resulting in failure to detect HIV-infected donations and possible transfusion-transmission of HIV. Donor motivations for blood donation with undisclosed ARV use needs further investigation to identify approaches to mitigate this problem.

PEC0489

DISPARITIES IN UPTAKE OF INTEGRASE INHIBITOR-CONTAINING REGIMEN IN THE MODERN HIV TREATMENT ERA, SAN FRANCISCO, USA

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BACKGROUND: The introduction of integrase inhibitors (INSTIs) for antiretroviral therapy (ART) has revolutionized HIV care management due to their favorable side effect profile and high potency. Vulnerable populations, including homeless people and people who inject drugs (PWID), could benefit from INSTI ART. We sought to evaluate populations and factors associated with receiving INSTIs using the San Francisco (SF) population-based HIV surveillance case registry.

METHODS: SF residents diagnosed with HIV and reported to the SF Department of Public Health who initiated ART during 2009-2016 were included. Data on ART were collected via chart reviews through November 2019. Time from first ART regimen to an INSTI-containing regimen was compared using Kaplan-Meier curves, with time set to zero if the first regimen included an INSTI. Persons not receiving an INSTI regimen at end of follow-up were censored. Proportional hazard analysis evaluated factors associated with receiving INSTIs, including birth sex, race/ethnicity, transmission category, age, insurance, homelessness, and viral load (time-dependent).

RESULTS: Overall (n=3255), 38% started INSTIs as a first regimen, 29% later switched to INSTIs, and 33% did not receive INSTIs. PWID and homeless people were less likely to initiate INSTIs as a first regimen (30% and 31% respectively). Among those who initiated ART in 2013-2016, 83% received INSTIs compared to 56% in 2009-2012. Median time to INSTIs was 26 months for men who have sex with men (MSM), 45 months for PWID, and 44 months for MSM-PWID (p=0.006). Median time to INSTIs was longer for homeless persons than housed (43 months vs. 30 months, p=0.047).

In multivariate analysis, PWID (Relative Hazard [RH] 0.76, 95% confidence interval [CI] 0.6-0.9), MSM-PWID (RH 0.87, 95% CI 0.8-1.0), and homeless people (RH 0.85, 95% CI 0.7-1.0) had delayed INSTI-containing regimen initiation compared to MSM and housed individuals, respectively.

CONCLUSIONS: Although the majority of persons with HIV received INSTI-based ART in recent years, PWID and homeless persons had delays receiving INSTI-containing regimens, after adjusting for viral load, which may reflect decreased retention in care or provider factors such as concerns about adherence in these populations. Switching to INSTI-based regimens when appropriate could potentially improve viral suppression in vulnerable populations.

PEC0490

TRENDS IN ART REGIMEN MODIFICATIONS AMONG PERSONS WITH HIV IN SAN FRANCISCO, CALIFORNIA, USA, 2001-2016

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BACKGROUND: The primary reasons for making a modification from one antiretroviral therapy (ART) regimen to another have evolved over time, commensurate with changes in ART, however most studies assessing regimen modification have been clinic or

cohort-based. We evaluated reasons for and factors associated with ART regimen modifications over a 15-year period using a large population-based sample.

METHODS: We used the HIV surveillance database to identify San Francisco residents diagnosed with HIV, who initiated ART during 2001-2016, and who made modifications to their ART regimen. ART prescription data were collected through medical chart reviews with follow-up through November 2019. The four initiation periods were: 2001-2004, 2005-2008, 2009-2012, and 2013-2016 according to year of ART regimen initiation. Regimens were classified by the anchor drug of highest potency: integrase inhibitor, protease inhibitor, and nonnucleoside reverse transcriptase inhibitor. Contingency table analyses, with Cochran-Armitage trend test, measured ART regimen modifications over time.

RESULTS: Among the 5836 adults who modified their regimen, 45% (708/1574) of people who initiated ART in period 1 modified their ART regimen classification, 53% (883/1662) in period 2, 56% (937/1683) in period 3, and 30% (275/917) in period 4 (p for trend<0.001). Compared to those who did not modify their first ART regimen from one class to another, those who modified were more likely to be people who injected drugs (PWID: p<0.0001) and people without private insurance (p<0.001). Among those with known reasons for any treatment modification (n=3209), the most common reasons were: tolerability/toxicity issues (57%), simplification (34%), treatment failure (5%), drug-drug interaction or other conditions requiring ART modification (2%), and access problems (1.5%). Reasons for modifying ART regimens changed over time with more people modifying to simplify and fewer modifying due to treatment failure over time (p<0.001).

CONCLUSIONS: Current ART regimens are simpler, increasingly effective and well tolerated. Therefore the main reason for modification is now simplification aimed to enhance quality of life and adherence, and at the same time to minimize drug toxicity. More frequent modifications among PWID and those without private insurance may be related to greater comorbidities (i.e. hepatitis C among PWID) and/or to address adherence concerns.

PEC0491

TRENDS IN AND PREDICTORS OF ANTIRETROVIRAL THERAPY REGIMEN DURABILITY AMONG PERSONS WITH HIV IN SAN FRANCISCO, USA, 2001-2016

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BACKGROUND: HIV antiretroviral therapy (ART) has evolved to be more effective, simplified and durable. ART management is complex and individualized thus modifications may be needed to achieve optimal treatment outcomes. We evaluated time to regimen modification and factors associated with regimen durability using a population-based HIV surveillance registry.

METHODS: San Francisco residents diagnosed with HIV and who initiated ART during 2001-2016 were included. Data on ART prescriptions were collected via medical chart reviews with follow-up through November 2019. Periods of ART initiation were categorized as years 2001-2004, 2005-2008, 2009-2012, and 2013-2016. Time from ART initiation to regimen modification (including simplification or change within drug class) was calculated using Kaplan-Meier techniques. Persons who had no modifications at end of follow up were censored at the date of last chart review, last lab test date or death, whichever was earliest. A separate proportional hazards model for each time period was conducted to evaluate factors associated with regimen durability.

RESULTS: Among the 7047 persons who initiated ART, 71% had a regimen modification. The proportion of ART modifications at two years after initiation was relatively stable across the first three time periods (ranged 28-30%) and was 44% in 2013-2016. People with public insurance or no insurance at time of diagnosis compared to private insurance, were more likely to modify regimens in 2001-2004 and 2005-2008 but the differences diminished in 2009-2012 and 2013-2016. In 2013-2016, initial regimens containing protease inhibitors (Hazard ratio [HR] 1.5, 95% confidence interval [CI] 1.2-1.9) were more likely to be modified and regimens containing integrase inhibitors (INSTI) (HR 1.1, 95% CI 0.9-1.3) were not more likely to be modified relative to nonnucleoside reverse transcriptase inhibitors-based regimens.

CONCLUSIONS: In a city highly specialized in HIV care, a high proportion of persons modified their ART regimens after initiation and these modifications, including simplification, increased in recent years. Although there was initially greater modification among people with public or no insurance, this was not seen in recent years, suggesting improved regimen durability among these vulnerable populations, potentially due to city programs targeted towards these populations and/or greater potency and tolerability of second-generation INSTI regimens.

PEC0492

AWARENESS AND ACCEPTABILITY OF UNDETECTABLE=UNTRANSMITTABLE AMONG A U.S. NATIONAL SAMPLE OF HIV-NEGATIVE MEN, TRANS MEN, AND TRANS WOMEN

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BACKGROUND: While the scientific rigor underlying U=U (undetectable = untransmittable) messaging is vastly endorsed among scientific communities, little is known about its reach and acceptability among the populations to which this messaging is intended. Our study describes socio-demographic characteristics and sexual behavior associated with having heard of U=U and trust in U=U in a U.S. national sample of HIV-negative men, trans men, and trans women.

METHODS: Data were derived from the Together 5000 study, an internet-based U.S. national cohort of men, trans men, and trans women who have sex with men. Six-months after enrollment, participants were invited to complete an optional survey that included questions on U=U (n = 3286). Measures included socio-demographic characteristics, healthcare-related characteristics, and questions pertaining to awareness of and trust in U=U messaging. We explored socio-demographic differences between groups of participants with varying degrees of awareness and trust and built multivariable logistic regression models to explore factors associated with these outcomes. Next, we explored patterns in willingness to engage in various sexual behaviors based on a hypothetical partner's serostatus, PrEP use and viral load, among participants with varying levels of trust in U=U.

RESULTS: In total, 85.5% of participants reported having heard of U=U. Of those having heard about U=U, 42.3% indicated they trusted it, 19.8% indicated they do not trust it, and 38.0% were unsure. La-

tino, Asian, lower income, and Southern participants were less likely to have heard of U=U (p<.05). Having a recent discussion about PrEP with a medical provider (p<.05) or being a former-PrEP user were separately associated with higher trust in U=U (p<.05). Lastly, having trust in U=U was associated with willingness to engage in condomless anal sex under varying hypothetical sexual risk conditions related to partner's serostatus, PrEP use, and viral load.

CONCLUSIONS: We found high rates of U=U awareness; however fewer than half of those aware of U=U said they trust it. Results suggest key communities disproportionately impacted by HIV remain less aware and/or less likely to trust U=U, indicating opportunities for continued HIV education that supports U=U messaging.

PEC0493

IMPROVING RETENTION OF PEOPLE LIVING WITH HIV ON ANTIRETROVIRAL DRUGS THROUGH CONTACT TRACING OF LOST TO FOLLOW UP: LESSON LEARNT FROM NIGERIA

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BACKGROUND: TNigeria care and treatment programme has recorded significant number of people living with HIV (PLHIV) who are lost to follow up (LTFU). This study aimed at assessing status of contact tracing of PLHIV who are lost to follow up in the Antiretroviral Therapy (ART) sites in Nigeria.

METHODS: This study utilized a cross sectional design. Multi-stage sampling method was used to select 22 public ART sites in 11 states across Nigeria. Participants classified as lost to follow up LTFU from the retrospective cohort folder audit of PLHIV who were in Care and treatment between January 1st, 2013 and December 31st, 2017 were recruited. A systematic sampling technique was used to select Unique ID/ Hospital Numbers of 4,979 LTFU PLHIV. All sampled folders were sorted and information on patients contact details, care and treatment services were collected using a pretested semi-structured questionnaires. Data were analysed for descriptive and bivariate variables using SPSS software version 22.

RESULTS: Greater proportion (66.6%) of the LTFU clients were females while 34.6% do not have any form of education. Almost half (48%) were contacted through phone calls, followed by visiting clients' home (37%). Among 4,979 LTFU clients contacted, more than half (60%) were traceable while 40% were not traceable. More (66.6%) females were traced compared to males (33.4%). By age categorization, majority (71.3%) of the adult clients (25 - 49 years) were traced, while the least (6.3%) contacts traced were children (0-14 years). Amid traceable clients, 35.4% were dead, followed by 24.6% that were alive but have discontinued ART, 22.6% were self-transferred out while 17.4% were still active on ART within the facilities. Of the clients that were not traceable, wrong contact address/ phone number (60%), missing folders (19.0%), phone number not reachable (13.0%) were the major cause.

CONCLUSIONS: The study revealed that number of untraceable LTFU clients were high (40%). Improving quality of records of PLHIV on care and treatment and early tracking of LTFU clients is crucial in bridging the gap of retention in HIV Care and treatment.

MEASURING THE POPULATION-LEVEL IMPACT OF POLICY-LEVEL HIV INTERVENTIONS

PEC0494

EXPERIENCES OF LINKAGE TO CARE AND TREATMENT AMONG PEOPLE LIVING WITH HIV BEFORE AND AFTER A FOCUSED PROVINCIAL TREATMENT AS PREVENTION PROGRAM IN BRITISH COLUMBIA, CANADA

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BACKGROUND: In 2010, British Columbia (BC) implemented the Seek and Treat for Optimal Prevention of HIV/AIDS (STOP) initiative, expanding HIV testing and timely initiation of and engagement in antiretroviral therapy (ART) to optimize Treatment as Prevention (TasP). We evaluated HIV care experiences, engagement, and therapeutic and clinical outcomes among participants diagnosed with HIV prior to and subsequent to STOP.

DESCRIPTION: From September 2016-August 2018, the STOP Program Evaluation (SHAPE) cohort study recruited people living with HIV, aged 18+, across BC who completed a questionnaire ascertaining sociodemographic information, HIV treatment, and care engagement combined with the Drug Treatment Program. This analysis stratified HIV diagnosis date by prior to (2000-2009) and subsequent to (>2010) STOP implementation. Chi-square and Wilcoxon Rank Sum tests compare engagement outcomes to each time-period. Cox proportional hazards regressions compare time to ART initiation and virological suppression (plasma viral load <200 copies/ml) in each time-period, controlling for sexual orientation, gender, and injection substance use.

LESSONS LEARNED: Of 644 participants, 319 were excluded from analysis due to missing data, starting ART elsewhere, or diagnosis before 2000. Of the remaining 325, 198 (60.9%) were diagnosed prior to and 127 (39.1%) subsequent to STOP. Both periods consisted of mostly men (66.2% vs. 81.9%; p=0.004) with median age of 37 (IQR 31-44) (vs. 38; IQR 29-4 7; p=0.258). The STOP implementation era saw more diagnoses in walk-in and hospital settings (44.9% vs. 39.4% and 20.5% vs. 11.1%, respectively; p=0.04), desire to start ART immediately after diagnosis (74.0% vs. 40.1%; p=<0.001), and use of nurse consultation (41.7% vs. 17.7%; p<0.001), nutritionists (25.2% vs. 13.1%; p=0.006), and social workers (28.3% vs. 16.2%; p=0.008). STOP implementation era participants were timelier to initiate ART (adjusted hazard ratio [AHR] 5.97; 95% CI 4.47-7.97) and reach virological suppression (AHR: 2.03; 95% CI 1.58-2.60). Reduced timeliness exists for transgender and non-binary participants to initiate ART (vs. men; p=0.02) and homosexual participants to reach virological suppression (vs. heterosexual; p<0.001).

CONCLUSIONS/NEXT STEPS Our analysis reveals a reduction in time to ART initiation and virological suppression following HIV diagnosis after implementation of a provincial initiative promoting TasP. Barriers remain for transgender and non-binary participants regarding timeliness of ART initiation.

MONITORING AND EVALUATION OF HEALTH SYSTEMS ALONG THE HIV CASCADE

PEC0495

HIV CONTINUUM OF CARE AMONG PEOPLE LIVING WITH HIV IN AFGHANISTAN

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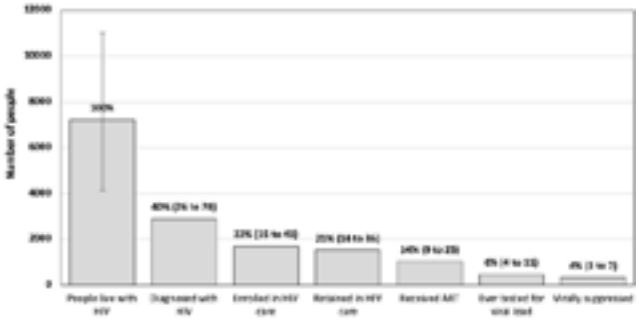
BACKGROUND: Afghanistan is facing a concentrated HIV epidemic predominantly among people who inject drugs. Currently,the Afghanistan national HIV program has committed to test and treat strategy for all people living with HIV (PLWH) in the country since 2016. We assessed the HIV continuum of care among people living with HIV in Afghanistan to evaluate the progress towards the 90-90-90 UNAIDS targets.

METHODS: We used the data from national HIV surveillance for 2883 patients who were diagnosed between 1989 and 2018 to assess the HIV continuum of care of people living with HIV in 2018. We excluded 253 patients who reported death for any causes. The estimated number of PLWH in 2018 was estimated by Spectrum model (point and 95% confidence intervals [CI]).

RESULTS: We estimated about 7,200 (95%CI 4100, 11000) PLWH in Afghanistan (Figure 1), of whom only 2883 people (%40, 95%CI 26 to 70%) were diagnosed, 23% (1679 people) were enrolled in HIV care, 21% (1494 people) were retained in HIV care, 14% (1013 people) received ART, 6% (456 people) were tested for viral load after ART initiation, and 4% (300 people) were virally suppressed. In 2019 (from January to November), of the 150 people who diagnosed with HIV, 86% (130 people) started ART.



[Figure 1. HIV continuum of care among people living with HIV in Afghanistan in 2018.]

CONCLUSIONS: Our findings showed less than five percent of people living with HIV in Afghanistan to be virally suppressed. The gaps in HIV continuum of care are major for HIV diagnosis, ART initiation and also viral suppression. While there was some improvement in 2019, addressing barriers in access and using of HIV programs in Afghanistan particularly for key populations are urgently needed to reach the 90-90-90 global targets.

PEC0496

TRENDS IN CHARACTERISTICS AND OUTCOME OF NEWLY DIAGNOSED ADULT HIV-PATIENTS ENROLLED IN CARE IN A LARGE HIV REFERENCE CENTER IN ANTANANARIVO, MADAGASCAR FROM 2010 TO 2016: A RETROSPECTIVE COHORT STUDY

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BACKGROUND: The purpose of this study is to describe the trends in profile of newly diagnosed PLWHA enrolled in care, to assess their outcome and to identify factors associated with attrition from care.

METHODS: We conducted a retrospective cohort study including PLWHA of at least 15 years old newly diagnosed from 2010 to 2016 and enrolled in care at the Infectious Diseases Department of the University Hospital Joseph Raseta Befelatanana, a reference center for HIV care in the capital city Antananarivo of Madagascar.

RESULTS: 490 PLWHA were included in the analysis. 67.1% were male. Median age (IQR) at enrollment in care was 29 years (24-38). The proportion of PLWHA aged 40-49 years and > 50 years have significantly increased between 2010 and 2016, respectively from 6.7% to 21.4% (p=0.032 for trend) and from 0% to 11.1% (p=0.002 for trend). 30.8% reported being men who have sex with men with no significant change over time. At enrollment, PLWHA were classified as WHO stage III and IV in respectively 15.7% and 20.4%. The proportion of PLWHA at WHO stage IV at enrollment significantly increased from 3.3% in 2010 to 31% in 2016 (p=0.001 for trend). Median CD4 cell count (IQR) was 273/µl (136-437). The proportion of PLHWA with CD4 cell count <200/µl and <100/µl significantly increased from 10% to 50.8% (p=0.013 for trend) and from 5% to 30.5% (p=0.047 for trend) between 2010 and 2016. 58.7% of PLWHA were retained in care, 11% died and 26.3% were lost to follow-up. The probability of retention in care after diagnosis at 6 months, 12 months, 24 months and 36 months was respectively 76.6%, 71.8%, 65.5% and 61.3%. Age≥40 years (aHR:1.61; 95%CI:1.08-2.40), low level of education (aHR:1.53; 95%CI:1.03-2.28), unspecified level of education (aHR:2.04; 95%CI:1.26-3.28) and unemployment (aHR:1.48; 95%IC:1.03-2.13) were independently associated with attrition from care.

CONCLUSIONS: PLWHA are still enrolled in care at an advanced HIV disease and are increasingly diagnosed late at enrollment over the study period. Retention in care is a major issue within 12 months after the diagnosis. Attrition from care are mostly influenced by sociodemographic rather than clinical factors.

PEC0497

UNDER-REPORTING OF KNOWN HIV-POSITIVE STATUS AMONG PEOPLE LIVING WITH HIV: A SYSTEMATIC REVIEW AND META-ANALYSIS

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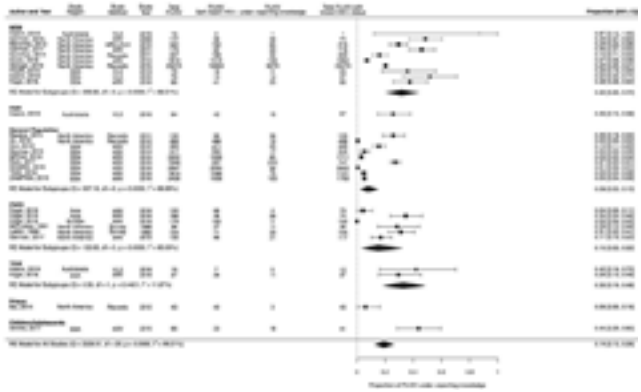
BACKGROUND: Measuring progress towards the UNAIDS 90-90-90 goals requires accurate estimates of levels of knowledge of HIV infection. Knowledge of HIV-positive status is often estimated using self-report, although it may be mis-reported by people living with HIV (PLHIV). We aimed to quantify under-reporting of knowledge of HIV-positive status among PLHIV.

METHODS: MEDLINE, EMBASE, Web of Science, Global Health and Scopus databases, IAS conference archives and PHIA datasets were searched to October 2019 for studies providing self-reported and biological/clinical markers of prior knowledge of HIV-positive status among laboratory-confirmed PLHIV. PLHIV with antiretroviral drugs detected, viral load suppression, or prior diagnosis in medical records, but not reporting being HIV-positive, were classified as under-reporting known HIV-positive status. Random-effects models were used to derive pooled estimates of the proportion under-reporting known HIV-positive status. Possible sources of heterogeneity were investigated using sub-group analyses.

RESULTS: Thirty independent study estimates from 24 studies on 39,491 PLHIV were included. Most studies were conducted in the North America (number of estimates [N]=12) or sub-Saharan Africa [N=12], in the general population [N=9] or men who have sex with men [MSM; N=10]). The pooled proportion under-reporting known HIV-positive status was 19% (95% confidence interval: 13%–26%, I^2=99%; Figure). In sub-group analyses, no statistically significant differences in under-reporting were found by continent, study design, interview method, gender (in general population studies) or prior status knowledge assessment method. Under-reporting was higher among MSM (32%, N=10) than the general population (8%, N=9; p=0.0004) and in a subset of North American studies with data by race, under-reporting was higher among Black (18%, N=5) than non-Black (3%, N=3) individuals (p=0.005).



[Figure. Forest plot showing proportion of PLHIV under-reporting known HIV-positive status. MSM = men who have sex with men, PWID = people who inject drugs, SSA = sub-Saharan Africa, FSW = female sex workers, TGW = transgender women.]

CONCLUSIONS: Substantial under-reporting of knowledge of HIV-positive status was found, particularly by MSM. These results could be used to correct self-reported levels of knowledge of HIV-positive status, although biological markers may still underestimate knowledge.

PEC0498

ANTIRETROVIRAL STRATEGIES IN NAIVE AND VIRALLY SUPPRESSED HIV-INFECTED PATIENTS DEPEND ON PATIENTS' GEOGRAPHIC ORIGIN: EXPERIENCE FROM A FRENCH HIV CENTER IN PARIS

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BACKGROUND: We aimed to evaluate antiretroviral (ART) strategies in a French HIV center in naïve and virally suppressed HIV-patients, born in France (PBF) and born in sub-Saharan Africa (PBSSA).

METHODS: This observational single center study has included all the new PBF and PBSSA managed at Pitié-Salpêtrière hospital, Paris, France, from 01/01/2000 to 31/12/2018, with plasma viral load (pVL)>200 copies/mL. Logistic and Cox regression models were used to assessed the impact of origin on ART strategy at initiation and maintenance (pVL<50 copies/mL >24 months), time to first pVL<50 copies/mL and time to the first ART change, adjusted for potential confounders.

	Naive patients (n=1945)			Virally suppressed patients (n=897)		
	PBF (n=1030)	PBSSA (n=915)	Adjusted p-value	PBF (n=509)	PBSSA (n=388)	Adjusted p-value
NNRTI (n=474)	26%	22%	0.42	41%	43%	0.52
PI (n=1021)	47%	58%	0.04	9.2%	18%	<0.001
INSTI (n=363)	24%	13%	<0.001	45%	37%	0.02
Time to first pVL<50 copies/mL	11.7 months	18.7 months	0.68			
Time to first ART change	3.9 months	3.7 months	0.75			
"Drug-reduced" therapies (n=297)				41%	23%	<0.001
Dual therapies (n=179)				23%	16%	0.09
Intermittent triple-drug therapies (n=94)				15%	4.6%	0.01

RESULTS: Overall, 1,945 naïve patients were analyzed. PBSSA were younger (34 vs. 38 years, p<0.001), with more women (59% vs. 14%, p<0.001), with lower CD4 count (240 vs. 339/mm3, p<0.001), and were more frequently CDC C (17% vs. 11%, p<0.001). By multivariate analysis, ART strategy at initiation differed according to birth country: PBSSA received more protease inhibitor (PI)-based ART (HR 1.38; 95%CI 1.01-0.87; p=0.041) and less integrase inhibitor (INSTI)-based ART (HR 0.49; 95%CI 0.32-0.75; p<0.001). Geographical origin, after adjustment for potential confounders, had no impact on the time to reach a first pVL<50 copies/mL (HR 0.97; 95%CI 0.84-1.13; p=0.68), neither on the time prior to the first ART change (HR 1.02; 95%CI 0.87-1.21; p=0.75). When considering maintenance ART strategies, 897 virally

suppressed patients were analyzed, with a similar median duration of viral suppression in the two groups (77.5 vs. 77.0 months, p=0.69). By multivariate analysis, "drug-reduced" ART (mono, dual and 5 or 4 days-a-week therapies) were significantly less frequent in PBSSA (HR 0.46; 95%CI 0.30-0.70; p=0.041).

CONCLUSIONS: Depending on birth country origin, ART strategies at initiation were different in PBF and PBSSA with more PI and less INSTI. In virally suppressed patients, despite similar duration of viral suppression, PBSSA received less "drug-reduced" ART.

PEC0499

SELF-REPORTED ROUTE OF HIV TRANSMISSION THROUGH BLOOD AND BLOOD PRODUCTS UNDER NATIONAL AIDS CONTROL PROGRAMME IN INDIA

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BACKGROUND: The National AIDS Control Programme aims to expand access to safe blood and blood products through a well-coordinated network of transfusion services. The main component of an integrated strategy includes collection of blood only from voluntary, non-remunerated blood donors, screening for all transfusion transmitted infections and reduction of unnecessary transfusion. In continuation of this, to reduce the risk of HIV transmission, National Blood Transfusion Council of India promote 100% voluntary blood donation in all blood banks across the country.

METHODS: The data used for analysis is national programme data from HIV confirmatory sites (Stand-alone Integrated Counselling and Testing Centres, SA-ICTC). Data from financial year 2011-12 to 2018-19 has been used for the analysis. The available data on route of HIV transmission is self-reported, collected during the post-test counselling of confirmed HIV positive at HIV testing centre (SA-ICTC). Data analysis includes (A) State-wise proportion and (B) Three years moving average to smoothen the data points in trend analysis.

RESULTS: Percentage of HIV transmission through the blood and blood products is much lower than other routes of HIV transmission. National level trend shows less than 1% self-reported route of transmission through blood and blood products from 2011-12 to 2018-19. This translate around more than 1,300 in the country. There is around 12% decline in self-reported route of transmission through blood and blood products from year 2011-12 to 2018-19. However, there are seven states reported consistently higher than 1% of HIV transmission through blood and blood products (Chhattisgarh, Delhi, Gujarat, Haryana, Kerala, Uttar Pradesh and West Bengal). In three years moving average, Delhi and Jammu Kashmir constantly reported more than 2% in HIV transmission though blood and blood products from the year 2011-12 to 2018-19. There are 5 states which contributes 67% of total cases (Uttar Pradesh-18%, West Bengal & Delhi-13%, Maharashtra-12% and Gujarat-11%).

CONCLUSIONS: In order to decrease number of self-reported route of transmission through blood and blood products in the high burden states, the programme needs to enhance existing capacity of SA-ICTC counselor and strengthen counselling under programme through induction training and repeated refresher training.

SURVEILLANCE OF DRUG RESISTANCE

PEC0500

HIGH LEVELS OF HIV DRUG RESISTANCE AND EVIDENCE OF TRANSMISSION CLUSTERS WITHIN AND ACROSS KEY POPULATIONS IN PAPUA NEW GUINEA: RESULTS FROM A BIOBEHAVIOURAL SURVEY

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BACKGROUND: HIV drug resistance (DR) is a major threat to reaching UNAIDS 90-90-90 targets. Papua New Guinea (PNG) has the fourth highest prevalence of pre-treatment HIV drug resistance (DR) at 18.4% of the population starting treatment or re-initiating treatment. PNG's epidemic is concentrated among key populations (KP), including female sex workers (FSW), men who have sex with men (MSM) and transgender women (TGW), and shortages of antiretroviral (ARV) drugs are common. However, no data exist on specifically on HIVDR among KPs in PNG.

METHODS: We conducted respondent-driven sampling biobehavioural surveys in Port Moresby, Lae, and Mt. Hagen, PNG from June 2016–December 2017. Venous blood was drawn from 2,955 participants (71% FSW and 29% MSM/TGW) for rapid HIV testing according to the national algorithm. Plasma was tested for HIV viral load (VL) in PNG using GeneXpert. Positive plasma aliquots with VL≥1,000 copies/ml were genotyped at the US Centers for Disease Control and Prevention, Atlanta, using Applied Biosystems™ HIV-1 Genotyping kits.

RESULTS: Among the 355 HIV-positive specimens tested, 205 specimens yielded a VL≥1,000 copies/mL, and 193 were successfully genotyped, 156 from FSW and 37 from MSM and TGW. The majority (n=191) were HIV subtype C; 2 had recombinant form of subtype B, and C. HIVDR to nucleoside reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs) and protease inhibitors was detected in 24.9% (n=48), 15% (n=29) and 1.1% (n=2), respectively, and 13.4% (n=26) had HIVDR to both NRTIs and NNRTIs. Among genotyped specimens, HIVDR prevalence was 28.8% among FSW and 10.8% among MSM/TGW. Ten genotypical clusters were found: six from Port Moresby, two from Lae, and two from Mt. Hagen. There were eight clusters among FSW, three among MSM/TGW, with three of these reaching across the KPs.

CONCLUSIONS: KP HIVDR threatens PNG's ability to reach epidemic control. Transmission clusters within and across KP groups highlight interconnected sexual networks that can facilitate HIVDR transmission. Access to routine viral load testing to determine transmitted DR, enhanced adherence counselling, a faster transition to fixed-dose tenofovir/lamivudine/dolutegravir, and a stable ARV supply are important in bringing PNG's HIV and HIVDR epidemics under control.

PEC0501

TRANSMITTED DRUG RESISTANCE AND CARE OUTCOMES AMONG PERSONS NEWLY DIAGNOSED WITH HIV IN SAN FRANCISCO, CALIFORNIA, USA, 2014-2017

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BACKGROUND: "Treatment as prevention" is an effective HIV prevention strategy which relies on early initiation of antiretroviral therapy (ART). Transmitted drug resistance (TDR) could compromise ART effectiveness. We analyzed HIV nucleotide sequences to assess prevalence and care outcomes of TDR among persons newly diagnosed with HIV in San Francisco (SF).

METHODS: SF residents newly diagnosed with HIV from 2014-2017 and reported to the SF Department of Public Health were included. We included HIV sequences collected within 3 months of diagnosis from individuals with no evidence of prior ART use. The Stanford HIV Sierra Web Service was used to identify mutations. The CDC mutation list for surveillance was applied to determine mutations conferring any resistance to nucleoside reverse transcriptase inhibitors (NRTI), non-NRTI (NNRTI), protease inhibitors (PI) and integrase strand transfer inhibitors (INSTIs). Median time from HIV diagnosis to ART initiation and to viral suppression were estimated using Kaplan-Meier method and log-rank tests comparing those with and without TDR were performed.

RESULTS: Of 1,130 persons newly diagnosed with HIV in 2014-2017, 415 (37%) had an eligible pol HIV sequence reported to HIV registry, 398 with eligible protease and reverse transcriptase (PR/RT) and 144 with integrase gene. Of 398 persons with eligible PR/RT gene, 95 (24%) had at least one resistance mutation; 14% (n=54) had a NNRTI, 11% (n=42) a NRTI, and 4% (n= 14) a PI mutation. The most frequent mutation was K103N (n=35, 9%). Two(0.5%) carried M184V and none had K65R mutation. One person had an INSTI mutation, T66A, which reduces susceptibility to elvitegravir. No significant differences were observed between persons with and without TDR for time to ART initiation (23 vs. 23 days respectively, p=0.95), and viral suppression (80 vs. 89 days, p=0.46).

CONCLUSIONS: We did not find TDR affected HIV care outcomes, a likely effect of rapid availability of potent ART regimens and clinical management in a resource-rich setting such as SF. We identified only two M184V, one integrase and no K65R mutations. Continued TDR monitoring and its clinical impact, and ensuring providers conduct and report genotypic testing for all new patients are critical for optimizing HIV clinical care and effective HIV prevention.

PEC0502

HIGH LEVELS OF HIV DRUG RESISTANCE IN ADULT PATIENTS WITH UNSUPPRESSED VIRAL LOAD, MEASURED THROUGH ROUTINE VIRAL LOAD PROGRAMME MONITORING IN SOUTH AFRICA, 2019

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BACKGROUND: HIV drug resistance (HIVDR) surveillance guides selection of optimal antiretroviral therapy (ART) regimens. In South Africa, viral load (VL) monitoring of patients receiving care is performed across 16 laboratories; national VL testing coverage rates are >80% and 13% of 3.3 million people with a VL test performed during 2018 had unsuppressed VL (>1,000 copies/ml). We implemented nationally representative surveillance of HIVDR in adult patients with unsuppressed VL using leftover specimens sourced from patients who had undergone routine VL monitoring.

METHODS: Two-stage sampling was used: first we selected a systematic random sample from all specimens submitted for VL testing at each VL laboratory between May–July 2019. From these, we selected a random sample of unsuppressed VL specimens from adult patients by laboratory for HIVDR testing using next generation sequencing and drug level testing (DLT) using liquid chromatography mass spectrometry. VL results and patient age were extracted from the laboratory information system.

RESULTS: Of the 8202 VL test specimens collected as part of first stage sampling, 1053 had unsuppressed VL. From these, a random sample of 779 unsuppressed VL specimens were selected for further testing. DLT confirmed that 428 (55%) specimens had detectable levels of ART. The proportion of specimens with HIVDR is listed below:

	All specimens (% (95%CI))	Detectable levels of drug (% (95%CI))	Undetectable levels of drug (% (95%CI))
Total Resistance	72.1 (66.78 - 76.86)	85.56 (79.71 - 89.94)	55.6 (46.62 - 64.23)
PI Resistance	2.17 (1.33 - 3.49)	3.14 (1.94 - 5.05)	0.97 (0.31 - 2.96)
NRTI Resistance	48.99 (44.72 - 53.27)	72.69 (66.42 - 78.17)	19.93 (15.6 - 25.12)
NNRTI Resistance	70.51 (64.73 - 75.71)	83.73 (77.67 - 88.39)	54.31 (45.01 - 63.33)

[Table]

CONCLUSIONS: Our survey showed that 72% of patients with unsuppressed VL in the public sector harbor resistance to ART. HIVDR was lower in patients that had undetectable levels of ART, presumably due to lack of drug selection pressure (p<0.0000). Notably, 45% of patients on ART and presenting for routine VL testing had undetectable levels of ART. The use of leftover specimens proved advantageous in that it allowed for proportion to size sampling, and reduced collection time and cost. Laboratory information systems are not reliable systems in which to assess association of HIVDR to clinical and socio-demographic information

DESCRIBING THE SPREAD OF HIV THROUGH GEOGRAPHICAL INFORMATION SYSTEMS

PEC0503

DO SHRINKING HOTSPOTS OF NEW HIV DIAGNOSES SIGNAL EPIDEMIC CONTROL IN KENYA? A SPATIAL-TEMPORAL ANALYSIS (2015–2019)

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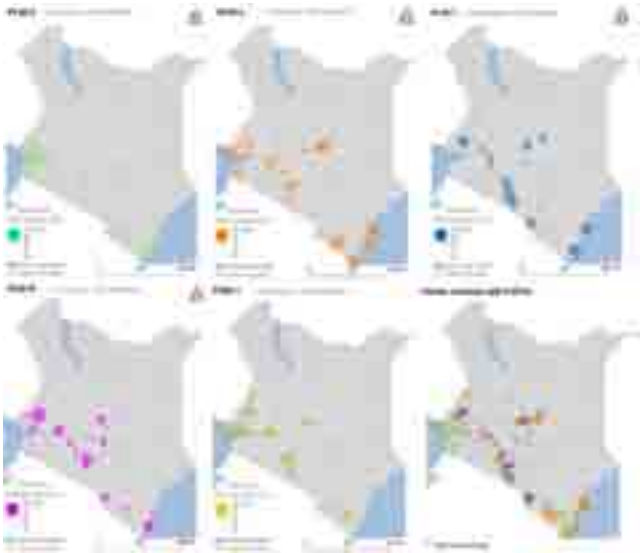
BACKGROUND: By 2020, annual new HIV infections will decrease to <500,000 worldwide as goals for HIV prevention, care, and treatment are achieved. Thus, new strategies will be needed to find undiagnosed HIV-positive persons as countries make progress in HIV epidemic control. We explored whether hotspots of newly HIV-diagnosed were consistently found in roughly the same geographic areas in Kenya and described their magnitudes across five years (2015-19).
METHODS: We analyzed monthly facility-level aggregate routine HIV-testing data reported in fiscal years (FY) 2015-2019. We compared median number of HIV-positive tests across years using the Kruskal-Wallis equality-of-populations nonparametric rank test. We used the Kulldorff spatial-scan Poisson model implemented in SaTScan with a 50-km radius scan window looping over 3000 geocoded facilities to determine whether number of new HIV diagnoses out of the tested were randomly distributed over space or clustered in detectable patterns. We mapped the significant clusters to assess overlaps and shifts in sizes and locations.
RESULTS: Of 7.8 million tested, 242,000 HIV-positive individuals were diagnosed in FY2015; 234, 177, 170, and 162 thousand out of 12.1, 11.9, 12.3, and 9.4 million tested in FY2016, FY2017, FY2018, and FY2019, respectively. Estimated annual diagnoses were 3091, 1935, 1492, 1386, and 1726 per 100,000 tests in each FY (2015 to 2019), respectively (p=0.0001). The number of significant clusters of individuals with new HIV diagnoses increased from 95 in FY2015, to 126 in FY2016, to 133 in FY2017. In FY2018, however, the number of clusters identified dropped to 111 and decreased further to 106 in FY2019 (Figure).



[Figure. Spatial cluster patterns of new HIV diagnoses in Kenya (2015-2019)]

CONCLUSIONS: New diagnoses have decreased especially in high burden areas, yet many clusters overlap. New hotspots may be evidence of accelerated efforts to meet HIV-testing targets. Our findings support the use of geospatial analysis to demonstrate progress toward HIV epidemic control and to focus prevention and testing services where most needed.

PEC0504

SPATIAL CLUSTERING OF SOCIOBEHAVIORAL AND BIOLOGICAL CHARACTERISTICS OF WOMEN WITH UNSUPPRESSED HIV VIRAL LOAD IN A GENERALIZED HYPER-ENDEMIC AREA IN KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Number of new HIV infections among young women in Sub-Sahara Africa remains exceptionally high, with South Africa accounting for the largest burden.To prevent onward transmission of HIV,it is important to achieve UNAIDS 90-90-90 composite measure of 73% viral suppression among people living with HIV, thus potentially reducing risk of new infections.The aim of this analyses was to spatially map the distribution of women with unsuppressed HIV viral load to help guide the targeting of interventions for immediate linkage to HIV care and scale of treatment and prevention strategies.
METHODS: We analysed data from the HIV incidence Provincial Surveillance System (HIPSS); two sequential cross sectional population based household surveys undertaken in Vulindlela and the Greater Edendale area of KwaZulu-Natal, South Africa. 2014 and 2015 survey enrolled 9812 participants and 10236 respectively. Following informed consent, enrolled participants had their household global positioning system (GPS) coordinates captured, completed questionnaires to obtain demographic, psycho-social behavioural information and had peripheral blood samples collected HIV related measurements. HIV viral suppression was defined as HIV viral load of <400 copies per mL and mapped using ArcGIS software version10.3. Survey logistic regression was used to examine predictors of unsuppressed HIV viral load.
RESULTS: Of the 9812 participants enrolled in the 2014 Survey, 6265 were women and 2 955 (44.1%,95% Confidence Interval (CI) 42.3- 45.9) tested HIV positive and 1372 (46.4%) had a viral load of ≥400 copies per mL. Median age of HIV positive women:32 (IQR) 26-39) years, median age at sexual debut :17 (IQR 16-19) years and median number of lifetime sex partner : 2(IQR 1-4). Of the 10236 participants enrolled in the 2015, 6341 were women and 2948 (45.0%, 95% CI (43.4-46.7) tested HIV positive and 1828 (61.9%) had a viral load of ≥400 copies per mL. Median age:32 (IQR) 26-39) years, median age at sexual debut:18 (IQR 16-20) years and median number of lifetime sex partner: 3 (IQR 2-4).
CONCLUSIONS: A substantial proportion of HIV positive women are virally unsuppressed and there is and urgent need for targeted interventions to link HIV positive women to care and the imperative for rapid scale-up of HIV treatment and prevention programs.

ADVANCES IN PUBLIC HEALTH SURVEILLANCE AND NEW APPROACHES

PEC0505

A CASE-CONTROL STUDY OF RISK FACTORS FOR HIV DRUG RESISTANCE OF PATIENTS HARBOURING ANTIRETROVIRAL DRUG RESISTANCE MUTATIONS IN VIETNAM

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BACKGROUND: The HIV epidemic in Vietnam remains concentrated primarily among key populations with the highest prevalence in people who inject drugs (PWID) (21.0%), following by female sex workers (FSWs) (3.2%), and men who have sex with men (2.9%). According to nationally representative surveys of pre-treatment and acquired HIV drug resistance (HIVDR) in Vietnam in 2017, the prevalence of pre-treatment drug resistance (PDR) and acquired drug resistance (ADR) were 5.4% and 2.6% respectively. However, the survey was unable to determine if risk behaviors associated with HIVDR. We conducted a study to identify factors including risk behaviors associated with HIVDR in order to inform public health intervention for HIVDR prevention.

METHODS: A matched case-control study was conducted between August and November 2019. Cases and controls were selected from national HIVDR survey. Case were all adult patients with any HIV drug resistance and controls were selected from patients without HIV drug resistance. Controls were randomly matched with cases on a ratio of 2:1 by sex, age (±2 years), groups of HIVDR (PDR, ADR12, or ADR48) and study sites.

RESULTS: The study included 58 cases and 114 controls. The proportion of patients with history of intravenous drug use was 25% (10/40) in HIVDR groups and 7.6% (8/105) in the control group. The intravenous drug use was associated with increased risk of harbouring antiretroviral drug resistance mutations (OR=3.17; 95%CI 1.20-8.34, p = 0.02). Among male patients, having history of anal sex with men was not associated with HIVDR (OR=0.77, 95%CI, 0.30-1.98, p=0.65).

CONCLUSIONS: Our finding indicated that injecting drug use were associated with HIVDR. This finding has important implication for national HIV programme in designing treatment adherence support for people who inject drugs to prevent HIVDR.

PEC0506

INTEGRATION OF HIV CLUSTER AND EPIDEMIOLOGICAL DATA TO INFORM PREVENTION IN CALIFORNIA

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BACKGROUND: We examined possible individual and social environmental predictors of molecular clusters of HIV transmission in California. Using multilevel demographic, clinical, and epidemiological data, we calculated expected case clustering rates among the 58 county and three city jurisdictions in support of resource alignment.

METHODS: HIV-1 *pol* sequences reported to the California HIV surveillance system were analyzed with HIV-Trace to identify molecular linkages. The analysis was limited to people diagnosed from 2016-2018 (n=16,504). Clustering was defined as two or more linked sequences with a pairwise genetic distance of ≤ 0.5%. The multilevel analysis accounted for individual characteristics and jurisdiction-level random intercept and fixed effects. Jurisdiction-level characteristics included sociodemographic and housing indicators as well as community viral suppression and care retention. Expected proportions of clustered transmissions in each jurisdiction were obtained by aggregating predicted clustering probabilities over the demographic and transmission mode categories weighted by the categories' proportion in that jurisdiction, and applying exponential transformation to jurisdiction-level logit values.

RESULTS: The proportion of sequences clustering at or below the 0.5% distance threshold was 18.3% (95% Confidence Interval [CI]: 12.3-24.2) in 2016-2018. The proportion clustering in the state's three largest counties, Los Angeles, San Diego, and Orange Counties, was 22.4% (CI: 19.9-24.9), 15.9% (CI: 13.2-18.6), and 23.1% (CI: 19.4-26.7) respectively. Molecular clustering was associated with younger age, white or Latinx race, people who inject drugs, and men who have sex with men or being transgender women. After multivariable adjustment, higher poverty and care retention gaps in a jurisdiction showed positive albeit nonsignificant associations with molecular clustering.

[Figure. Adjusted odds ratios[1] for HIV molecular clustering according to selected individual- and population-level characteristics, California, 2016-2018]

CONCLUSIONS: We observed significantly higher frequencies of molecular clustering among sociosexual subgroups recently diagnosed with HIV in California. We evaluated local variations in clustering rates to inform the allocation of prevention and treatment resources. The socioeconomic gradients in clustering rates were not significant, potentially reflecting the geographic dispersion of linked transmissions.

PEC0507

90-90-90 TARGETS SURPASSED IN THE UK BUT MASK THE NUMBER OF PEOPLE LIVING WITH TRANSMISSIBLE LEVELS OF VIRUS

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BACKGROUND: In the UK, the 90-90-90 targets were surpassed again in 2018 with 94% diagnosed, 97% treated and 97% virally suppressed. However, this: masks the number living with transmissible levels of virus; excludes numbers diagnosed but not in care; and assumes the distribution of viral suppression is identical between patients with and without data reported. We compare the number of people with transmissible levels of virus according to the published 90-90-90 outcome to an "intention to treat" analysis.

METHODS: We use comprehensive national surveillance data reported at HIV diagnosis and every subsequent HIV clinic attendance. Estimates of undiagnosed HIV infection are produced through the multi-parameter evidence synthesis. The number of people with transmissible levels of virus are calculated through adding the estimated number with undiagnosed HIV to the number untreated and not virally suppressed.

For the "intention to treat" analysis, those not linked to care (300) and those not retained in care annually (1,500) were also assumed to have transmissible levels of virus. Additionally, we calculated the proportion of those with missing viral loads in 2018 who were virally suppressed in 2017 and applied it to the number with missing viral load information in 2018.

RESULTS: In 2018, an estimated 103,800 (95% credible interval (CrI) 101,600 to 107,800) were living with HIV in the UK. Using the published scenario, approximately 13,100 people were living with transmissible levels of virus. Of these, 57% (7,500) were undiagnosed, 21% (2,800) untreated and 21% (2,800) virally unsuppressed.

In the "intention to treat" analysis approximately 15,600 people had transmissible levels of virus with 48% (7,500) undiagnosed. This included 1.9% (300) diagnosed in 2018 but unlinked to care, 9.6% (1,500) not retained in care, 18% (2,800) in care but untreated and 22% (3,500) in care and virally unsuppressed. The final UNAIDS targets were 94% diagnosed, 95% treated and 95% virally suppressed.

CONCLUSIONS: Regardless of scenario, the UK meets the UNAIDS targets. Between 13,100 and 15,600 people with HIV have transmissible levels of virus with around half undiagnosed. In addition to testing efforts, strategies to ensure those diagnosed are rapidly linked and retained in care are essential in preventing onward transmission.

PEC0508

PRELIMINARY RESULTS ON THE ACCEPTABILITY EVALUATION OF DUAL HIV/SYPHILIS RAPID TEST FOR THE SCREENING OF HIV & SYPHILIS IN MEN WHO HAVE SEX WITH MEN IN CHECKPOINTLX, LISBON, PORTUGAL

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BACKGROUND: Dual tests that can be used at point-of-care for simultaneously detecting HIV and syphilis antibodies have been developed, but there is limited data on their acceptability in the field. CheckpointLX offers 15-minute HIV and syphilis testing for men who have sex with men (MSM) performed by trained peers since 2011. A 1-minute dual test was introduced to scale-up HIV and syphilis testing – which accounted for 58.28% of last year's activity – but MSM acceptability is a higher priority to tailor the service, hence an evaluation of the dual test acceptability at CheckpointLX should be performed.

METHODS: Participants who presented to CheckpointLX, filling criteria to be tested to HIV and syphilis were randomly allocated to receive the 15-minute HIV and syphilis testing currently used or to receive the 1-minute INSTI® Multiplex HIV-1/HIV-2/Syphilis Antibody Test, based on the week they visited. Participants were invited to answer an acceptability questionnaire, assessing their willingness to use the test again, feasibility and satisfaction about the test. Data were collected between September 2019 and January 2020, and statistics were performed to describe data and to compare the acceptability of both tests.

RESULTS: 123 MSM were enrolled. The median age was 27 (IQR 12), 77 (75.5%) had a college degree, 63 (61.8%) had a full-time job, and 83 (69.2%) were born in Portugal. 100 (81.3%) received the new dual test and 23 (18.7%) received the ongoing separate test. No sociodemographic differences were found between groups. We found no differences regarding willingness to use the same test again and in the feasibility domains. Regarding satisfaction domain, 94 (94.9%) of dual test would like to use the test again vs. 8 (34.8%) of the separate test group, p<0.001, and 95 (96%) of dual test participants would recommend the test to a friend vs. 18 (78.3%) of the other group, p=0.003.

CONCLUSIONS: Even though these are preliminary results, our data suggest that the dual test acceptance might be higher within MSM testing at CheckpointLX. A higher acceptance associated with a considerable time reduction may contribute to testing scale-up, leading to an eventual increase of new cases detection.

PEC0509

LESSONS LEARNED FROM USING VERBAL AUTOPSIES TO OPTIMIZE MORTALITY DATA IN A HIGH HIV BURDEN SETTING IN SOUTH AFRICA

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BACKGROUND: About half of deaths in South Africa occur outside health facilities where cause-of-death information is limited. Many HIV deaths are misclassified, and about 45% of all deaths report vague underlying causes of death. As part of a national cause-of-death validation study, we assessed the use of verbal autopsies (VA) for improving cause-of-death data.

DESCRIPTION: In 27 randomly selected sub-districts across South Africa, enrolled undertakers and Department of Home Affairs offices recruited decedents' next-of-kin to participate in verbal autopsies (2017–2018). We extended the study from 3 to 7 months due to low recruitment. Trained interviewers visited 5768 households and conducted VAs using World Health Organization (WHO) 2016 standardized instruments. Interviews generally lasted 30–60 minutes. Physicians completed the WHO standard medical certificate of cause of death for VAs; these were coded using International Classification of Diseases (ICD-10), and underlying cause of death selected using Iris software.

LESSONS LEARNED: Privacy legislation and need to use undertakers restricted the identification of the newly bereaved next-of-kin and the ability to secure their permission to be approached for interviews. However, 6328 gave interview permission, of those, 5768 could be located, and 5388 (93.4%) agreed to the face to face interview. Recruitment of next of kin during community health care visits or during the mandatory death registration process could improve participation. Of the VAs conducted, 68.3% were assigned a specific and valid underlying cause of death, and 16.6% were assigned an underlying cause of death within an ICD chapter without sufficient specification (e.g., cancer without primary site). Next-of-kin were willing to share the deceased's HIV and TB status and provided rich narratives describing the final illnesses. These contained HIV and TB disease course and treatment information and highlighted treatment discontinuation as an ongoing challenge.

CONCLUSIONS/NEXT STEPS VA was acceptable in South Africa and can produce useful mortality data including on deaths due to HIV and TB. VAs may have the potential to improve national cause-of-death statistics if implementation is determined to be feasible on a broader scale. In high HIV and TB burden settings, strategies are needed to standardize the collection of treatment adherence information.

PEC0510

RECENT HIV INFECTION TESTING AND INDEX TESTING YIELD IN NAIROBI KENYA

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BACKGROUND: Latent antibody (LAg) avidity testing can distinguish recent (in the last 12 months) from long-term HIV infection. Integrating testing for recent infection into routine HIV testing services can provide important information on transmission clusters and identify clients for partner testing. We assessed the feasibility of integrating recency testing into routine HIV testing services (HTS) delivery in Kenya and it's utility in identifying priority clients for index partner testing.

METHODS: We conducted a cross-sectional survey in routine HTS services at 14 Eastern Deanery AIDS Relief Program (EDARP) facilities. We tested new HIV positive clients for recent infection using Maxim® HIV-1 LAg-Avidity EIA and viral load. We abstracted demographic, HIV testing and index partner testing data from clinical records.

RESULTS: From March to October 2018, we offered index partner testing to 532 attendees who were newly diagnosed with HIV. Of these 532, 48 (9.0%) were recently infected. The 48 recently infected clients referred 13 partners (0.27 partners/index patient), and the 485 clients with long-term infection referred 133 partners (0.27 partners/index patient). Of the total 146 HIV-infected index partners referred, 61 (42%) were found to be HIV infected; 30 (49%) had been previously diagnosed. Five (39%) of 13 were partners of clients with recent infection and 56 (44%) of 133 were partners of clients with longer-standing infection (p=NS) were found to be HIV infected. Among those, 4 (31%) of the 13 partners of clients with recent infection were previously undiagnosed, compared to 27 (20%) of the 133 partners of clients with longer-term infection. Twenty-one of the 31 previously undiagnosed HIV-infected index partners consented to recency testing; 13 (62%) had recent infection, and 8 (38%) had longer-term infection.

CONCLUSIONS: We conclude that it was feasible to integrate recency testing into routine HTS. Index testing was an effective way to find previously undiagnosed persons with HIV and clients with recent infection bring in more undiagnosed partners. However, we did not find an association between the proportion of partners testing positive and recent infection in the index cases. Our study had small numbers; more robust studies should be done to evaluate integrating recency testing into routine HTS.

PEC0511

DEVELOPMENT AND APPLICATION OF A DATA-DRIVEN APPROACH TO IDENTIFY SUSPECTED HIV-1 RECENT INFECTION CLUSTERS FOR PUBLIC HEALTH RESPONSE IN VIETNAM, 2019

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BACKGROUND: The greatest HIV burden in Vietnam is among key populations in specific geographic regions. To reach epidemic control, Vietnam has implemented rapid test for recent infection (RTRI) within the past twelve months into routine HIV testing services in 10 provinces. Identifying suspected clusters with possible high rates of transmission prompts public health investigation and response.
DESCRIPTION: We identified multiple types of clusters: transmission clusters (via contact tracing, molecular analysis), time-space clusters (geographic grouping of cases), or a single recent infection among priority populations. Stakeholders developed and applied several time-space cluster definitions to determine a threshold for response.
LESSONS LEARNED: From January-August 2019, 402 RTRI-recent HIV cases were identified in 10 provinces. We analyzed data by month, geography, and multiple cluster definitions. With most new diagnoses in two urban provinces, stakeholders agreed that cluster definitions be geographic-specific and field-tested with data.
Using a definition of ≥2 recent cases monthly, provincial-level analysis yielded 48 clusters (average size: 9.27 RTRI-recent cases). District-level analysis, using the same threshold of ≥2 recent cases monthly, identified 40 clusters (average: 4.42 RTRI-recent), with the majority of clusters in Hanoi (n=8, 7 districts) and Ho Chi Minh City (HCMC) (n=30, 12 districts). However, district-level analysis significantly reduced the number of clusters in non-urban provinces, suggesting the need for distinct definitions in high-burden provinces like Hanoi and HCMC. In HCMC, using a definition of ≥6 recent cases monthly, district-level analysis yielded 10 high-volume clusters (average: 9.30 RTRI-recent, 6 districts).
Considering limited resources for response, we developed and applied the following cluster definitions:

1. Hanoi: ≥2 RTRI-recent cases per district monthly;
2. HCMC: ≥6 RTRI-recent cases per district monthly; and
3. National: ≥2 RTRI-recent cases per province monthly.

CONCLUSIONS/NEXT STEPS Using RTRI data, stakeholders developed and field-tested geographic-specific time-space cluster definitions. As health authorities investigate suspected clusters, it is critical to review data routinely in real-time to monitor cluster numbers and trends.
Future evaluations may consider time-space clusters by facility. We recommend that initial cluster definitions be validated using statistical or spatial analysis software and revised accordingly, with input from stakeholders on their capacity to identify and respond to clusters.

PEC0512

INCREASING HIV TESTING YIELD THROUGH INDEX CONTACT TESTING SERVICES TO REACH UNDIAGNOSED PLWHV IN THE SOUTH WEST REGION-CAMEROON

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BACKGROUND: Cameroon, a Central African country is on track to achieving an HIV Epidemic Control, through attaining the first target of the UNAIDS 95-95-95 goals with >70% of PLWHV being aware of their status. In response to improving case identification to reach the last PLWHV, Cameroon scaled up the Index Contact Testing (HIV partner notification) program.
METHODS: This strategy started in 2015 being scaled up across 51 PEPFAR supported health facilities. All newly diagnosed PLWHV from all HIV testing modalities (including the confirmed cases diagnosed in the community) were offered this service after linking them to care. Likewise, the old patients (on treatment for >12 months), unsuppressed viral load cases, and the KPs were offered the partner notification services as well. The index clients were offered different referral methods (either client referral, dual referral, contract and or provider referral methods) of getting their contacts tested after notifying them of HIV exposure.
RESULTS: From the collected data between four project quarters (from October 2018 to October 2019), 1691(n) clients were identified and offered the ICT services as index clients (Females (64%), Males (36%)). Of these index clients offered ICT services, 1560(n) accepted the services offer (Females (64%), Males (36%)), with an overall 92% acceptance rate.

NEW Index Cases		Disclosed	# Notified	# Tested	%Notified Tested	# Tested Positive	Yield	# Linked to ART	% Linked to ART
Index Persons Offered IT Services	888								
Index Persons Accepted IT Services	814								
Sex Partners of Index Cases		1115	1077	1128	101%	268	24%	221	82%
Children of Index Cases (Age ≤ 15)		632	621	648	103%	20	3%	15	75%
Biological Parents		31	32	36	116%	11	31%	7	64%
TOTAL		1778	1730	1812	102%	299	17%	243	81%

OLD Index Cases		Disclosed	# Notified	# Tested	%Notified Tested	# Tested Positive	Yield	# Linked to ART	% Linked to ART
Index Persons Offered IT Services	803								
Index Persons Accepted IT Services	746								
Sex Partners of Index Cases		723	718	711	98%	136	19%	115	85%
Children of Index Cases(Age ≤ 15)		556	544	643	116%	9	1%	7	78%
Biological Parents		10	12	14	140%	2	14%	2	100%
TOTAL		1289	1274	1368	106%	147	11%	124	84%

[PEC0512 Table]

CONCLUSIONS: HIV Index Contact testing has proven to be an effective strategy towards the achievement of an epidemic control in Cameroon via actively testing the contacts of the already infected HIV patients, especially the contacts of the newly initiated (<12months on treatment) clients and those of clients with an unsuppressed viral load (>1000copies/ml).HIV index testing provided a high yield in infected contacts with HIV, hence scaling up these activity is ideal to improve on case identification, achieving the UNAIDS 95,95,95 goals.

PEC0513

CD4-BASED METRICS TO MONITOR TIMELINESS OF HIV DIAGNOSIS, LOS ANGELES COUNTY, 2013-2018

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BACKGROUND: HIV is controlled by diagnosing infection soon after HIV seroconversion to ensure that treatment and viral suppression can be achieved early in infection, reducing the likelihood of transmission to others. Metrics for monitoring HIV control do not include measures to evaluate achievement of timely HIV diagnosis on a population level. In the United States, jurisdictions collect immunological data on persons living with HIV (PLWH) for surveillance. This information can be leveraged to monitor timely HIV diagnosis by tracking the percentage of HIV cases with CD4>500 cells/mm^3 at the time of diagnosis.

METHODS: Los Angeles County's (LAC's) HIV surveillance system was used to analyze CD4 results from PLWH diagnosed between 2013-2018. Median and interquartile ranges (IQR) for CD4 levels within 1 month of HIV diagnosis were calculated. CD4 counts were categorized as: <200 cells/mm^3 (i.e., late diagnoses), 200-500 cells/mm^3, and >500 cells/mm^3 (i.e., early diagnoses). Log binomial regression models, controlling for age, gender, race/ethnicity, geography and year of diagnosis, identified factors associated with increased risk for late HIV diagnosis.

RESULTS: Between 2013-2018, 5,335 (54.6%) of 11,467 new HIV cases reported during that period had a CD4 test with 1 month of HIV diagnosis. Median CD4 at HIV diagnosis increased from 385 cells/mm^3 (IQR 193-570) in 2013 to 413 cells/mm3 (IQR 240-605) in 2018. During the 6-year observation period, early HIV diagnosis among individuals diagnosed in each year ranged from 34.0%-36.6%, while late diagnoses ranged from 20.3%-25.6%. The risk of late diagnosis was significantly higher among persons aged 30+ years (Adjusted prevalence ratio [APR] 2.5; 95% confidence interval [CI] 2.3-2.7) vs. persons aged <30 years; Latinos (APR 1.2; 95% CI 1.1-1.4) vs. Whites; and residents in Antelope Valley health district (APR 1.6; 95% CI 1.1-2.4) vs. West health district.

CONCLUSIONS: Timely achievement of HIV diagnosis has improved but remains sub-optimal in LAC. In 2018, only 1 in 3 cases were diagnosed early while 1 in 5 were diagnosed late. Ending the HIV epidemic will require the HIV response to be redirected to ensure age- and culturally-appropriate services are accessible and successful to enable earlier diagnoses, treatment, and viral suppression for all PLWH.

PEC0514

ED-BASED UNIVERSAL SCREENING FOR HUMAN IMMUNODEFICIENCY VIRUS USING AN ELECTRONIC MEDICAL RECORD BEST PRACTICE ALERT

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BACKGROUND: The Center for Disease Control and Prevention (CDC) and the United States Preventive Services Task Force (USPSTF) recommend that all individuals aged 15 to 64 years be screened for human immunodeficiency virus (HIV) regardless of risk factors. Early diagnosis of HIV is associated with earlier initiation of antiretroviral therapy (ART) and subsequent reduction in HIV-related illness and transmission risk.

The purpose of this study was to implement routine opt-out HIV screening in an ED setting through an electronic medical record (EMR) to increase testing of eligible patients.

METHODS: From November 2018 through November 2019, an automated best practice alert (BPA) was implemented in a quaternary care ED in Northern California to identify patients for screening who were undergoing laboratory testing, were between the ages of 18 to 64, had no prior positive HIV test within the EMR, and had not been tested for HIV within the prior 12 months. Patients were screened with an HIV antigen/antibody test with reflex HIV-1/HIV-2 confirmatory testing.

This study included all patients screened by the BPA, in addition to patients who underwent HIV diagnostic testing as part of their clinical work-up. Data are described with descriptive statistics including 95%CI. Comparison between groups was performed using logistic regression, reported as odds ratio with 95%CI.

RESULTS: 14,732 total patients were screened during the study period (mean age 43±14 years; 50% female), with a majority of patients screened using the BPA (14,568, 99%). HIV seropositivity was identified in 108 (0.7%) patients in the BPA group and 46 (0.3%) patients undergoing diagnostic testing. Seropositive patients in the BPA were more likely to be male (OR 4.0 [2.6, 6.3]; $p < 0.001$). 24 (22%) seropositive patients in the BPA group were unaware of HIV status prior to testing; linkage to care was provided for 33 (31%) patients, with 59 (55%) patients having already established medical care.

CONCLUSIONS: Nontargeted opt-out rapid HIV screening in the ED, versus diagnostic testing, was associated with identification of a modestly increased number of patients with new HIV diagnoses, most of whom were identified early in the course of disease and provided with appropriate follow-up medical care.

PEC0515

PROJECT PODER: A COMMUNITY-BASED APPROACH FOR HIV CLUSTER DETECTION AND RESPONSE AMONG HISPANIC MSM AND TRANSGENDER COMMUNITIES THROUGHOUT HOUSTON, TX

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BACKGROUND: HIV incidence in the US has increased for Hispanic, stabilized for Black, and decreased for White men who have sex with men (MSM). The US government's plan to end the HIV epidemic has emphasized molecular HIV surveillance (MHS) as a strategy to detect

and respond to growing HIV transmission clusters. However, existing medical advances to treat and prevent HIV have not successfully engaged communities of color.

DESCRIPTION: The Houston Health Department was one of four CDC demonstration sites throughout the US to utilize MHS for cluster detection and response for Hispanic MSM and transgender communities. MHS data was based on HIV genetic sequences collected from HIV drug resistance tests. An HIV molecular cluster consists of people living with HIV (PLWH) with a highly similar HIV strain that meets a .05% HIV genetic distance threshold. January 2019, a total of 28 molecular clusters were identified among 126 PLWH. Project PODER's goal was to identify, monitor, and respond to HIV molecular clusters among Hispanic MSM and transgender communities. Strategic Framework: 1. establish partnerships and capacity building stakeholders; 2. monitor and prioritize molecular clusters for investigation; 3. increase HIV testing, treatment as prevention, and PrEP; and 4. address socio-structural HIV-related factors.

LESSONS LEARNED: Historically oppressed and highly marginalized populations were more likely to mistrust the government and significant concerns were raised about the government taking HIV genetic sequences without their consent. The community was alarmed that associating PLWH with a molecular cluster may further stigmatize and result in HIV criminalization or deportation.

Community stakeholders played a critical role in addressing the concerns of the community. A community advisory board (CAB) was established and members were instrumental in developing resources that were culturally informed and linguistically appropriate for Hispanic sexual and gender minorities. A community-based approach supported Social Network Strategy as a peer-based intervention to inform and engage the Hispanic community to access HIV related services.

CONCLUSIONS/NEXT STEPS Structural level outcomes resulted in the health department retraining staff and enhancing access to care for highly marginalized populations. The health department reframed MHS through a strengths-based approach and encouraged people in the community to promote HIV testing.

MEASURING AND EVALUATING QUALITY OF SERVICE PROVISION AND HEALTH OUTCOMES THROUGH PUBLIC HEALTH SURVEILLANCE

PEC0516

MISSED OPPORTUNITIES FOR EARLY HIV DIAGNOSIS IN SOUTH CAROLINA, 2013-2016

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BACKGROUND: Previous studies showed that 73.4% of individuals newly diagnosed with HIV in South Carolina (SC), had visited a SC healthcare facility (HCF) in the years preceding their HIV diagnosis, representing missed opportunities for HIV testing and early diagnoses. Of these individuals 43.4% were diagnosed late, with AIDS. Early HIV diagnosis and antiretroviral initiation are key to ending the HIV epidemic. The current study re-visits the previous investigation to determine if there has been a reduction in late diagnoses and missed opportunities.

METHODS: The SC enhanced HIV/AIDS Reporting System and a statewide all payer HCF database were linked. The HCF data include inpatient (IP), outpatient (OP), and emergency department (ED) visits. Analysis includes individuals diagnosed with HIV in SC from 01/2013-12/2016 and all HCF from 2005 to HIV diagnosis. Late testers were defined as initial CD4<200 cells/mm^3. For late testers, HCF visits within eight years before their HIV diagnosis were included as missed opportunities. For non-late testers, visits within three years were included. We used the two-tailed chi-square statistics with a significant threshold of p<0.05 in SAS to investigate the association between missed opportunities and patient factors. Logistic regression models were used to analyze factors potentially associated with missed opportunities.

RESULTS: From 1/2013-12/2016, 2693 individuals were newly diagnosed with HIV in SC. Of these, 743 (27.6%) were late testers. Overall 1987 (73.4%) had at least one HCF prior to their HIV diagnosis, representing missed opportunities for earlier HIV diagnosis. These 1987 individuals had a total of 12,243 (mean 6.2) HCF prior to the HIV diagnosis, including 10,109 (82.6%) in ED, 990 (8.1%) IP, and 831 (6.8%) OP. The table shows factors associated with missed opportunities.

	Unadjusted model		Adjusted model	
	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Gender				
• Female	1.00	–	1.00	–
• Male	0.42	(0.33,0.54)	0.42	(0.31,0.57)
Race				
• White	1.00	–	1.00	–
• Black	1.76	(1.44,2.15)	1.56	(1.25,1.95)
• Hispanic	0.44	(0.31,0.63)	0.39	(0.26,0.57)
• Other/unknown	0.75	(0.47,1.19)	0.71	(0.44,1.16)
Age Category				
• 18-24	1.00	–	1.00	–
• 25-29	0.72	(0.55,0.94)	0.67	(0.51,0.89)
• 30-39	0.72	(0.55,0.93)	0.65	(0.49,0.87)
• 40-49	0.62	(0.47,0.81)	0.49	(0.36,0.66)
• 50+	0.75	(0.58,0.98)	0.54	(0.39,0.73)
Mode of Exposure				
• Heterosexual	1.00	–	1.00	–
• MSM	0.58	(0.44,0.76)	0.86	(0.6,1.23)
• MSM/IDU	0.9	(0.54,1.51)	1.77	(1.01,3.11)
• NIR	0.74	(0.55,1.01)	0.89	(0.64,1.25)
Rural/Urban				
• Urban	1.00	–	1.00	–
• Rural	1.02	(0.81,1.28)	0.95	(0.74,1.2)
Sexually Transmitted Diseases	1.00	–	1.00	–
• No	1.59	(1.19,2.13)	1.58	(1.16,2.15)
• Yes				
Diagnosis Year				
• 2013	1.00	–	1.00	–
• 2014	0.93	(0.73,1.19)	0.95	(0.73,1.24)
• 2015	0.93	(0.72,1.19)	1.01	(0.77,1.31)
• 2016	0.74	(0.58,0.94)	0.76	(0.59,0.98)
Late Tester				
• No	1.00	–	1.00	–
• Yes	2.28	(1.83,2.83)	2.86	(2.26,3.61)

[Table: Predictors of Having Prior Health Care Visits (Missed Opportunities): Crude and Adjusted Logistic Regression, South Carolina 2013-2016, n=2693]

CONCLUSIONS: Although a decrease from earlier years, >25% of new HIV diagnoses in SC are diagnosed late. Missed opportunities for HIV testing and earlier diagnosis remain a problem.

PEC0517

SHARED DISPARITIES IN THE HIV CARE CONTINUUM AMONG PEOPLE LIVING WITH HIV IN ALAMEDA AND SAN FRANCISCO COUNTIES, USA

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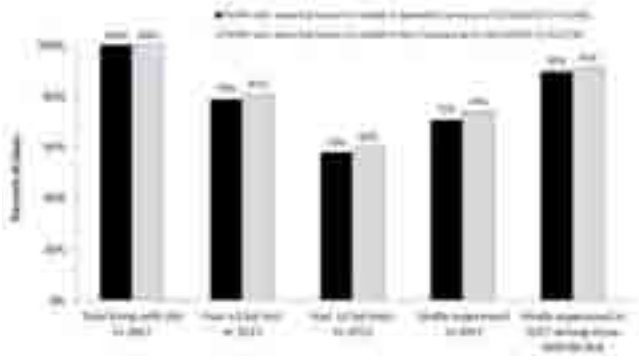
BACKGROUND: Alameda County (AC, including Oakland) and San Francisco (SF) are neighboring counties and are among the 48 US counties accounting for the majority of HIV infections in the US. In both counties, early HIV treatment and viral suppression (VS) are key strategies to eliminate HIV by 2030. Despite shared populations and geographic proximity to one another, HIV public health programs are managed separately. Our objective is to use the framework of the HIV care continuum to identify common disparities and improve regional coordination of the HIV epidemic response.

METHODS: HIV surveillance data from the AC and SF health departments were analyzed to include persons diagnosed by 12/31/2016 who were alive and last known to reside in each county as of 12/31/2017. Linkage to care was defined as having ³1 reported laboratory result in 2017; retention was ³2 laboratory results in 2017; and VS was latest viral load <200 copies/mL in 2017.

RESULTS: There were 5741 persons living with HIV in AC and 12778 in SF. In 2017, linkage to care was 79% and 81%, retention was 58% and 60%, VS was 71% and 74%, and VS among those with any lab report in 2017 was 90% and 91% in AC and SF, respectively (Figure). Populations with lower VS than the overall population included women (87% and 82% in AC and SF, respectively), African-Americans (86% and 84% in AC and SF, respectively), those ages 13-39 in AC (83%-87%) and 25-49 in SF (87%-88%), and trans women in SF (81%).



[Figure. Continuum of HIV care among persons living with HIV, 2017, Alameda and San Francisco counties, USA]

CONCLUSIONS: AC and SF had similar disparities in viral suppression, particularly for women, African-Americans, and younger persons. Analysis of multi-jurisdictional HIV care engagement data can inform regional HIV responses. To end HIV transmission in AC and SF by 2030, coordinated efforts between neighboring counties to improve care continuum outcomes for marginalized populations are needed.

PEC0518

FACTORS ASSOCIATED WITH TESTING FOR HIV AND HEPATITIS C AMONG AT-RISK MEN IN GERMANY

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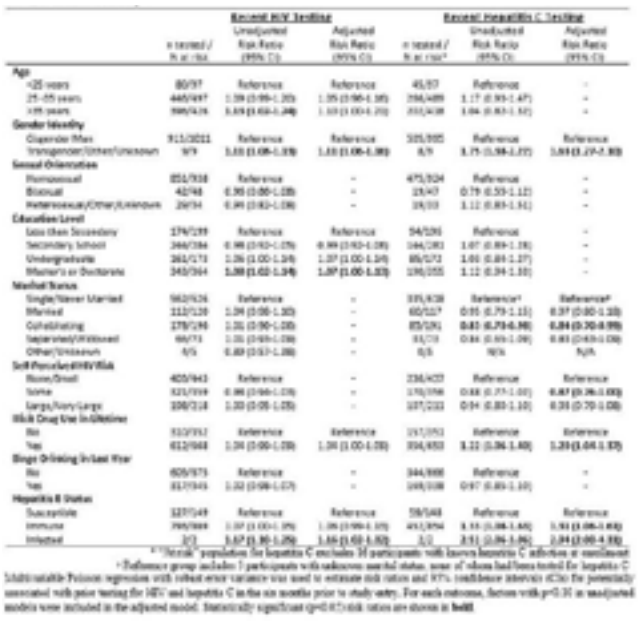
BACKGROUND: HIV and hepatitis C virus (HCV) have partly shared routes of transmission, including sexual transmission via condomless anal intercourse among men who have sex with men (MSM). Routine screening for both diseases facilitates early diagnosis and treatment, thereby preventing morbidity and onward transmission. We evaluated factors associated with HIV and HCV testing in a German cohort of predominantly MSM.

METHODS: From June 2018 through June 2019, the RV500/BRAHMS study enrolled HIV-uninfected men aged 18-55 years at ten German clinics. Eligible participants reported, in the preceding 24 weeks, either (1) condomless anal intercourse with ≥2 male partners living with HIV or of unknown HIV status or (2) diagnosis of a sexually transmitted infection (syphilis, acute HCV, or anorectal gonorrhea, chlamydia, or Mycoplasma genitalium). Participants completed behavioral questionnaires that included questions about prior experience with HIV and HCV testing. Multivariable robust Poisson regression was used to estimate risk ratios and 95% confidence intervals for factors potentially associated with testing in the previous six months.



[Table. Factors associated with HIV and hepatitis C testing in the last six months during routine care among at-risk men in Germany]

RESULTS: Among 1,020 participants with median age 33.1 (interquartile range 28.6-39.0) years, 1003 (98.3%) reported any lifetime history of HIV testing and 789 (77.4%) reported any HCV testing, including 16 (1.6%) with known HCV infection. Testing within the last six months was reported by 922 (90.4%) and 529 (51.9%) for HIV and HCV, respectively. Recent HIV testing was more common among participants with non-cisgender identity, higher education level, and hepatitis B infection (Table). Recent HCV testing was more common among participants with non-cisgender identity, lifetime history of illicit drug use, and hepatitis B infection.

CONCLUSIONS: Prior screening for HIV and HCV was relatively common in this cohort with known risk factors for infection. Self-perception of risk was not associated with increased testing uptake, highlighting the need for clinicians to employ objective risk stratification methods to identify appropriate testing candidates.

PEC0519

TRANSLATING A SAFETY SIGNAL FOR DOLUTEGRAVIR USE AT THE TIME OF CONCEPTION INTO PUBLIC POLICY FOR WOMEN LIVING WITH HIV IN BRAZIL

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BACKGROUND: In Brazil, access to antiretroviral treatment (ART) is universal since 1996; in 2013, treatment was instituted for all people living with HIV (PL-HIV) and since 2017 dolutegravir (DTG) is the preferred ART for initiation scheme for all PL-HIV. In 2018, World Health Organization (WHO) issued a safety signal concerning use of DTG at the time of conception to a possible increase in risk of neural tube defects (NTDs), rare congenital anomalies in Brazilian population. The aim of this study is to describe Brazilian Ministry of Health's (BMoH) response to that alert.

DESCRIPTION: In May 2018, BMoH conditioned the use of DTG in women of reproductive age living with HIV (WL-HIV) to concomitant use of contraceptive methods that do not depend of women's adherence (intrauterine device or tubal ligation). Also changed the ART regimen recommendation for all WL-HIV that did not use one of those contraceptive methods for an efavirenz ART regimen. In parallel, a national study to monitor obstetric outcomes among women exposed to DTG at the time of conception was conducted.

LESSONS LEARNED: The survey to assess WL-HIV who became pregnant on inadvertent use of DTG from January 2015 to May 2018 identified 382 exposures, but no cases of NTD were identified. The referred surveillance is still ongoing after the initial investigation phase. BMoH updated ART recommendations for WL-HIV in December/2019: affirming the preponderant role of DTG as initial ART option, removing the restriction of DTG to concomitantly contraceptive method that does not depend on adherence, reinforcing the need to assess sexual and reproductive health and family planning in every WL-HIV consultation and their sexual partnerships.

CONCLUSIONS/NEXT STEPS The PV will be expanded for the assessment of all obstetric outcomes in WL-HIV, regardless of the ART regimen. Considering the DTG advantages for WL-HIV's health, data from the national survey and studies conducted in other countries, BMoH reinforces the importance of ART choice focused on the autonomy of WL-HIV, empowering them in the therapeutic process. The present challenge is to monitor the impact of the change in ART recommendation on WL-HIV and to increase health professionals' adherence to approach sexual and reproductive health.

PEC0520

VIRAL LOAD SUPPRESSION AND RECENCY OF INFECTION AMONG HIV-POSITIVE SEXUALLY TRANSMITTED INFECTION (STI) SERVICE ATTENDEES

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BACKGROUND: We describe antiretroviral therapy status and viral loads among HIV positive STI clinic service attendees. We discuss the implications of the findings for HIV prevention, care and treatment.

METHODS: Cross sectional design. Adults attending two STI clinics conducting sentinel surveillance were enrolled. A nurse-administered questionnaire collected data on demographic and clinical variables was completed for all. Blood specimens were collected for 4th generation HIV serology, plasma VL levels and Limited Avidity Antigen (LAg) assay testing. ART status was determined by self-report. Proportions with VL≥1000 copies/ml determined for those on ART and not on ART respectively. HIV positives were recently infected if not on ART, VL≥1000 copies/ml and LAg assay was recent.

RESULTS: Of 353 STI service attendees enrolled from February - August 2019- median age 28 (interquartile range 24- 35 years), 227 (64.3%) male - 72 (20.5%) were HIV positive . Of the 72 HIV positives, 25 (34.7%) reported were taking ARVs, with 9/21 (36%) and 7/21 (33.3) with valid VL results having VL ≥ 50 copies/ml and VL ≥1000 copies/ml respectively. Of 47 individuals not on ART, 38/44 (86.3%) and 34/44 (77.2%) had VL ≥ 50 copies/ml and ≥ 1000 copies/ml respectively. Of the 34 HIV positives not on ART with VL≥ 1000 copies/ml, 8 (23.5%) were recently infected based on the LAg assay (see Figure 1).

[Figure 1. Study flow]

CONCLUSIONS: HIV positive STI service attendees had high viral loads and about a fifth of those not on ART were recently infected. Better integration of STI screening, diagnosis and treatment with HIV testing, care and treatment is necessary to identify HIV positives who are i) recently infected ii)chronically infected, not on ART and iii)on ART for partner notification and index testing, linkage to ART initiation and adherence support. Planned laboratory measured antiretroviral drug levels will reduce misclassification by ART status.

MODELLING THE POTENTIAL IMPACT OF PREVENTION STRATEGIES ON THE HIV EPIDEMIC

PEC0521

AIDS-RELATED AND NON-AIDS-RELATED MORTALITY AMONG PEOPLE LIVING WITH HIV IN IRAN: FINDINGS FROM A RETROSPECTIVE COHORT STUDY

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BACKGROUND: Little is known about the rate of mortality among people living with HIV (PLWH) in the Middle East region. This study estimated the rates of AIDS-related mortality (ARM) and non-AIDS-related mortality (NARM) among PLWH in southern Iran.

METHODS: We conducted a retrospective study using medical/health records from 1997 to 2017. We defined two outcomes using ICD10 codes for cause of death in PLWH: a) ARM, mortalities caused by AIDS or immunodeficiency conditions, and b) NARM, mortalities not directly associated with HIV/AIDS (e.g., cardiovascular diseases, accident, overdose). Cox proportional hazard and competing risk models were used to examine the associated factors of mortality, and then subdistribution hazard ratio (SHR) with 95% confidence intervals (CI) were reported.

RESULTS: Of the 1,160 PLWH, 391 (33.7%) died of whom 251 (64.2%) were ARM. Mortality rates due to ARM and NARM were 38.9 (95% CI: 34.4, 44.0) and 23.2 (95% CI: 19.7, 27.4) per 1,000 person-years, respectively. Associated factors with increased hazard of ARM included: age per one-year increase (SHR 1.02, 95% CI: 1.01, 1.03), late HIV diagnosis (SHR 2.84, 95% CI: 2.12, 3.80), and advanced HIV clinical stages (SHR 7.40, 95% CI: 3.89, 14.07). Associated factors with increased risk of NARM included: male gender (SHR 3.57, 95% CI: 1.16, 11.00), incarceration history (SHR 2.14, 95% CI: 1.04, 4.41), and advanced HIV clinical stages (SHR 0.24, 95% CI: 0.15, 0.38). ART (ARM: SHR 0.09, 95% CI: 0.04, 0.20) (NARM: SHR 0.14, 95% CI: 0.09, 0.23), Pneumocystis Pneumonia (PCP) prophylaxis (ARM: SHR 0.56, 95% CI: 0.42, 0.76) (NARM:SHR 0.64, 95% CI: 0.46, 0.89), and higher CD4 count at diagnosis (ARM: SHR 0.99, 95% CI: 0.97, 0.99) reduced the mortality risk.

CONCLUSIONS: The AIDS-related and non-AIDS-related mortality rates are high among PLWH in Iran. Effective evidence-based strategies should be considered to identify PLWH at earlier stages of the infection, and target those with greater risks of mortality, in particular men, older people, and those with incarceration history.

PEC0522

NATIONALLY REPRESENTATIVE SIMULATION MODEL OF HIV TRANSMISSION CLUSTERS IN THE UNITED STATES

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BACKGROUND: Responding to HIV clusters and outbreaks is one of four pillars of the U.S. federal *Ending the HIV Epidemic* initiative. Large HIV transmission clusters in the United States are increasingly recognized through analysis of HIV molecular sequence data reported to the National HIV Surveillance System (NHSS). A simulation model that generates HIV clusters is critical to assess intervention strategies. To date, however, no model has successfully incorporated HIV molecular cluster detection and replicated large HIV clusters. We sought to develop a nationally representative simulation model that replicates clusters observed in NHSS data.

METHODS: We developed a stochastic agent-based network model of HIV transmission among men who have sex with men (MSM) in the United States, incorporating a scale-free network algorithm to replicate sexual transmission networks and adopting a model of HIV progression from CDC's Progression and Transmission of HIV (PATH) model. Using a previously-published algorithm, molecular clusters were identified from HIV transmission networks simulated by the model. We simulated transmission in a population of 7 million MSM and sampled the constructed molecular networks to reflect partial availability (~50%) of sequence data in NHSS. We calculated the median and range of clustering and cluster size across 30 simulations. Model outputs were compared to HIV molecular clusters identified through NHSS during 2015-2017.

RESULTS: In simulation runs, median of 28% (range: 21-38%) of patients with diagnosed HIV were in a cluster. Most clusters were small, with a median of 75% of clusters of size 2 (range: 55-86%), 14% (5-31%) size 3-4, 7% (0-13%) size 5-8, and 5% (0-10%) size > 8. Among people with diagnosed HIV during 2015-2017 for whom a molecular sequence was available in NHSS data, 23% were part of a cluster. Of all clusters observed in NHSS, 64% were of size 2, 25% size 3-4, 8% size 5-7, and 3% size >8.

CONCLUSIONS: The model generated HIV clusters among MSM with a frequency and distribution comparable to that observed in NHSS data. This simulation can replicate the full extent of cluster networks, including undiagnosed infections, which can't be observed in surveillance data, thus providing a critical tool to assess intervention strategies.

PEC0523

MODELLING THE COST-EFFECTIVENESS OF OFFERING PRE-EXPOSURE PROPHYLAXIS TO WOMEN ATTENDING FAMILY PLANNING APPOINTMENTS IN MALAWI

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BACKGROUND: HIV incidence was very high (3.81/100 woman-years) among young women enrolled in a recent randomized trial of HIV risk and contraceptives (ECHO), prompting calls for integration of

family planning and HIV services. One proposed intervention is to offer pre-exposure prophylaxis (PrEP) to any woman attending a family planning visit, while another is to reduce women's unmet need for contraceptives. We modelled the cost-effectiveness of different strategies of increasing PrEP and contraceptive uptake among women attending family planning visits in Malawi.

METHODS: We adapted a pre-existing deterministic, compartmental mathematical model of HIV transmission, contraceptive use, and maternal and HIV outcomes to include age-specific family planning visit attendance, with the potential for uptake of contraceptives and PrEP. The model simulates three intervention scenarios:

(i) PrEP is offered to all women attending family planning visits, with 5-10% age-specific uptake;

(ii) no PrEP is offered but contraceptive use increases such that 20-80% of unmet need is fulfilled; and;

(iii) PrEP is offered to women attending family planning visits concurrent with 20-80% fulfilment of unmet contraceptive need.

Costs (including provision of PrEP, antiretroviral therapy, and contraceptives) and disability-adjusted life-years (DALYs) are measured across time horizons of 5, 10, and 20 years, relative to status quo (no PrEP use and contraceptive use remains at 2020 levels), with 3% discounting.

RESULTS: In Malawi, offering PrEP to women at family planning appointments without increasing contraceptive use would not be cost-effective over any time horizon, while fulfilling any proportion of unmet contraceptive need would be, at $165-290/DALY averted (Table). Combining PrEP and contraceptive uptake would improve cost-effectiveness compared to PrEP alone, but would not be cost-effective overall.

		Cost per DALY Averted		
Scenario		2020-2025 (5 Years)	2020-2030 (10 Years)	2020-2040 (20 Years)
1: PrEP only (offered to women at family planning visits)		$92,063	$24,789	$15,459
2: No PrEP; contraceptive use is increased among women	(a): 20% of unmet need is met	$165	$199	$290
	(b): 40% of unmet need is met	$165	$199	$290
	(c): 80% of unmet need is met	$165	$199	$289
3: PrEP (offered to women at family planning visits) and contraceptive use is increased among women	(a): 20% of unmet need is met	$13,697	$7,160	$4,632
	(b): 40% of unmet need is met	$7,711	$4,430	$2,945
	(c): 80% of unmet need is met	$4,319	$2,596	$1,804

[Table]

CONCLUSIONS: Offering PrEP to all women attending family planning visits is unlikely to be cost-effective in settings without high, generalized HIV incidence or risk targeting. Increasing uptake of contraception is the most cost-effective option for women in Malawi overall.

PEC0524

MODELLING CASH PLUS OTHER PSYCHOSOCIAL AND STRUCTURAL INTERVENTIONS TO PREVENT HIV AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN SOUTH AFRICA (HPTN 068)

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BACKGROUND: Combining cash transfer programs with other psychosocial and structural interventions to increase parental support, increase access to school, or provide adolescent sensitive clinic care have had greater impacts on sexual risk behaviors than receipt of cash alone. However, no studies have assessed the impact of combining cash plus other interventions on HIV incidence. We modelled the reductions in HIV incidence associated with combining receipt of the South African Child Support Grant (CSG) increased school attendance, reduced depression, reduced intimate partner violence, increased parental care and receipt of a conditional cash transfer intervention among AGYW in South Africa.

METHODS: We used data from the HIV Prevention Trials Network (HPTN) 068 trial of cash transfers conditional on school attendance in rural South Africa (2011-2015). AGYW aged 13-20 years were followed for up to 4 years, with half randomized to cash transfer and 80% residing in households that received a government CSG regardless of assigned trial arm. We used the g-formula to model the theoretical change in HIV incidence associated with combinations of receipt of a CSG plus all other exposures.

RESULTS: Receipt of the CSG alone and receipt of the conditional cash transfer alone were not associated with HIV incidence. Receipt of a CSG plus parental care had the largest relationship with incident HIV infection when combing the CSG with a single exposure (Risk Difference (RD) -2.6; 95% CI -4.7%, -0.6%). An intervention to provide a CSG combined with increasing parental care and eliminating depression showed the greatest reduction in incident HIV infection with changes in the fewest number of risk factors (RD -3.0%; (95% CI: -5.1, -0.).

CONCLUSIONS: Pairing receipt of a CSG with other interventions addressing social and structural risks experienced by AGYW has the potential to have a greater impact on HIV incidence than receipt of cash alone. Interventions to provide household grants could be combined with interventions to improve parental care and reduce depression to more effectively reduce HIV incidence among adolescent girls and young women in South Africa

PEC0525

IMPROVED PREP EFFECTIVENESS ON NON-DAILY REGIMENS AMONG INDIVIDUALS WITH LOW ADHERENCE: A SIMULATION STUDY USING HPTN 067/ADAPT DATA

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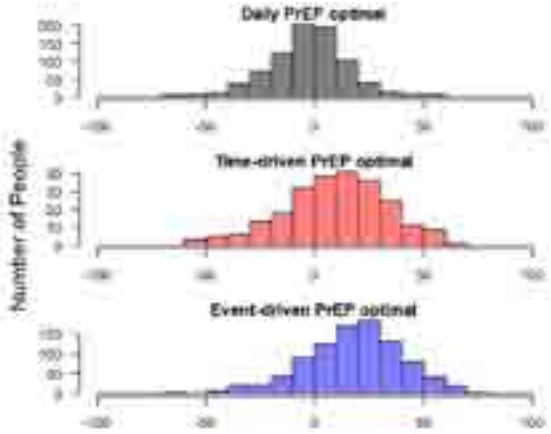
BACKGROUND: Pre-exposure prophylaxis (PrEP) is effective in preventing HIV, however sub-optimal adherence can limit the effectiveness of daily PrEP. Alternative PrEP dosing may help some individuals improve adherence. HPTN 067 evaluated the pill-taking behavior of two non-daily PrEP regimens: time-driven PrEP (one pill twice per week plus one pill after sex) and event-driven PrEP (one pill before and one after sex).

METHODS: A mathematical model of HIV acquisition was calibrated to sexual activity and pill taking data from men who have sex with men at the Harlem, NY site of HPTN 067. A crossover study was simulated with 2,000 PrEP users in the bottom 20% of adherence to daily PrEP, comparing an initial six months on daily PrEP to successive six-month courses of either time-driven or event-driven PrEP dosing. Correlation between adherence to daily and non-daily regimens was inferred from data on weekly and post-sex pill-taking from the time-driven arm of HPTN 067. Simulated PrEP effectiveness was calculated using the relationship between pill taking frequency and PrEP efficacy derived from the iPrEx and STRAND studies. We identified the most effective PrEP regimen for each individual and simulated it for a six-month follow-up period.

RESULTS: Our analysis suggests that time– and event–driven PrEP minimize HIV risk for 10% and 50% of the low adherence PrEP users, respectively, with better PrEP effectiveness estimated for most users over the follow-up period (see figure). At the population level, predicted PrEP effectiveness rose from 29% to 44% and from 43% to 66% among those for whom event- and time- driven PrEP were optimal, respectively.



[Figure. Absolute % change in effectiveness followup vs initial daily PeEP]

CONCLUSIONS: Our trial simulation results suggest that introducing non-daily dosing may improve PrEP effectiveness for individuals with low adherence to daily PrEP. This approach highlights the potential utility of non-daily PrEP options for individuals at risk.

PEC0526

ATTRIBUTING HEALTH BENEFITS TO TREATMENT AND PREVENTION EFFORTS IN THE HIV RESPONSE: AN ANALYSIS IN SIX U.S. CITIES

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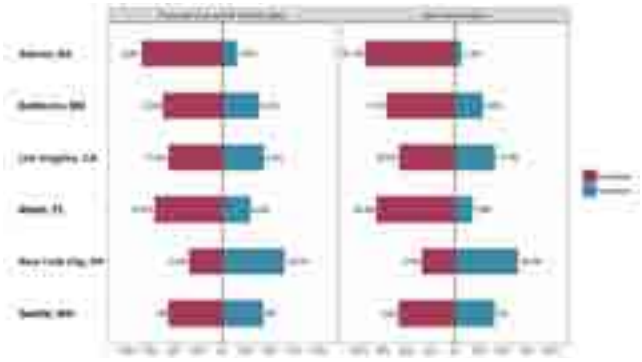
BACKGROUND: Combination strategies are key to reaching the ambitious goals of 'Ending the HIV Epidemic' in the United States. These strategies generate health benefits through both improved treatment and care for people living with HIV and preventing new infections among uninfected individuals. The distribution of these benefits may vary according to local epidemiological and structural context. In this analysis, we aimed to determine the proportion of health benefits attributable to HIV prevention versus HIV treatment from health-maximizing combination strategies across diverse local microepidemics.

METHODS: Using a dynamic HIV transmission model calibrated for Atlanta, Baltimore, Los Angeles, Miami, New York City (NYC) and Seattle, we assessed the health benefits of implementing highest-valued combinations of evidence-based interventions at publicly-documented implementation levels (drawn from best available evidence) or ideal (90% coverage) scale-up (10-year implementation over a 20-year horizon). Total health benefits for each city were measured in terms of quality-adjusted life-years (QALYs) gained. We then calculated the proportion of QALYs gained due to HIV prevention (through averted and delayed HIV infections) and HIV treatment (through improved treatment access, retention, and adherence).

RESULTS: The proportion of HIV health benefits attributable to treatment varied from 15.3% in Atlanta to 65.0% in NYC (Figure) at publicly-documented levels of combination intervention strategies. At ideal implementation levels, total health benefits gained were always higher; however, the proportion attributable to HIV treatment was reduced in five of six cities, indicating that QALY gains due to scale-up were primarily driven by HIV prevention benefits.



[Figure. Health benefits attributed to combination implementation strategies of HIV treatment and prevention interventions across 6 U.S. cities]

CONCLUSIONS: The proportion of HIV health benefits arising due to the effects of treatment were highest in settings with high levels of epidemiologic control and diminished at higher levels of implementation due to the resulting decreases in prevalence. Understanding to whom benefits accrue may be important in assessing the equity and impact of HIV investments.

PEC0527

MODELING INTEGRATED ANTIRETROVIRAL TREATMENT AND HARM REDUCTION SERVICES ON HIV AND OVERDOSE AMONG PEOPLE WHO INJECT DRUGS IN TIJUANA, MEXICO

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BACKGROUND: The HIV epidemic in Tijuana, Mexico is concentrated in key populations, including people who inject drugs (PWID). Mexico's drug law reform included referral to drug treatment, yet funding was provided for non-evidence based compulsory abstinence programs (CAP) associated with elevated HIV and overdose risk. However, evidence-based opioid agonist therapy (OAT) reduces overdose, HIV transmission, and reincarceration, while improving antiretroviral therapy (ART) outcomes. We assessed the potential impact of scaled-up integrated ART and drug treatment (OAT or CAP) on HIV and fatal overdose among PWID in Tijuana.

METHODS: We developed a dynamic model of HIV transmission, incarceration, and fatal overdose among PWID in Tijuana. We incorporated synergistic benefits of OAT on reducing injecting-related HIV transmission, increased ART recruitment and retention, reducing reincarceration, and averting fatal overdose. We also modeled harms associated with CAP on HIV and overdose. We assessed HIV incidence and fatal overdose over the next decade with the following scenarios: 1) status quo (10% ART among HIV-positive PWID and no drug treatment), 2) OAT scale-up to 40%, 3) ART scale-up (10-fold recruitment) among HIV-positive PWID, 4) scale-up OAT to 40% and ART (10-fold recruitment), 5) scale-up CAP to 40% (no ART scale-up).

RESULTS: OAT scale-up to 40% coverage could avert 33% (95%CI: 19–47%) and 22% (95%CI: 11-28%) new HIV infections and fatal overdoses, respectively, over the next decade. Due to low ART coverage, OAT had marginal impact on averting HIV through its effect on ART recruitment/retention. However, integrating OAT and ART scale-up resulted in synergistic benefits, with the OAT effect on ART recruitment/retention averting 10% more new infections compared to ART scale-up alone. Scaling-up OAT and ART could avert 49% (95%CI: 28-67%) of new HIV infections and one-fifth of fatal overdoses over the next decade. Conversely, scaling-up CAP could increase HIV and overdoses.

CONCLUSIONS: : Integrating ART with OAT scale-up could provide synergistic benefits on ART recruitment/retention, and prevent new HIV infections and fatal overdoses among PWID in Tijuana. Conversely, non-evidence based CAP could lead to major harms. Policymakers should consider the synergistic and multiple benefits of integrated OAT and HIV services on HIV and overdose among PWID.

PEC0528

THE EFFECT OF HIV PROGRAMMES IN SOUTH AFRICA ON NATIONAL HIV INCIDENCE TRENDS, 2000-2017

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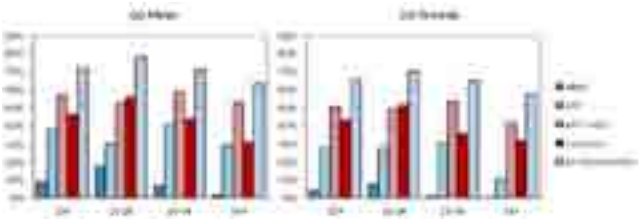
BACKGROUND: Recent surveys and longitudinal studies have shown HIV incidence declines at a population level in several African countries. However, these studies have not directly quantified the extent to which incidence declines are attributable to different HIV programmes.

METHODS: We calibrated a mathematical model of the South African HIV epidemic to age- and sex-specific data from antenatal surveys, household surveys and death registration, using a Bayesian approach. The model was also parameterized using age- and sex-specific data on self-reported condom use, medical male circumcisions (MMC), HIV testing and patients receiving antiretroviral treatment (ART). To assess the impact of each programme, model estimates of HIV incidence were compared against the incidence rates that would have been expected had the programme not been implemented.

RESULTS: The model estimated incidence in 15-49 year olds of 0.99% (95% CI: 0.94-1.05%) in 2017. This represents a 56.7% reduction (95% CI: 53.9-59.3%) relative to 2000 (2.27%, 95% CI: 2.25-2.30%), a 39.7% reduction (95% CI: 37.5-41.9%) relative to 2010, and a 70.1% reduction (95% CI: 67.6-72.2%) relative to the incidence that would have been expected in 2017 in the absence of interventions. The reduction in incidence in 2017 due to interventions was greatest in the case of ART and HIV testing (53.7%, 95% CI: 49.6-57.5%) and condom promotion (45.7%, 95% CI: 43.8-48.1%), with MMC having only a modest impact (6.4%, 95% CI: 6.2-6.6%). HIV programme impacts differed significantly by age and sex, with condoms and MMC having their greatest impact in 15-24 year olds, and the overall incidence reduction being greater in men than in women (Figure).



[Figure: Reduction in HIV incidence in 2017 due to HIV programmes]

CONCLUSIONS: HIV testing and ART programmes have together had a substantial impact on HIV incidence trends in South Africa in recent years, while condom promotion has consistently reduced HIV incidence since 2000.

PEC0529

'ENDING THE EPIDEMIC' WILL NOT HAPPEN WITHOUT ADDRESSING RACIAL/ETHNIC DISPARITIES IN THE US HIV EPIDEMIC

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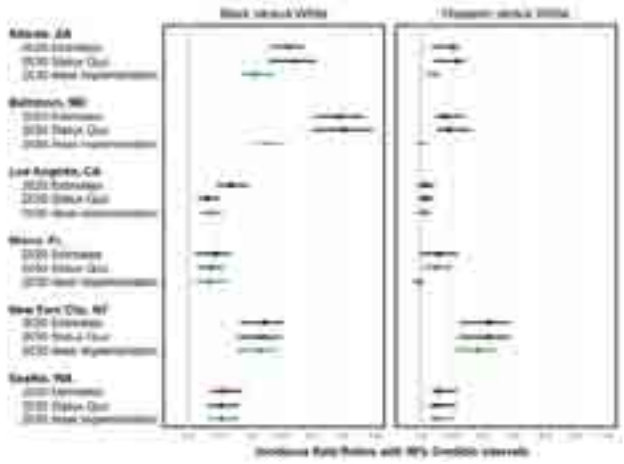
BACKGROUND: Although the tools to reach 'Ending the HIV Epidemic' (EtE) targets are available, there are wide disparities in access to HIV prevention and treatment services in White versus Black and Hispanic populations. Our objective was to define the potential impact of implementing strategies to address racial disparities in HIV incidence, absent additional efforts to curb racial/ethnic disparities in access to HIV/AIDS prevention and treatment efforts.

METHODS: Built off a systematic evidence synthesis and model calibration, we adapted an HIV transmission model to replicate HIV microepidemics in Atlanta, Baltimore, Los Angeles, Miami, New York and Seattle. We focused on unique combinations of evidence-based interventions for each city, delivered at ideal implementation (90% target population coverage), compared to the status quo (access to care held constant at 2015 levels). We projected incidence rates per 100,000 individuals aged 15-64 and calculated incidence rate ratios (IRRs) for Blacks and Hispanics versus White/other under status quo and ideal implementation, from 2020 to 2030.

RESULTS:



[Figure 1. Projected change in the racial/ethnic HIV incidence rate ratio under status quo (black) and ideal combination implementation strategies (green) for six U.S. cities, 2020-2030]

In 2020, estimated IRRs between Blacks and Whites ranged from 1.87 (95%CI:1.21-2.39) (Miami) to 5.85 (5.03-6.66) (Baltimore) (Figure). Between Hispanics and Whites we found a range of 1.16 (0.89-1.45) (Los Angeles) to 3.22 (2.28-3.87) (New York). With combination implementation strategies implemented at ideal levels, Baltimore (39.0%[32.4%-46.2%]), Los Angeles (27.3%[21.7%-35.8%]) and Atlanta (25%[14.6%-31.3%]) were projected to see substantial declines in IRRs between Blacks and Whites by 2030, but IRRs were relatively stable in the other cities. Declines in IRRs were greater for Hispanics, with Miami (0.95[0.75-1.12]), Baltimore (1.01[0.80-1.28]) and Los Angeles (1.12[0.87-1.34]) at or approaching parity with Whites (Figure 1).

CONCLUSIONS: We estimated that disparities in HIV incidence in racial/ethnic groups will not be eliminated without explicit consideration of this factor in public health implementation efforts. Zero discrimination targets have been proposed as part of the National HIV/AIDS strategy, and should be an explicit feature of the EtE strategy.

THE ROLE OF SOCIAL AND SEXUAL NETWORKS IN THE SPREAD OF HIV

PEC0530

NETWORK OF HETEROSEXUAL CONTACTS AND ITS IMPLICATIONS ON HIV INFECTION BASED ON NATIONAL HEALTH BEHAVIORAL SURVEILLANCE (NHBS) SYSTEM DATA OF WASHINGTON DC

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BACKGROUND: With an HIV prevalence of 1.8%, DC has made significant progress in reducing new HIV diagnoses over the last 10 years, but the city is struggling to sustain these decreases. Network analysis is a useful tool that can be used to understand sexual and social transmission of HIV. We used the affiliation network analysis among heterosexuals at increased risk of acquiring HIV in DC to understand networks and connectedness.

METHODS: Data from the 2016 National HIV Behavioral Surveillance (NHBS) system among heterosexuals at increased risk in DC was used for this analysis. A total of 747 surveys were collected throughout the cycle. The free social-network analysis package, GEPHI, was employed for all network visualization from adjacency matrix with attributes such as gender and HIV status. We conducted regression analysis to examine the association of selected behavioral and demographic characteristics with HIV infection.

RESULTS: The descriptive characteristics showed 96% of HIV-negative and 100% of HIV-positive participants were Black. Approximately 30% of the HIV-negative and 41% of HIV-positive participants were aged 50 and above. We constructed six connected networks. A total of 24 HIV-positive participants were identified. Seed 1 initiated the largest networks with 426 nodes (16 HIV-positive) followed by seed 4 with 273 nodes (6 HIV-positive). Seed 3 was the third largest network with 36 nodes (2 HIV-positive). Mapping of HIV-positive participants found that all were recruited from 4 zip-codes across DC. Out 24 positives, 11 were located in a single zip-code. The odds of being HIV positive were higher among people with only high school diploma (OR: 5.16; 95%CI: 1.479 - 18.203), those diagnosed with diagnosed mental health condition (OR: 3.037; 95%CI: 1.229 - 7.503) and syphilis (OR: 42.17; 95%CI: 4.0135 - 443.104).

CONCLUSIONS: The study is the first analysis of NHBS data for DC which shows that HIV positives can be identified through networks and HIV positive show spatial clustering. It is also evident that syphilis, diagnosed mental health condition and education have implications on an individual's HIV status. This analysis is an important finding which can be used to drive future intervention and prevention strategies including treatment and PrEP initiatives.

PEC0531

MEN WHO HAVE SEX WITH MEN WHO ARE COLLEGE STUDENTS WITH MORE SOCIAL CONTACTS MORE LIKELY TO HAVE REPEATED HIV TESTING: A LONGITUDINAL STUDY IN NORTHEAST CHINA

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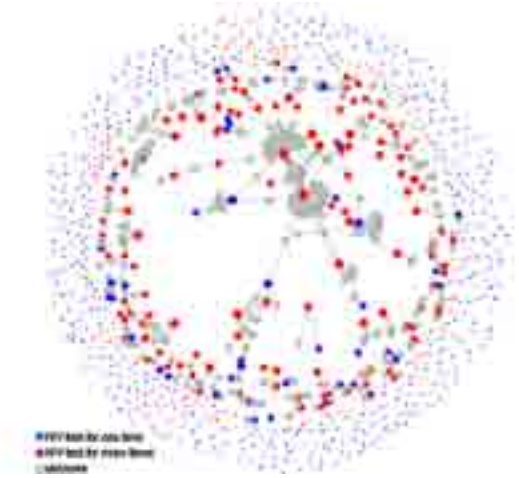
BACKGROUND: HIV testing promotion is a critical HIV prevention strategy targeting young men who have sex with men. Understanding young people's social networking characteristics could inform HIV testing strategy.
METHODS: We established a longitudinal study of college MSM as users of the Yiyou App, an HIV sero-status query software popular in China. In northeast China (include Heilongjiang province, Jilin province, and Liaoning province) from April 2017 to June 2018, we secured the consented users' social contacts (cross-sectional data) and HIV testing frequency information (longitudinal data), reported by offline HIV testing service dispensary sites. We used multivariable logistic regression and generalized estimated equations to assess predictors of frequency of HIV testing. We visualized the cross-sectional social networking information using Gephi® software.
RESULTS: We enrolled 752 college MSM and their 390 social contacts into the study. High HIV testing-frequency was more likely among men with recreational drug use (past 6 months, aOR=1.65, 95%CI: 1.00-2.71), having >1 HIV self-test (past 6 months, aOR=2.07, 95%CI: 1.43-3.00) and >1 degree of social contact (aOR=4.58, 95%CI: 3.01-6.97). In the longitudinal analysis, from a cumulative 1299 HIV tests, men having >2 HIV tests were more likely in the past six months to report anal sex (aOR=1.75, 95%CI: 1.37-2.24), recreational drug use (aOR=1.67, 95%CI: 1.24-2.24), and having an HIV self-test (aOR=1.3, 95%CI: 1.02-1.65) .



[Figure]

CONCLUSIONS: Active social media contacts, recreational drug use, and prior HIV self-test experience predicted more frequent HIV testing among college MSM, suggesting a potential utility of using online social mobile application to deliver tailored interventions.

PEC0532

SIZE MATTERS: SEXUAL NETWORK SIZE AND RISK OF HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER PEOPLE PARTICIPATING IN A PEER-LED HIV SERVICE REFERRAL INTERVENTION IN INDIA

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BACKGROUND: Understanding network characteristics associated with HIV infection and onward transmission is critical for focusing HIV interventions. We assessed associations between self-reported sexual network size and risk of HIV infection among men who have sex with men (MSM) and transgender people participating in a peer-led HIV service referral approach in Krishna district, India.
METHODS: To link previously unreached MSM and trans individuals to HIV services, the LINKAGES project introduced a peer-led strategy called the Enhanced Peer Outreach Approach (EPOA). Participants were asked to report voluntarily on the number of individuals in their current social network with whom they had engaged in anal sex. We conducted logistic and Poisson regression using Stata Version-15, accounting for clustering, to assess associations between sexual network size and HIV serostatus among individuals who received HIV testing as part of the EPOA.
RESULTS: The mean age of the 353 clients who received HIV testing (MSM-287; trans people-66) was 28 years (standard deviation-7.6), and 19.3% tested HIV positive (MSM-19.5%; trans people -18.2%). In multivariate analyses, the network size of HIV-positive individuals was 26% larger ($p<0.05$) than that of HIV-negative individuals. A significantly higher ($p<0.05$) proportion of individuals with a network size of >10 sexual contacts were HIV positive (57.1%) compared to individuals reporting 6–10 (20.3%) or 1–5 (17.7%) contacts. Each unit increase in the reported number of sexual contacts was associated with a statistically significant ($p<0.001$) increase (OR: 1.13, 95% CI: 1.09, 1.17) in the likelihood of receiving an HIV-positive test result. Among MSM, we found that kothis (receptive partners) had a 24% larger sexual network size (RR-1.24; 95% CI 1.11, 1.41; $p<0.001$) than double deckers (both receptive and penetrative partners). Conversely, panthis (penetrative partners) had a 17% smaller (RR-0.83; 95% CI 0.71, 0.97; $p=0.02$) network size than double deckers.
CONCLUSIONS: We found a strong association between the reported sexual network size of MSM and transgender individuals and their likelihood of receiving a positive HIV test result as part of a peer-led service referral strategy. These findings suggest the benefits of targeting HIV services based on self-reported sexual or risk network size, as well as on self-reported risk behavior.

PEC0533

INFLUENCE OF SEROSORTING ON THE POPULATION-LEVEL HIV TRANSMISSION IMPACT OF PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG MEN WHO HAVE SEX WITH MEN (MSM): A MATHEMATICAL MODELING STUDY

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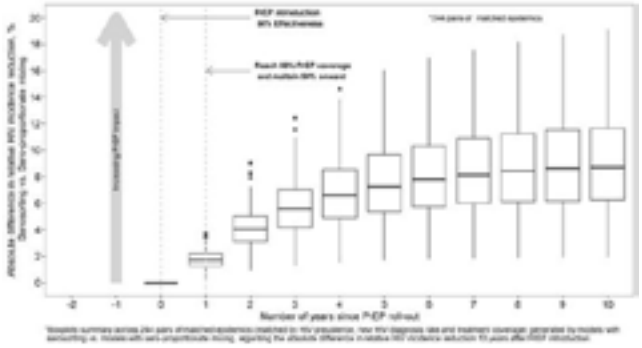
BACKGROUND: HIV PrEP may change serosorting patterns. We examined the influence of serosorting on the population-level HIV transmission impact of PrEP, and how impact could change if PrEP users stopped serosorting, while other men continued serosorting.

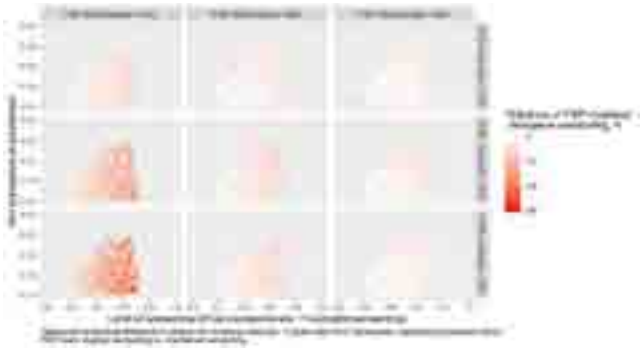
METHODS: We developed a dynamic compartmental HIV transmission model parameterized with bio-behavioural and HIV surveillance data from MSM in Canadian urban settings. We separately fit the model with serosorting and without serosorting (random partner-selection proportional to availability by HIV-status (sero-proportionate)), and reproduced stable HIV epidemics (2013-2018) with HIV-prevalence 10.3%-24.8%, undiagnosed fraction 4.9%-15.8%, and treatment coverage 82.5%-88.4%.

We simulated PrEP-intervention reaching stable coverage by year-1 and compared absolute difference in relative HIV-incidence reduction 10-year post-intervention (PrEP-impact) between: models with serosorting vs. sero-proportionate mixing; 2) scenarios in which PrEP users stopped serosorting vs. maintained serosorting. We examined sensitivity of results to PrEP effectiveness (44%-99%) and coverage (10%-50%).

RESULTS: Models with serosorting predicted a larger PrEP impact compared with models with sero-proportionate mixing (Figure-1), under all PrEP effectiveness and coverage assumptions. PrEP users' stopping serosorting reduced PrEP impact compared with scenarios where PrEP users maintained serosorting: reductions in PrEP impact were minimal (median (inter-quartile-range): 2.1%(1.4%-3.4%)) under high PrEP-effectiveness (86%-99%); however, could be considerable (10.9%(8.2%-14.1%)) under low PrEP-effectiveness (44%) and high coverage (30%-50%)(Figure-2).



[Figure 1. Comparison of PrEP impact on the population-level HIV transmission between models with serosorting vs. models with sero-proportionate mixing.]*



[Figure 2. Influence of PrEP-mediated changes in serosorting on the population-level HIV transmission impact of PrEP by baseline level of serosorting, HIV prevalence at equilibrium, and PrEP intervention condition.]

CONCLUSIONS: Models assuming sero-proportionate mixing among MSM may underestimate population-level HIV-incidence reductions due to PrEP. PrEP-mediated changes in serosorting could lead to programmatically-important reductions in PrEP impact under low PrEP-effectiveness (e.g. poor adherence). Our findings suggest the need to monitor sexual mixing patterns to inform PrEP implementation and evaluation.

PEC0534

OPTIMAL TARGETING FOR EPIDEMIC CONTROL: RESULTS FROM THE LOCAL EPIDEMIC ASSESSMENT FOR PREVENTION (LEAP) MODEL IN CONCENTRATED, MIXED, AND GENERALIZED SUBNATIONAL CONTEXTS

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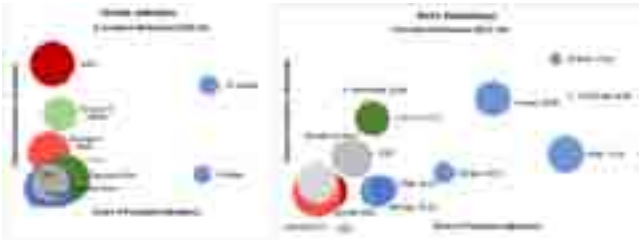
BACKGROUND: As decentralized governments are increasingly responsible for local epidemic control, they must customize HIV interventions to their local context. The USAID- and PEPFAR-supported Health Policy Plus (HP+) project used the Local Epidemic Assessment for Prevention (LEAP) tool to characterize a subnational epidemic, using programmatic, epidemiological, and anthropological information to inform local response. Between 2015-2019, LEAP was implemented in concentrated (Jakarta, Indonesia), mixed (Papua, Indonesia), and generalized (Beira, Mozambique) epidemics.

METHODS: LEAP, designed in MS-Excel, uses subnational (district or province) demographic, epidemiological, behavioral, and programmatic data by sub-population to estimate and project the impact of intervention scenarios on the local HIV epidemic. Subdivisions are defined with differentiation of epidemiological, coverage, and behavioral data and sexual networks among high and low-risk populations. Data sources include integrated bio-behavioral surveillance data, local expert consultation, and anthropological studies. LEAP includes probabilistic sensitivity analysis to account for uncertainty in epidemiological, behavioral, and cost inputs.

RESULTS: In implementing LEAP for the predominantly urban Beira district, Mozambique, population groups are further differentiated by residence into two locations: urban and peri-urban. In Papua, populations are differentiated by three geographic zones: Highlands, Easy to Reach Coastal, and Hard to Reach Coastal. Though Jakarta Province contains five districts, experts suggested that networks, behaviour, and access to interventions varied by socio-economic status not physical location. The LEAP tool was used to model different in-

tervention scale-up scenarios to compare effectiveness and resource needs, Figure 1 illustrates maximum incidence reduction per population group in two of three implementations.



[Figure 1]

CONCLUSIONS: Mathematical models without flexibility to characterize local sexual networks and disaggregate coverage and intervention effectiveness by sub-population group cannot inform programming in the epidemic control and decentralization era. LEAP is driven by local knowledge while applying global evidence, using anthropological data to model sexual transmission reduction. Results provide superior evidence for district/provincial policymakers to tailor the response.

PEC0535

GEOGRAPHIC BRIDGING TIES MAY FACILITATE HIV TRANSMISSION AMONG PEOPLE WHO INJECT DRUGS: A SOCIAL NETWORK ANALYSIS IN THE BALTIMORE REGION

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BACKGROUND: Recent HIV outbreaks, increased overdose mortality and resurgent HCV incidence, all due to changing patterns of opioid use in the US, have increased concerns about a potential reversal in the decades-long decline in HIV incidence related to injection drug use. As the geography of opioid use changes, there is an urgent need to characterize connections between non-urban populations of people using opioids and established urban PWID, as these connections may facilitate HIV transmission from high prevalence urban areas to lower prevalence non-urban settings. The objective of this study was to characterize overlap in urban and non-urban PWID networks in and around Baltimore, Maryland.

METHODS: ALIVE (AIDS Link to the Intravenous Experience) is a community-based prospective cohort of current and former PWIDs ongoing since 1988. ALIVE participants reporting injection drug use in the prior 12 months were eligible for an egocentric social network survey administered in 2018-19. Urban and non-urban networks were defined as uniform geographic locations of the ego and all drug-use ties, whereas bridging networks were defined as any network with discordant residential location (urban vs. non-urban) between the ego and any tie. We compared differences in network properties, HIV suppression and injection-related risk behaviors by geographic characteristics of the networks.

RESULTS: Of the 238 participants, 30% were female, the median age was 51 years, and 59% had urban, 4% non-urban, and 38% bridging networks. Bridging networks were higher density networks (p=0.007), and individuals with bridging networks more often reported injection sharing behaviors (p=0.001) compared to urban and non-urban networks. Compared to PWID with exclusively urban networks, those with bridging networks were more likely to report at least one contact with whom they injected more than one drug (OR=2.07, 95% CI:1.13-3.73). Among urban PWID living with HIV, those with detectable viremia had a higher proportion of non-urban contacts (p<0.0001).

CONCLUSIONS: PWID with more geographically dispersed and connected drug-use networks may be potential conduits of new HIV transmission, through higher risk injection-related behaviors and detectable HIV. Additional research is urgently needed to more robustly characterize the potential for increased HIV transmission among PWID populations with increasing poly-substance use.

THE ROLE OF SYNDEMICS

PEC0536

EXAMINING ASSOCIATIONS BETWEEN SYNDEMIC FACTORS AND HIV-OUTCOMES BY GENDER AND SEXUAL ORIENTATION AMONG WOMEN, STRAIGHT MEN, AND GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN LIVING WITH HIV

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BACKGROUND: Little is known about how multiple, co-occurring syndemic experiences affect different populations of people living with HIV (PLHIV). We examined associations between syndemic factors and HIV-outcomes between: women; heterosexual men; and gay, bisexual, and other men who have sex with men (gbMSM) living with HIV (cis and trans inclusive).

METHODS: Using cross-sectional data of 1,000 PLHIV ≥19 years of age accessing antiretroviral therapy (ART) from 2007-2010 in British Columbia, Canada, we assessed associations between a syndemic scores and HIV-related outcomes (from time of interview until December 31st, 2018 or last-contact with the provincial drug treatment program) by gender and sexual orientation. The syndemic score included: any violence (never, ever, in the last 6 months), any sexual violence (ever vs. never), depressive symptoms in the past week (10-item Centre for Epidemiological Studies Depression scale [≥10 indicating probable depression]), post-traumatic stress disorder (ever vs. never), current street drug use (heroin, crack, crystal meth or speedball), and history of excessive drinking (≥2 CAGE score) (range 0-7). Crude and adjusted logistic regression examined associations between syndemic scores and 1) ever viral rebound and 2) average annual ART adherence ≥95% from interview to last-contact, adjusting for age, education, employment, ethnicity and stable housing.

RESULTS: Of 999 participants with complete survey data, 264 (26.4%) were women, 382 (38.2%) were heterosexual men, and 353 (35.3%) were gbMSM. Heterosexual men and women had significantly high-

er median syndemic scores than gbMSM (3 vs. 2, p<0.001). Overall, higher syndemic scores were associated with reduced odds of ≥95% average annual ART adherence from interview until last contact (adjusted odds ratio [aOR]=0.86, 95%CI=0.78-0.95). Among gbMSM, higher syndemic scores were associated with increased odds of viral rebound (aOR=1.30, 95%CI=1.04-1.62) and reduced odds of ≥95% average annual antiretroviral adherence (aOR=0.67, 95%CI=0.55-0.82) from interview until last contact. Associations were not significant for women or heterosexual men.

CONCLUSIONS: We found significant differences in experiences of syndemic factors by gender and sexual orientation. However, higher syndemic scores were only associated with poorer HIV-outcomes among gbMSM, highlighting the need for population-specific adherence supports and additional research examining the unique syndemic experiences of heterosexual men and women living with HIV.

PEC0537

SYNDEMIC EFFECTS OF PSYCHOSOCIAL HEALTH PROBLEMS ON UNPROTECTED ANAL SEX AND THE PREVALENCE OF HIV AND SYPHILIS AMONG MSM AND TG WOMEN IN NEPAL

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BACKGROUND: Men who have sex with men (MSM) and transgender (TG) women experience numerous health inequalities compared to the general population (e.g. HIV infection, sexually transmitted infections, stigma, violence, and discrimination). Although this wide range of health disparities is well documented, significant gaps remain in how psychosocial health problems (injecting drug use, physical abuse and depression) affects risk behaviours among MSM and TG in low-income countries. This study assessed the syndemic effects of psychosocial health problems on unprotected anal sex and the prevalence of HIV and syphilis among MSM and TG women in Nepal.

METHODS: In this quantitative study, 740 MSM and TG women 16 years of age or older, were recruited using respondent driven sampling (RDS) between May 2017 and July 2017 across four districts of Nepal (Kathmandu, Lalitpur, Bhaktapur and Kaski). Information on depression (Center for Epidemiological Studies Depression scale), injection drug use and physical abuse were obtained via the face to face interview. Rapid HIV tests and Rapid Plasma Reagin test performed to assess HIV and syphilis prevalence. Volz–Heckathorn estimator was used to calculate probability weights and RDS-adjusted prevalence. A count of physical abuse (yes vs no), depression (euthymic vs depression) and injection drug use (yes vs no) were calculated to test an additive relationship with unprotected anal sex. Statistically significant associations between independent variables and unprotected anal sex were computed using multivariable logistic regression.

RESULTS: The prevalence of HIV and syphilis was 3.6% and 1.0% respectively. The prevalence of unprotected anal sex was 16% whereas 7% experienced physical abuse and 6% reported injection of drug use in the last 12 months. The burden of depression was high (35%). For each additional psychosocial health problem, the odds of protected anal sex decreased substantially, i.e., by 76% for 2-3 psychosocial health problems (0.24 odds ratio (OR); 95% confidence interval (CI)=0.12-0.47).

CONCLUSIONS: MSM and TG women in Nepal are experiencing multiple psychosocial health problems that also increase the risk of unprotected anal sex. HIV preventive interventions in Nepal should identify and manage the burden of psychosocial health problems among MSM and TG women.

PEC0538

STIMULANT USE AND HIV INFECTION, SUICIDE AND CARDIOVASCULAR DISEASE (CVD) MORTALITY AMONG MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (TW) IN PERU: A MODELING STUDY

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BACKGROUND: Stimulant use is often high among MSM/TW and has been associated with an increased HIV risk, suicide and CVD mortality. Quantifying the excess disease burden among MSM/TW using stimulants has important policy implications. Using epidemic modeling, we investigated these intersecting health harms among MSM/TW in Lima, Peru, and assessed the impact of prioritizing HIV pre-exposure prophylaxis (PrEP) and harm reduction interventions among MSM/TW who use stimulants.

METHODS: The model represents HIV transmission, CVD and suicide mortality among MSM/TW, differentiating sexual behaviors between four main groups: homosexual and heterosexual/bisexual self-identified MSM, male sex workers and TW. We modeled the increased risk of unprotected anal sex during last encounter obtained from local data (RR=1.35 [95%CI 1.17-1.57]) and used general-population estimates from a global review to model the increased risk of suicide (SMR=6.26 [95%CI 2.84-13.80]) and CVD mortality (SMR=1.83 [95%CI: 0.39-8.57]) among MSM/TW who use stimulants. We estimated the proportion of health harms occurring among MSM/TW who use stimulants in the next year and investigated the ten-year impact (2020-2030) of PrEP prioritization for stimulant-using MSM/TW on HIV, and that of combining PrEP with harm reduction interventions that would halve stimulant use associated risks.

RESULTS: Despite MSM/TW who use stimulants comprising an estimated 9.5% (95%CI: 7.8-11.5) of all MSM/TW in Lima, in the next year, 11% (2.5-97.5% Interval: 10-13%) of new HIV infections, 39% (95%I: 18-60%) of suicides and 15% (95%I: 3-44%) of CVD deaths could occur among this group. Scaling up PrEP among all MSM/TW who use stimulants would prevent 19% (95%I: 11-31%) more HIV infections across 10 years compared to random allocation. Integrating PrEP and an intervention to halve stimulant-associated risks could reduce overall new HIV infections by 20% (95%I: 10-37%), suicide deaths by 14% (95%I: 5-27%), and CVD deaths by 3% (95%I: 0-16%).

CONCLUSIONS: MSM/TW who use stimulants experience a disproportionate burden of HIV infection, suicide and CVD mortality. Prioritizing PrEP based on stimulant use, in addition to sexual behavior or gender identity criteria, could increase its impact. Importantly, as we move towards integration of HIV services, providing comprehensive substance use and mental health care could reduce health disparities among MSM/TW who use stimulants.

UNDERSTANDING THE SPREAD OF HIV THROUGH BEHAVIOURAL STUDIES

PEC0539

ESTIMATING THE CONTRIBUTION OF STIMULANT INJECTION TO HIV AND HCV EPIDEMICS AMONG PEOPLE WHO INJECT DRUGS AND IMPLICATIONS FOR HARM REDUCTION: A MODELING ANALYSIS

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BACKGROUND: Stimulants, such as amphetamines and cocaine, are widely injected among people who inject drugs (PWID). Global systematic reviews indicate stimulant injection is associated with HIV and HCV among PWID. Using these associations, we estimated the contribution of stimulant injection to HIV and HCV transmission among PWID.

METHODS: We developed a dynamic transmission model of HIV and HCV among PWID, incorporating excess injecting and sexual risk among PWID who inject stimulants. We simulated three illustrative settings with different main stimulants injected (amphetamines or cocaine), prevalence of stimulant injecting, and HIV/HCV epidemiology. We calibrated to review data on elevated HIV and HCV among PWID who inject stimulants by class (amphetamines/cocaine). We estimated one-year population attributable fractions of stimulant injection on new HIV and HCV infections, and impact of needle-syringe program (NSP) scale-up among PWID who inject stimulants.

RESULTS: In a setting with low prevalence of stimulant injection (St. Petersburg-like, where 13% inject amphetamine), 9% (2.5-97.5% interval [95%I]: 6-15%) and 7% (95%I 4-11%) of incident HIV and HCV cases, respectively, could be associated with stimulant injection in the next year. With moderate prevalence of stimulant injection (Montreal-like, 34% inject cocaine), 29% (95%I: 19–37%) and 19% (95%I: 16-21%) of incident HIV and HCV cases, respectively, could be associated with stimulant injection. In a high-burden setting like Bangkok (65% inject methamphetamine), 23% (95%I:10–34%) and 20 (95%I: 9-27%) of incident HIV and HCV cases could be due to stimulant injection. If high-coverage NSP increased to 60% among PWID who inject stimulants, this could reduce HIV incidence (by 22-65%) and HCV incidence (by 7-11%) in a decade, but not all excess risk would be removed.

CONCLUSIONS: Stimulant injection contributes to a substantial fraction of HIV and HCV among PWID. NSP scale-up and development of novel interventions among PWID who inject stimulants are warranted.

MODELLING FUTURE HEALTHCARE NEEDS

PEC0540

HIGH LEVEL OF HIV RE-SUPRESSSION FOLLOWING INTENSIVE ADHRENCE COUNSELLING FOR ADULTS ON A PROTEASE INHIBITOR SECOND LINE THERAPY AT AN URBAN HIV CLINIC IN KAMPALA, UGANDA

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BACKGROUND: Uganda has attained the first two of UNAIDS 90-90-90 goals for HIV epidemic control by 2020. The Uganda Ministry of Health adopted the WHO recommendation of intensive adherence counselling (IAC) for PLHIV who fail to achieve viral suppression , irrespective of whether they are on first or second line ART.. This study sought to determine the prevalence of re-suppression and factors associated with non-suppression of HIV viral load after IAC at Mulago ISS clinic.

METHODS: We conducted a retrospective study on PLHIV aged ≥18 years on second-line ART who received treatment between January 2016 and December 2018 at Mulago ISS clinic. Data on age, gender, baseline and post IAC VL, completion of three IAC sessions, was extracted from the clinic's Open Medical Records System (Open MRS). We determined the prevalence of re-suppression after six months with its 95% confidence interval (CI).

RESULTS: A total of 1,523 adult PLHIV were receiving second line ART of whom 1,046 (68.1%) were female. The median age and baseline CD4 counts were 40 (35-46) years and 229 (81-419) cells/Ul respectively. Average duration on ART was 7.2 (3.28) years. Majority of patients 817 (53.6%) were on Lopinavir/r (LPV/r) with the rest on Atazanavir/r (ATV/r). HIV re-suppression at 6 months following three sessions of IAC was achieved among 1,153 (75.7%, [95%CI: 73-77.8]) patients. Over 14.8% (171) patients failed to achieve VL suppression at one year. After an additional IAC session, 50.3% (86) re-suppressed, 76(44.4%) did not while 4 died and 5 were lost to follow-up. The 76 clients were subjected to a resisitance profile testing and only 11 had protease inhibitor mutations hence switched to thirdline . 65 clients who didnt have pi mutations were matained on second line PI based regimen but eventually suppressed . Additionally, patients who had been on ART for 5-10years were less likely to re suppress.

CONCLUSIONS: HIV viral suppression following IAC for PLHIV on PI- based second- line ART was high but below the UNAIDS 3rd 90 target of 2020. Innovations to improve HIV viral suppression among females and patients who have been on ART for more than 5 years are needed.

PEC0541

RISING TIDE OR MOVING FRONT? LESSONS FROM VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) TO SHAPE THE SCALE-UP OF NEW HIV PREVENTION METHODS IN WESTERN KENYA

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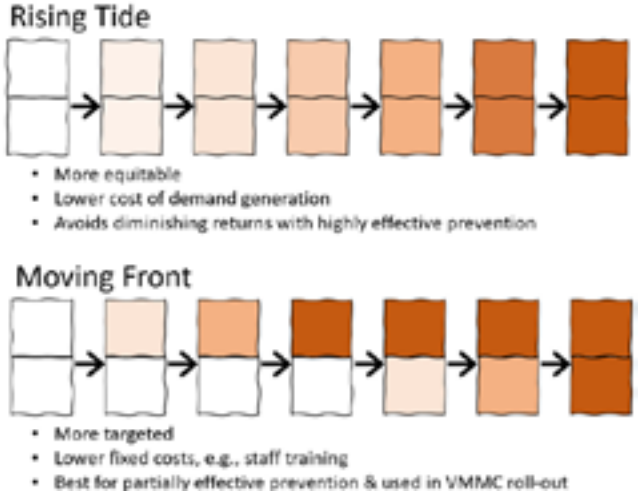
BACKGROUND: Health authorities in sub-Saharan Africa are anticipating new HIV prevention methods such as long-acting prophylaxis. Scale-up of these interventions could cover broad geographies with gradually increasing coverage (a "rising tide") or could focus on high-priority locations with gradually increasing geographic scope (a "moving front"). We analyzed epidemiological and economic factors influencing the optimal scale-up strategy and compared them to past scale-up of VMMC in western Kenya.

METHODS: An agent-based network model of HIV in western Kenya was used to compare the efficiency and effectiveness of HIV prevention with a "rising tide," "moving front," or intermediate approach to scale-up. Key populations such as sex workers were assumed to receive priority access regardless of geography, while access for the general population depended upon clinic catchment area. We varied the intervention effectiveness, scale-up rate, and economic variables including the fixed cost of offering a new service and outreach cost to achieve high coverage. Results were compared to past scale-up of VMMC.

RESULTS: "Moving front" approaches are initially preferable because they prioritize high-incidence catchment areas. At >90% intervention efficacy, "rising tide" approaches can become favorable due to diminishing returns of maximizing coverage when incidence is already declining. Fixed costs such as staff training favor a "moving front" approach, while demand generation costs favor a "rising tide" approach. The optimal balance is a "moving front" that expands when incidence declines or demand generation becomes costly. This is consistent with VMMC roll-out over the past decade, which began in the highest-incidence communities and expanded in geographic scope before maximizing coverage.



[Figure]

CONCLUSIONS: "Moving front" strategies are well-suited to the spatial heterogeneity of HIV in western Kenya. Health authorities have successfully balanced the advantages of "rising tide" and "moving front" approaches when scaling up VMMC. For future interventions, the optimal balance depends on efficacy, fixed costs, and outreach costs.

IDENTIFYING OPTIMAL SERVICE MODELS

PEC0542

CAN WE REDUCE THE FREQUENCY OF CLINICAL MONITORING IN HIV PATIENTS WITH LONG TERM VIROLOGICAL AND IMMUNOLOGICAL SUCCESS?

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BACKGROUND: The Mexican ARV program mandates a six month monitoring frequency in people living with HIV (PLWH). It is uncertain if PLWH with virological and immunological success (VIS) need such close follow-up. We attempt to identify the frequency of adverse outcomes (death, AIDS events, non-AIDS events (NAIDS), virological failure (VF) and loss to follow-up (LTFU)) among patients classified as VIS.

METHODS: PLWH adults seen at Instituto Nacional de Ciencias Médicas y Nutrición in Mexico City, since 2000 with at least two years of follow-up were included. Patients were categorized as VIS (at least two years with VL<200c/mL and CD4>350 cells/mL) and non-VIS. Clinical outcomes: death, AIDS, NAIDS, VF (2 consecutive VL determinations >1000c/mL) and LTFU (no clinical visits in >1 year) were compared between groups. We estimated the crude incidence of any event, the distribution of outcomes among VIS and non-VIS and associated factors and time to first event using a Cox model stratified by gender including VIS and characteristics at enrollment

RESULTS: Among 2088 patients, 1099(53%) were classified as VIS and followed by a median of 5.2 years (IQR: 2.5 -8.7), with a median of 2.45 clinic visits per-year (IQR: 2.15-2.8). 518(47%) had at least one outcome with an incidence of 12.5 events/100-person-years: 59% NADEs (70% considered non-serious), 20% VF, 15% LTFU, 4% AIDS and <1% deaths. Among patients classified as non-VIS, 649(66%) events were reported with an incidence of 19.1 events/100-person-years and 49% NADES, 22% VF, 20% LTFU, 6% AIDS and 2.6% deaths. Patients who at entrance to care were ART-experienced and enrolled before 2010 were more likely to have any outcome (HR: 1.23; 1.07-1.42 and HR: 1.65, 1.42-1.94), respectively. Patients with VIS were less likely to develop an outcome (HR: 0.86, 0.74-1.00). Adjusted median time to event, was significantly shorter in VIS women, when compared to VIS men: 52 (95%CI: 44-90) vs 76(95%CI: 67-85) months.

CONCLUSIONS: PLWH with virological and immunological success, naïve and enrolled after 2010 have low risk of unfavorable outcomes and may be candidates to less frequent clinical monitoring. However the strategy must be carefully evaluated among women. Nevertheless, future evaluation of this strategy is warranted.

PEC0543

IMPACT OF RAPID ART INITIATION IN RECENTLY DIAGNOSED PATIENTS IN AN HIV REFERENCE PUBLIC CLINIC OF GUATEMALA

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BACKGROUND: The World Health Organization recommends the initiation of antiretroviral therapy (ART) within the first seven days to reduce mortality, morbidity, and transmission of HIV. In Guatemala, a rapid initiation program was implemented in an HIV reference public clinic, aiming to measure the impact on patients with a recent diagnosis.

METHODS: A comparison study was conducted to measure the impact of a rapid initiation ART program at a reference public clinic in Guatemala City, from January 2016 until May 2019, and consisted of two cohorts of newly diagnosed patients: I) before the introduction of the Test and Treat program (Pre-T&T), from January 2016 to June 2017 (N=477) and II) after the introduction (Post-T&T), from September 2017 to May 2019 (N=630). All patients were 18 years and older, never received prior ART, and followed for care in the clinic. A database of demographic and clinical information was extracted from the electronic medical record. The data was analyzed using descriptive statistics, Chi2, and T-student test in the program R, at a significance level of 0.05.

RESULTS: From 1400 patients evaluated, 78.3% (n=1097) met criteria for inclusion. From these, 79.5% were male, 19.0% female, and 1.5% transgender; median age at the time of diagnosis was 28 years old. In the Pre-T&T group, 124 patients initiated ART in a mean of 22.4 days (median:14; IQR:4), 26% (n=124/477) reached a viral load below 200 copies/mL in a mean of 144 days (median:137; IQR:44), and 6.4% died (n=8/124); versus Post-T&T group in which the patients initiated ART in a mean of 5 days (median: 0; IQR:7), 72.5% (n=457/630) reached viral suppression in a mean of 77.8 days (median:84; IQR: 64); and 1.7% died (n=8/456). Statistical differences were observed in all the parameters compared above between the two cohorts (p<0.05).

CONCLUSIONS: It is feasible to implement a rapid initiation program of ART in a clinic from a developing country with the impact of reducing the ART initiation time by 75%, achieving viral load suppression 46% faster and reducing mortality in 4.7%.

PEC0544

BURDEN OF TYPE 2 DIABETES MELLITUS AND ASSOCIATED FACTORS AMONG HIV NEGATIVE AND POSITIVE PATIENTS IN TWO REGIONAL REFERRAL HOSPITALS IN THE MANZINI REGION, ESWATINI

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BACKGROUND: Type 2 diabetes mellitus (T2DM) is an emerging non-communicable disease (NCD) in low and middle-income countries (LMICs) in sub-Saharan Africa (SSA) since the rollout of antiretroviral therapy (ART) in Swaziland, the burden of T2DM in human immunodeficiency virus (HIV) infected people and comparison against HIV negative control population has not been evaluated in Swaziland. This study aimed at assessing proximal and distal predictors of T2DM among HIV positive adults in comparison to HIV negative adults.

METHODS: We employed a cross-sectional comparative study design with 498 subjects selected at random in each group. Face-to-face interviews were conducted to obtain socio-demographic and risk factors. Venous blood was collected, fasting blood glucose and 2-hour oral glucose tolerance test. Multivariable logistic regression was used to identify significant determinants of T2DM.

RESULTS: Prevalence of diabetes was 25.6% (95%CI: 22.6 – 28.2). A higher (36.1%; 95%CI: 31.9 – 40.4) prevalence of diabetes was observed in the HIV positive cohort compared to the HIV negative group (14.8%; 95%CI: 11.6 – 17.5). Being ≥40 years posed a higher risk (OR=1.04; 95%CI: 1.00 – 1.07, p=0.04) of developing T2DM compared to those <40 years. Overweight (OR=1.82; 95%CI: 1.06 – 3.10, p=0.029) and obesity (OR=3.73; 95%CI: 2.26 – 6.14, p<0.001) increased the risk of diabetes. Alcohol intake increased the risk of diabetes 15 folds (OR=15.05; 95%CI: 9.03 – 25.11, p<0.001) compared to not taking alcohol. Moderate (OR=0.4; 95%CI: 0.25 – 0.67, p<0.001) and vigorous physical activity (OR=0.1; 95%CI: 0.05 – 0.14, p<0.001) reduced the risk of diabetes. Being HIV positive increased the risk of T2DM (OR=3.43; 95%CI: 2.28 – 5.14; p<0.001) compared to being HIV negative.

CONCLUSIONS: HIV positive cohort had a higher prevalence of T2DM and being HIV positive is a risk factor for T2DM, hence HIV care services need to include T2DM prevention and management.

REACHING AND RECRUITING KEY POPULATIONS FOR HIV SERVICES (ONLINE, OFFLINE, ONLINE-TO-OFFLINE)

PEC0545

TARGETING MEN AS KEY POPULATION TO REDUCE THE BURDEN OF MOTHER-TO-CHILD HIV TRANSMISSION

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BACKGROUND: About 1.9 million people are living with HIV/AIDS in Nigeria and 100,000 are children who acquired the infection through mother-to-child transmission (MTCT). Over 130,000 new infections were reported in 2018. Hetero-sexual transmission among the general population accounts for most cases of HIV/AIDS. HIV interventions are mostly targeted towards health facilities, focusing particularly on women attending antenatal care (ANC). This approach has excluded men from accessing HIV/AIDS services.
This study aimed at exploring strategy through which men could be better reached with HIV/AIDS intervention to reduce MTCT.

METHODS: Exploratory qualitative study design involving men and women of reproductive age group (15-49 years). The study was carried out in Tunkus, Plateau State, Nigeria. Dahlgren and Whitehead model was used to guide the analysis. Data was collected through focus group discussions (FGDs) and Key informant interviews. Data analysis was based on themes and sub-themes of the study. Direct quotes from the respondents were also used.

RESULTS: Most male respondents welcome HCT in ANC for their partners and are willing to accompany them to the clinic, but complaint of time constraint and the feminine setting of the ANC clinic

where men and women have to sit together contrary to the culture and tradition. This was demonstrated by this respondent:

…"*I will love to carry my wife to the ANC clinic but am very busy, there is no time. The place is also full of women*"… 35 year old male participant.

When asked how men could support their wives regarding PMTCT, particularly couple HCT, majority in both groups are of the opinion that HCT should be done at home.

…." *I cannot do the test in the hospital except at home* "…34 year old respondent.

The female FGD respondents further confirmed the feelings of their partners regarding couple counseling in the ANC

. …"*my husband said he doesn't like the Hospital environment, he said it is meant for women, test should be done at home*"..*A 27 year female respondent*

CONCLUSIONS: Men can be reached with HIV/AIDs services in their homes to scale up the current interventions. Health facilities should be modeled and be gender sensitive when being constructed and organized to accommodate the presence of men.

PEC0546

EVOLVING SOLICITATION PRACTICES AND ITS IMPLICATIONS IN INCREASED VULNERABILITY FOR HIV AMONG FEMALE SEX WORKERS IN INDIA – A MIXED METHOD APPROACH

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BACKGROUND: The traditional forms of solicitation practiced by Female Sex Workers (FSWs) are undergoing changes. The role of mobile based technology and other social media has become crucial in sex work. Current HIV prevention intervention strategies are not addressing adequately in this changing scenario, for various reasons, including limited evidences. This intervention gap would lead to limited and/or no access of the FSWs to HIV prevention programs, termed as targeted intervention (TI) in India. Hence, the study had systematically documenting the evidences for strengthening the programmatic response.

METHODS: The study was conducted in urban and rural districts of seven states of India in 2018-19, to capture the characteristics of FSWs, irrespective of their association with TIs. Using mix methods, the study aimed to identify current forms of solicitation, analyze condom use and levels of comprehensive knowledge about HIV and associated safe sex practices among FSWs. In qualitative phase 57 key informants' interviews, 26 Focused Group Discussion and 86 In-depth Interviews were conducted. For quantitative phase 1750 survey interviews conducted with primary respondents. Adjusted logistic regression has been used to find out the significant association between dependent and independent variables.

RESULTS: The study found that there are now new physical spaces such as, massage parlors or spas and many different business outfits where solicitation takes place. Further, the use of mobile phones and various social media play prominent roles in solicitation. The study found that the FSWs not linked to the TI program have more inconsistent use of condoms (adjusted odds ratio 1.522 (p=.000)) and also have inadequate knowledge (adjusted odds ratio 1.681 (p=0.130)) There was a 10% difference in condom use between the FSWs associated with TIs (33%) and not associated with TIs (44%).

Condom Use	TI (N=521)	Non-TI (N=1229)
Condom Usage with in last month with paid partner	(77%) 402	810(66%)
Anal sex in the last one month	(21%) 107	250 (20%)
Condom usage during anal sex (Everytime)	(51%) 54	(41%) 102
Oral Sex in last one month	33% (174/521)	50% (610/1229)
Condom usage during Oral sex (Everytime)	43% (75/174)	27% (166/610)
Total	**521**	**1229**

[Table: Use of Condom among Tis and Non-TIs]

CONCLUSIONS: The study identifies various new forms of solicitation including virtual venues. The existing program needs to be modified with new knowledge, information and interventions.

PEC0547

ONLINE INTERVENTION MODEL TO REACH OUT HIDDEN POPULATION AT RISK OF HIV IN INDIA

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BACKGROUND: The HIV epidemic has been effectively contained in India. However, there are significant number of people who are at risk of HIV and other sexually transmitted infections, who are beyond the reach of existing healthcare interventions and programs. These people remain hidden due to their cultural and social inhibitions; and fear of stigma due to disclosure of their risky behavior. This hidden population is increasingly reaching out to e-platforms for solutions. The objective of this study was to observe and assess a pilot digital health portal for its effectiveness to reach out hidden, unreached population at risk of HIV & STIs.

METHODS: The marketing data of pilot health portal of a digital health platform (Dr Safe Hands) based in India, from January - December 2018 was collected. Following data was analyzed:

1) Demographic profile of the clients

2) HIV related queries

3) Data related to sexual health counseling, HIV testing and teleconsultations.

The data was analyzed in Google Analytics and MS Excel 3.0

RESULTS: 30,499 HIV related queries were addressed through live chats, emails and telephonic consultations. 81% of the users approached were between 18 - 34 years of age. About 3/5th of the clients were male. Total number of users tested for HIV was 5887 and case detection rate was 1.22%. The sero-positive individuals were telecounselled and linked to local PLHIV networks for care, support and treatment.

CONCLUSIONS: e-platforms have great potential and there is a strong need to promote them as tools to reach out hidden population at risk of HIV in India. However, future evaluations are needed to assess their effectiveness for sustaining them in HIV testing, care and treatment. Also, there is a need to develop protocols and algorithms to assess and assure their quality.

PEC0548

STEALTH HEALTH PROMOTION: THE BENEFITS OF 'UNDERCOVER' HIV AND SEXUAL HEALTH EDUCATION THROUGH DIGITAL COMMUNICATION INNOVATION

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BACKGROUND: In Australia, HIV disproportionately affects men who have sex with men (MSM). In July 2016, the Commonwealth Government of Australia funded a large-scale, innovative project promoting awareness, prevention and management of HIV and STI among MSM in digital environments.

DESCRIPTION: Produced in partnership between leading HIV organisations, ACON and Thorne Harbour Health, the project establishes social media brand Emen8 with website www.emen8.com.au launched May 2017. A native content marketing strategy means Emen8 publishes its own written, video and image content online. Designed to make sexual health information more appealing, sexual health guidance is embedded in content about experiences and conversations reflecting the lives of MSM (cis and trans), covering emotional wellbeing, relationships, travel, entertainment and more. Rather than traditional education, this approach appeals to contemporary ways MSM consume content. Published content and focussed message campaigns are advertised through social media, dating apps and other digital channels using sophisticated audience targeting, maximising message reach and engagement.

LESSONS LEARNED: Until end 2019, Emen8's website attracted 327,407 visitors and 793,751 pageviews. Facebook videos generated 600,771 views while posts achieved 31,747 reactions, 5628 comments and 3675 shares. Average post engagement rate was 1.86% (total engagements per post divided by count of followers at time of post). Subtle integration of sexual health messaging exposes the audience to an ongoing sexual health narrative, aiming to normalise key concepts of prevention, testing and treatment. Discreet mention of these invites the audience to click through to overt educational content. Real-time analytics provide feedback on performance of content, campaigns and advertising, optimising decision-making, budget allocation and informing future content and digital placement direction.

CONCLUSIONS/NEXT STEPS In today's congested digital world, gaining attention for HIV and STI education is challenging. However, results demonstrate our approach achieves this, engaging the audience 20 times more than Facebook's average rate (0.09% per post in 2019). This evidence suggests Emen8's ‚stealth health' approach works. Harnessing digital targeting and communications strategies engages our audience while avoiding message fatigue. While this approach requires balance to avoid unwanted media attention for promotion of homosexuality, risk mitigation around content age restrictions and targeted advertising helps defend the project against attacks.

PEC0549

DETERMINANTS OF TESTING FOR HIV AMONG YOUNG PEOPLE (15-24 YEARS) IN UGANDA. A NESTED SEQUENTIAL MIXED-METHODS STUDY

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BACKGROUND: Globally, young people (15-24 years) contribute to over 30% of new HIV infections yet their HIV testing levels are low. HIV testing among young people in Uganda is lower than the global target despite the progress in enhancing the accessibility of HIV-related health services. We, therefore, sought to explore the experiences of young people regarding HIV testing in Wakiso, a peri-urban district with the highest proportion of young people in Uganda.

METHODS: A nested sequential mixed-methods study was carried from March to May 2019 among 650 young people in Wakiso district. A stratified cluster random sampling approach was used to select 397 rural and 253 urban participants from eight parishes (5 rural and 3 urban). Semi-structured questionnaires were used to collect data from all participants and later, 14 participants were purposively selected for the in-depth interviews. Data were analyzed using STATA 15 and Atlas-ti 8 software. The prevalence of ever testing for HIV was determined and the barriers and facilitators were analyzed using content analysis.

RESULTS: The prevalence of ever testing for HIV was 80.2% (95%CI: 76.9-83.1%). The decision for HIV testing was based on self-evaluation of their risk of HIV infection and the ability to manage the consequences of a positive result. They also mentioned that they are supported by their peers, partners and family members to test for HIV. Fear of injections, loss of confidentiality at testing points, perceptions regarding health facilities as confusing, distant, expensive and staffed by judgmental older health workers were mentioned as factors associated with the low level of HIV testing. Mobile testing points tend to solve some of these problems but introduce lack of privacy and fear of loss of confidentiality because the entire community attends these points.

CONCLUSIONS: The prevalence of HIV testing among young people in Wakiso district is close to the UNAIDS target of 2030. Community outreaches tend to solve many of the challenges that young people are facing at the facility. However, there is a need to make these services community-oriented health-promotion programs to encourage young people to utilize HIV testing sites.

PEC0550

GRAPHIC ARTS AND SOCIAL MEDIA STORYTELLING FOR HIV OUTREACH, EDUCATION, AND LINKAGE TO CARE AMONG RACIAL AND ETHNIC MINORITY YOUTH

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BACKGROUND: In the U.S., MSM accounted for 66% of new HIV diagnoses in 2017. In addition, youth ages 13-24 accounted for 21 percent of all new HIV diagnoses. The need exists to provide easily accessible, engaging and informative resources to these communities to promote HIV prevention, testing, and linkages to care. Messages should be tailored and targeted in order to make information relevant to their intended audiences. Graphic novels can enhance learning and the artistic format can facilitate the process for persons with different learning styles and abilities, including for those who have low literacy and/or for whom English is their second language.

DESCRIPTION: With funding from the National Library of Medicine (NLM) HIV/AIDS Community Information Outreach Program, we developed Amigos Y Amantes (AYA). AYA is an educational intervention that features animated, Spanish and English language vignettes that address issues of HIV in the Latinx community through a website platform. We then developed serialized Instagram stories featuring original artwork, under the brand name "Heads or Tails." One story stresses the U=U campaign and the importance of PrEP and the other focuses on risk factors and safety obstacles faced by transwomen. All the stories where developed based on community focus groups. Across all stories, the account has posted almost 650 images, which have received over 36,000 likes and over 1,500 comments. The Instagram audience has over 1,200 followers estimated to be 26% ages 18-24, 36% ages 25-34, and 84% male.

LESSONS LEARNED: Focus group data revealed that Black and Latinx youth (MSM and transwomen) wanted realistic information about dating, sex, and dealing with HIV-related stigma. Youth expressed preference for social media to disseminate messages only when quick and easy to navigate. Content that mixes humor and drama, non-judgmental and culturally sensitive images, and racially and physically diverse characters living various experiences were preferred by the participants.

CONCLUSIONS/NEXT STEPS The next steps are to create a free library of print materials with digital versions available online. This strategy has been endorsed by feedback from consumers. Age-appropriate, culturally diverse vignettes on HIV/AIDS are effective in young sexually, racially, and ethnically diverse populations for facilitating behavior and cognitive change.

PEC0551

HOMELESSNESS, HIV TESTING, AND THE REACH OF HARM-REDUCTION EFFORTS AMONG PEOPLE WHO INJECT DRUGS, SAN FRANCISCO, CALIFORNIA

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BACKGROUND: Given that people who inject drugs (PWID) are at increased risk of HIV, public health efforts focus on HIV testing for early diagnosis and harm reduction services, such as syringe exchange programs, for primary prevention. Given the homeless crisis in the US, especially in the San Francisco Bay Area, the present study examined how housing status affects the reach of HIV testing and prevention programming for PWID.

METHODS: Respondent-driven sampling (RDS) recruited 350 HIV-negative PWID, who completed structured interviews in San Francisco. Logistic regression determined whether housing status in the past 12 months ([1] owned/rented, [2] single-room occupancy hotels (SROs), [3] marginally housed (e.g., shelters, with friends/family/partners), [4] outdoors) was associated with getting HIV-tested in the past 12 months and always using sterile needles. PWID who "couch-surfed" (<2%) were categorized as marginally housed.

RESULTS: The majority of PWID had lived outdoors in the last year (58.2%), followed by SROs (21.1%), being marginally housed (12.2%), and owning/renting (8.5%). A majority (63.6%) reported always using sterile needles. PWID who lived in SROs (aOR=3.07, 95% CI: 1.27-7.40, p=0.012) and PWID who lived outdoors (aOR=3.04, 95% CI: 1.40-6.63, p=0.005) had greater odds of being tested for HIV than PWID who owned/rented. PWID who were marginally housed did not differ from PWID who lived outdoors. In separate analyses, PWID who lived in SROs had greater odds of always using sterile needles than PWID who lived outdoors (aOR=3.63, 95% CI: 1.82-7.24, p<0.001).

CONCLUSIONS: HIV testing efforts are more likely to reach PWID who live in SROs, where HIV-related programming is often implemented, and PWID who are living outdoors, where PWID might make contact with outreach workers. PWID who owned or rented their homes were at no greater risk of HIV based on sterile-needle use than PWID who were more marginally housed. Although high-risk PWID who own or rent are in the minority, HIV prevention efforts may benefit from finding unique ways of reaching them. Providing PWID with housing is necessary, but these efforts must be combined with public health programming if the goal is to address the HIV prevention needs of PWID.

PEC0552

GO SEEK: REACHING YOUTH AND ADOLESCENTS' MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (TGW) TO OFFER PREP IN BRAZIL

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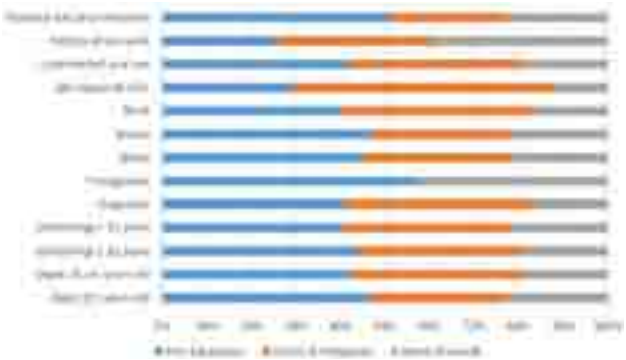
BACKGROUND: Our goal is to analyze the strategies applied to reach and recruit adolescents and young key population of MSM and TGW (AYKP) to PrEP. The adjustments required to create a friendly environment to easy their access to PrEP, and creative demands to enable awareness and interest of potential PrEP users. Little is known about the best recruitment strategies to engage AYKP in PrEP. This is the first PrEP demonstration cohort study ongoing in 3 Brazilian cities among AYKP aged 15-19 yo (PrEP1519 study).
METHODS: Methods of recruitment of AYKP to PrEP1519 study involved: the activities of Peer Educators (PE) with youth at venues and schools; the use of social media platforms: Instagram, WhatsApp, dating app and (APPS); and participants' word-of-mouth (WM). Descriptive analysis of recruitment strategies in Salvador site conducted.
RESULTS: From April-December 2019, 446 AYKP of all colors and schooling were reached. Out of those 72% appointments in PrEP clinic (321) and 39.9%(128) enrolled in the cohort (75% in PrEP, 19.5% in other HIV prevention method, 5.5% HIV+ at baseline). PE(35%) and Grindr(34%) recruited most participants. PE recruited more TGW than others strategies (57% vs 42%, p<0.05). APPS-recruitment were associated with recruitees reporting more STI than by PE or WM (58.3%, 29.2%, 12.5%, p<0.01). WM recruited more participants with sex work history than others strategies (39.1%, 26.1%, 34.8%, p<0.05) (Figure 1).



[Figure 1. Description of adolescents' MSM and TGW enrolled in PrEP1519 study by strategy of recruitment. Salvador site, Brazil 2019]

CONCLUSIONS: Well-trained youth PE are very efficient in recruiting AYKP most vulnerable to HIV for PrEP, including TGW, who needs to build trust. Recruitment requires constant monitoring in order to rethink or reinvent new ways when a strategy reaches its limit. Recruitment efficiency also depends on individual and social factors such as risk perception; knowledge of HIV prevention and PrEP; number and type of partners; decision to use or not to use condoms; local contexts-environments and social/personal relationships and social media.

PEC0553

BARRIERS AND FACILITATORS OF ACCESS TO & UTILIZATION OF HIV PREVENTION AND CARE SERVICES AMONG TRANS-WOMEN SEX WORKERS IN THE GREATER KAMPALA METROPOLITAN AREA, UGANDA

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BACKGROUND: There is evidence that trans-women sex workers are at an elevated risk of HIV infection compared to the general population, and have limited access to HIV prevention services. However, their barriers and facilitators of access to HIV prevention services remains understudied. This study, therefore, focused on understanding the barriers and facilitators of access to & utilization of HIV prevention and care services among trans-women sex workers in the greater Kampala metropolitan area (GKMA), Uganda.
METHODS: This was an exploratory qualitative study among Trans-women sex workers. A total of 22 In-depth interviews, 06 Key Informant Interviews and 09 Focus Group Discussions were used to obtain data from the purposively selected respondents in the GKMA. Data were analysed using thematic analysis under a hybrid of inductive and deductive approaches. Several recurring themes were identified. Informed consent was sought from all the respondents.
RESULTS: The facilitators of access to HIV prevention services included; availability of friendly and trans-competent health care providers at key population clinics; use of a peer-driven system in which a peer acts as a role model to the transwoman as well as their bridge to the health care providers; and availability of a transwoman population or a key population focal person at a health care facility. The barriers to access included; self-enacted stigma; feeling embarrassed to identify as a sex worker, and to mention that they are suffering from an STI; discrimination by not only other clients but also some health care providers and other members of the key population umbrella; low socioeconomic status; stockout of drugs and supplies; high cost of drugs; lack of adequate equipment for treating and diagnosing infections such as anal warts; limited privacy at health care facilities; and limited working hours.
CONCLUSIONS: Whereas there has been progress in addressing the sexual and reproductive health needs and breaking barriers of access to HIV prevention and management services among transwomen sex workers, stigma, discrimination and drug stockouts continue to hamper the utilisation of available services. Therefore, there is a need for the different stakeholders to create an enabling environment for accessing and utilisation of available HIV prevention services.

PEC0554

AN INNOVATIVE STRATEGY FOR INCREASING DEMAND FOR ORAL PRE-EXPOSURE PROPHYLAXIS AMONG FEMALE SEX WORKERS IN MALAWI

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BACKGROUND: In 2018, the Ministry of Health (MoH) in Malawi approved the use of oral pre-exposure prophylaxis (PrEP) for HIV prevention as part of an implementation science project led by FHI 360

and Pakachere Institute for Health and Development with support from the USAID/PEPFAR-funded LINKAGES project. We present the results of efforts to generate demand for PrEP among female sex workers (FSWs).

METHODS: PrEP was delivered as part of a prospective cohort study among FSWs in drop-in-centres (DICs) at Naperi, Chirimba and Bangwe, in Blantyre from February-November 2019. The study intended to enroll 575 HIV-negative FSWs. To facilitate recruitment for PrEP, two peer-led demand generation models were employed. The passive model involved peer-to-peer interpersonal communication (IPC) that was routinely conducted through community outreaches for six months. In the active model, the routine demand generation model was enhanced with peer-to-peer IPC through day and night campaigns at hotspots staggered at two-week intervals over four months. During campaigns-where PrEP messaging merits were discussed, flyers and leaflets distributed, FSWs willing to enroll in the study consented and were provided with HIV prevention services including transportation reimbursement. Those unwilling were offered the MoH core package of HIV services and no monetary incentive was provided.

RESULTS: During the 10-month study period, a total of 460 FSWs were newly initiated on PrEP. Of these, 38% (154/406) were enrolled during the 6-months where the passive demand generation model was used while 62% (252/406) were recruited during the four months of intensified campaigns. The passive model recruited an average of 19 FSWs/month, while in September alone we saw a fourfold jump to 96 FSWs recruited through the active model. There were no differences in demographic, socioeconomic and behavioral characteristics between FSWs recruited during passive and active demand generation models.

CONCLUSIONS: Multiple peer-led demand generation strategies including campaigns increased uptake of PrEP among FSWs, compared to routine passive demand generation strategies only. Campaigns provided opportunity for PrEP messaging to get closer to FSWs preferred settings at hotspots. PrEP programs should consider the use of multiple demand generation strategies tailored to the target populations to increase uptake of PrEP.

PEC0555

OPPORTUNITIES TO INTEGRATE HIV TESTING AND TREATMENT SERVICES IN ALCOHOL AND DRUG TREATMENT CENTRES TO REACH EPIDEMIC CONTROL IN SOUTH AFRICA

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BACKGROUND: Specialist Substance Abuse Treatment Centres (SSATCs) represent an opportunity for integrated services such as HIV testing and counseling (HTS) and treatment services to reach people at risk of or living with HIV. Persons who use drugs (PWUD) who access SSATCs are a potentially critical target group because of the severity of their substance use and they may not routinely access services in other healthcare settings. Little is known about the HIV testing behavior of South Africans admitted for drug treatment. This analysis of national SSATC admission data explores self-reported testing and associated factors to identify coverage gaps and integration opportunities.

METHODS: The South African Community Epidemiology Network on Drug Use (SACENDU) collects routine data to monitor trends in alcohol and drug use. SACENDU data from 2012-2017 was collected from 110 SSATCs, representing 85% of national centres. Logistic regression was performed to examine associations between HTS, demographics and substance of use. Linear regression with cluster was conducted to account for regional clustering.

RESULTS: Of the 87,339 treatment admissions, males were the majority, n=71,641 (82%). 47.5% (n=41,481) of patients reported not conducting HTS in the past 12 months. HTS was reported less frequently by patients whose primary substance of use was cannabis or polysubstances (36.9% and 41.1%, respectively). Patients admitted for alcohol or methcathinone reported low testing rates (55.5% and 51.5%, respectively). None of the substance use sub-groups reported a testing rate above 70%.

Logistic regression showed people who inject drugs had higher odds of HTS (OR=2.860), and those with lower odds of HTS were: 15-19 years (OR=0.593); educational attainment was primary school (OR=0.511); employment status was scholar/learner (OR=0.267); and cannabis as primary substance of use (OR=0.643). All p-values were significant at p<0.000.

CONCLUSIONS: Given the low coverage and decreased odds of self-reported HTS among patients in SSATCs, the integration of HIV services for PWUD should be a priority for South Africa's national HIV strategy. PWUD accessing SSATCs represent an opportunity to motivate behavior change to reduce HIV risk, and identify and link those who are unaware of being HIV-infected to antiretroviral treatment thereby reducing the risk of other health consequences and further transmission.

PEC0556

PREP NEED AND UPTAKE AMONG PEOPLE ON BUPRENORPHINE FOR OPIOID USE DISORDER IN AN URBAN OUTPATIENT TREATMENT CLINIC IN RICHMOND, VA: A CROSS-SECTIONAL SURVEY

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BACKGROUND: People with opioid use disorder (OUD) are disproportionately burdened by HIV due to increased risk behaviors. Pre-exposure prophylaxis (PrEP) is a highly effective intervention to prevent HIV transmission. The US Centers for Disease Control and Prevention (CDC) has issued guidelines for PrEP use in key populations; however, a recent CDC report found that only 18% of PrEP-indicated people are prescribed PrEP. Prior research has investigated HIV treatment adherence in people with OUD, but little is known about PrEP for people in OUD treatment. The objective of this study is to report PrEP need, awareness, and uptake in patients engaged in buprenorphine treatment for OUD.

METHODS: Adult patients at an outpatient substance use treatment clinic were invited to complete a cross-sectional electronic survey between July and September 2019. HIV negative patients on buprenor-

phine who answered questions about PrEP and risk behaviors were included in the study. 2017 CDC criteria determined HIV risk. Gender differences were assessed by Pearson's χ^2.

RESULTS: 137 of 162 participants met inclusion criteria (54.0% women, 46.0% men). The majority of the sample was Black (70.8%), unmarried (68.6%), and unemployed (51.8%). Nine men (14.3%) and 38 (51.4%) women reported same-sex contact. 73.7% (n=101) of the study population met CDC risk criteria based on past year behaviors: 95.0% reported inconsistent condom use, 21.0% engaged in commercial sex, 9.0% shared injection equipment, 8.9% reported a recent bacterial STI, and 4.0% had an HIV+ sexual partner. Of PrEP-indicated participants, 19.0% had heard of PrEP prior to the survey, and only 3 participants reported past year PrEP use. Risk factors and PrEP knowledge/uptake did not vary significantly by gender.

CONCLUSIONS: PrEP uptake in this study is significantly lower than both the general US PrEP prevalence and the CDC's goal of 50%, despite these patients being engaged in medical care and regular buprenorphine treatment. While many campaigns have targeted men who have sex with men and injection drug users in active use, PrEP outreach should also specifically target people with OUD by integrating HIV prevention into OUD treatment.

PEC0557

ONLINE CASCADE OF MSM RECRUITMENT TO A LARGE PREP SERVICE IN RIO DE JANEIRO, BRAZIL

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BACKGROUND: Since 2017, Brazil has offered oral FTC/TDF PrEP to high-risk cis/trans men and women at no cost. However, increasing awareness of PrEP services within the young and low income MSM populations remains a challenge. Access to the internet and mobile phones is widely available in Brazil and can be utilized as tools for disseminating information to vulnerable MSM on HIV prevention and testing services. This study describes the online cascade of MSM recruitment to a PrEP service in Rio de Janeiro, Brazil.

METHODS: From Mar-2018 to Oct-2019, advertisements on GSN dating apps (Hornet and Grindr) and social media (Facebook/Instagram) targeting MSM were used to increase HIV and PrEP awareness and to encourage HIV testing. Advertisements included contact information (phone, email, WhatsApp) and invited viewers to contact a peer educator for information on scheduling a HIV risk assessment, testing and referral to PrEP. The success of the online recruitment cascade was assessed based on the number of MSM who:

(1) viewed the advertisement;

(2) contacted the peer-educator; and

(3) received healthcare services.

Participant recruitment costs were calculated by dividing the total advertisement costs by the number of participants who received healthcare services. Comparisons according to the recruitment strategy (dating apps vs. social media) were made using chi-square test.

RESULTS: The online advertisements (all strategies combined) reached approximately 1,500,000 MSM, of those, 0.1%(1270/1,500,000) contacted the peer-educator and 36.3%(462/1270) received healthcare services. Of those who contacted the peer-educators, 44% were recruited using social media, 33% on Grindr and 23% on Hornet. When compared to dating apps, MSM recruited via social media were younger (median age 26[IQR:23-31] vs. 30[IQR:24-37] years-old, p<0.001), non-white (67% vs 55%, p=0.008) and were less educated (completed secondary school or less: 51% vs 38%, p=0.005). The estimated cost for announcements to recruit one participant (USD) were $49.70 on Grindr, $21.18 on Hornet and $15.80 on Facebook/Instagram.

CONCLUSIONS: Social media and dating apps advertisements are an effective means to disseminate online HIV and PrEP information and recruit MSM to PrEP services. Social media advertisements were less expensive and reached more vulnerable MSM.

PEC0558

LOCATION, LOCATION, LOCATION: INCREASING UPTAKE OF HIV SERVICES AMONG KEY AND PRIORITY POPULATIONS IN SLUM SETTINGS: EXPERIENCES FROM TORORO DISTRICT, UGANDA

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BACKGROUND: Pinpointing locations where HIV services are most likely to reach key populations (KPs) and priority populations such as truck drivers is key to linking these populations to HIV care and treatment and promoting adherence to treatment to reach viral suppression. In 2018, the USAID-funded Regional Health Integration to Enhance Services in Eastern Uganda (RHITES-E) Activity, led by IntraHealth International, in collaboration with the Ministry of Health worked with the District Health Team (DHT) in Tororo District, Uganda, to design a comprehensive KP service package including HIV testing and counseling, ART enrollment, STI screening and treatment, and family planning services.

DESCRIPTION: We conducted KP mapping to determine localization of service provision. Bison Health Center III was selected for being in an urban slum surrounded by bars, brew joints, and motels for traders on the Malaba Juba International Highway. From March 2018-March 2019, DHT worked with the health center to identify KP peers to mobilize and counsel the KP community. A retrospective observational cohort analysis using routine patient monitoring data was performed.

LESSONS LEARNED: Within 12 months, peers reached 879 individuals with HIV services. Of these, 75.5% were female sex workers, 10.7% were people who use drugs, 3% were people who inject drugs, 8.5% were truck drivers, and 2.2% were men who have sex with men. The sero-positivity rate was 11% (97/879). All clients were linked to Bison Health Center; 80.4% (78/97) received HIV care at the facility. Of 78 linked to care, 48.7% (38/78) were transferred out by a clinician, 23.7% (18/78) were self-referrals to other health facilities, and 28% (22/78) were lost-to-follow-up. By end of April 2019, only 24.4% (19/78) remained in care at the facility.

CONCLUSIONS/NEXT STEPS Findings indicate that localizing KP services in slums increases uptake of services and engaging peers in mobilization with support from a dedicated health facility team improves responsiveness to services for KPs. A considerable number of KPs do not reach places of referral for care and support and those effectively reached have a low retention rate. This calls for interventions to strengthen linkages, referrals, retention, and treatment outcomes for KPs.

PEC0559

SOCIAL MEDIA INTERVENTIONS FOR QUEER SERVICE SEEKERS OPEN PATH TO REACH HIDDEN AND HARD-TO-REACH KPS IN BANGLADESH

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BACKGROUND: In Bangladesh, internet users have been counted 99 million (61% of the total population) in 2019 (BTRC, 2019). The users are increasing among key populations as it protects their confidentiality. They can communicate with their partners and peers more privately. In a survey interviewing 114 female sex workers (FSWs), 67% found using Facebook, whereas only 13% of general adult women are internet users (GSMA's 2019 Mobile Gender Gap Report). This has begun a new contextual reality for HIV prevention programs as KPs are more likely to avoid physical presence and thus become hidden. The program is experiencing challenges to reach the hidden and hard-to-reach FSWs.

DESCRIPTION: Assuming hard-to-reach FSWs could be reached through online outreach, a Facebook page has been piloted with the information of HIV prevention services including condom promotion, HTS services, and STI treatment. Posts are published to observe the trend of responses. Considering the demography, interests, and behavior of FSWs, the reaching target was defined and the potential audience size was determined as 3,200,000 of general adult women to reach out for the FSWs who have internet access.

LESSONS LEARNED: In six months (July-December 2019), the page got 1756 likes. Analyzing over 70 inbox messages it was found that most of the queries were about HIV testing facilities and privacy. Therefore, KPs like FSWs would not disclose their identity, and the exact figure of FSWs who have internet access would not be easy to determine. But the nature of the inbox showed that there were queers among service seekers having potential risk behaviors. These respondents were connected to peer educators for maintaining further services. Peer educators had analyzed their risk behaviors and enrolled in a virtual mother-list as queer service seekers.

CONCLUSIONS/NEXT STEPS Save the Children is providing HIV prevention services to KPs specially PWID and FSWs. Due to the nature of growing hidden trends, the new reaching strategy is to be devised soon which for the online outreach could be an effective approach. If the Facebook page is promoted to reach the potential audience size of the adult women population, it may bring hidden FSWs under HIV prevention services.

PEC0560

ONLINE OUTREACH AND REFERRAL MECHANISMS IMPROVE HIV CASE FINDING IN NEPAL

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BACKGROUND: With a growing majority of Nepalese connected online or through social media platforms, HIV risk has also moved online and outside the reach of traditional physical HIV programs. Going online may help HIV programs realign outreach efforts to additional high-risk networks, leading to improved HIV case finding.

DESCRIPTION: The USAID- and PEPFAR-funded LINKAGES project in Nepal implemented online outreach for social media users at risk of HIV. Outreach staff connected with new clients at virtual hotspots, such as anonymous Facebook groups of sex workers, gay men, and transgender people and on dating apps used by gay/bi men and other men who have sex with men (MSM), transgender people, and sex workers.

Their conversations helped clients determine their sexual health needs and to access services using either a passive e-referral where the clients presented at clinics and mentioned their online referral or by linking them to www.merosathi.net (MeroSathi) where they completed their own risk assessment and booked an appointment for HIV services through an online reservation system. Occasional targeted ads, promotions by social media influencers, and word-of-mouth referrals by key population (KP) community members also generated demand for the MeroSathi website.

LESSONS LEARNED: From October 2018 to September 2019, online HIV outreach staff recorded conversations with 11,991 profiles. Of these, 3,380 completed risk assessments on MeroSathi, 617 booked appointments, and 333 received an HIV test. An additional 918 individuals tested for HIV from a passive e-referral. Twenty-six clients who booked through MeroSathi were newly diagnosed with HIV compared to 17 of those passively referred, producing case-finding rates of 7.8% and 1.9% respectively. While these online approaches contributed only 2.3% of all HIV tests and 4.4% of all HIV positive cases detected by the program, they showed more targeted testing than the standard clinic-based HIV testing that has resulted in 0.7% case finding during the same period.

CONCLUSIONS/NEXT STEPS The higher efficiency of HIV case finding through online outreach, particularly using online booking platforms like MeroSathi, suggests these strategies can be scaled up as part of Nepal's "low test and high yield" approach that will help Nepal achieve 90-90-90 by 2020.

PEC0561

„BE YOU. BE HIV FREE." LESSONS FROM A PREP SOCIAL MEDIA CAMPAIGN FOR YMSM AND TRANSGENDER YOUTH OF COLOR

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BACKGROUND: In the US, youth aged 13-24 account for 21% of new HIV infections. PrEP is a highly effective HIV prevention tool but is only used by about 11% of at-risk youth. One reason for low PrEP uptake among youth is their lack of accurate information about PrEP, due in part by PrEP only recently being approved for adolescents by the FDA. Because most PrEP marketing has been adult-focused, there is an urgent need for engaging social marketing that effectively mobilizes at-risk youth to access PrEP.

DESCRIPTION: To inform a new social marketing campaign aimed at promoting PrEP to youth, we commissioned a market research study to identify motivators and barriers to PrEP use among YMSM and trans women of color. A total of 63 YMSM and trans women of color aged 17-24 were recruited and completed online surveys. Each group then participated in a set of focus groups: the first identified issues of concern about PrEP and motivators for using PrEP as well as communications styles and channels most likely to appeal to high-risk youth; and the second tested a number of messages and creative executions.

LESSONS LEARNED: Key research findings included: lack of appreciation for PrEP's effectiveness; significant concerns about side effects; skepticism that youth could afford/access PrEP; and low perceptions of risk for HIV despite admitting to very high-risk behavior. Participants also warned against further stigmatizing LGBTQ youth of color by only depicting them in PrEP marketing materials, and they strongly preferred short video-based education accessible via social media platforms. These lessons informed „Be You. Be HIV Free." a social media-based campaign with short informational videos delivered by peers that direct viewers to a landing site (www.behivfree.com) where they can learn more and directly connect to clinical staff. The workshop will explore in detail the resource investments that went into the campaign and the engagement and PrEP uptake returns on investment.

CONCLUSIONS/NEXT STEPS The campaign had excellent reach and engagement, but the added level of PrEP uptake was disappointing. We will discuss the addition of a peer outreach team to the social media component of the campaign and its effect on PrEP uptake.

PEC0562

DETERMINANTS OF HIV TESTING UPTAKE POST-PREP AMONG HIV-/UNTESTED GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN IN THE UK AND IRELAND 2016-2020; THE SMMASH3 SURVEY

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BACKGROUND: Frequent HIV testing accompanied by rapid initiation of HIV treatment on diagnosis is critical for preventing new HIV infections among gay, bisexual, and other men who have sex with men (GBMSM). Currently, it is recommended that intensified HIV testing - up to 3 months for HIV negative GBMSM at higher HIV sexual risk - could make HIV elimination achievable. This study examines HIV testing rates alongside factors predicting HIV testing uptake in HIV negative GBMSM in the UK and Ireland.

METHODS: The SMMASH study is a longitudinal cross-sectional online survey of GBMSM in the UK and Ireland conducted in 2016 (SMMASH2) and 2020 (SMMASH3), which examined sociodemographics, biobehavioural HIV sexual risk taking, PrEP use and HIV testing. HIV testing rates were calculated for HIV-/untested GBMSM in SMMASH2 and SMMASH3. Logistic regression was performed to assess factors associated with HIV testing uptake among GBMSM.

RESULTS: 65% (n=1117) of SMMASH3 participants and 60% (n=1796) of the SMMASH2 respondents were tested for HIV in the previous year. However, a lower percentage of GBMSM at higher risk were tested for HIV in 2020 (64%, n=411) compared to 2016 (67%, n=720). The results of the SMMASH3 survey showed that being willing to take PrEP (OR 56.9, p=0.00) was the most important factor predicting HIV testing in the last year followed by considering HIV testing as part of your own clinical routine (OR 22.9, p=0.00). Having condomless anal intercourse (OR 4.84, p=0.001), being worried about a recent sexual episode (OR 4.80, p=0.00) and not having been tested for a long period of time (OR 3.50, p=0.00) significantly predicted HIV testing uptake among GBMSM. Nevertheless, age and being at high sexual risk did not predict HIV testing in the last year.

CONCLUSIONS: Despite PrEP requiring regular HIV testing for health-service users, recent testing has gone down among higher risk GBMSM since the advent of PrEP. Understanding the role of PrEP and other proximal determinants of HIV testing can contribute to the development of more effective strategies to increase HIV testing uptake and eliminate HIV risk among GBMSM.

PEC0563

PREP AND PEP ACCESS IS CHALLENGING: CHANGING THE PARADIGM WITH ONLINE NAVIGATION SERVICES AND A SEXUAL HEALTH COACHING MODEL

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BACKGROUND: HIV prevention education and benefits navigation is essential to help potential PrEP and PEP users access insurance coverage, government programs, and industry-sponsored services. Navigators support clients with understanding PrEP/PEP; help people get into medical care for PrEP/PEP; find assistance programs to cover costs; and provide tailored sexual health information. Navigators can be an important facet of PrEP/PEP uptake and adherence. Online chat navigation provides confidential, anonymous support to people with HIV prevention questions, those with issues accessing PrEP/PEP, as well as to frontline staff assisting clients.

DESCRIPTION: PleasePrEPMe.org is an English and Spanish HIV prevention website featuring: a national provider directory; informational webpages for a variety of communities; and confidential, anonymous live chat services. HIPAA-compliant English and Spanish chat is available Monday - Friday, 9 a.m. - 5 p.m. Pacific Time. PleasePrEPMe navigators utilize the directory, informational webpages, and a client-centered sexual health coaching model (SHCM) to support website visitors in achieving their sexual health goals. Chat supports visitors with questions across the PrEP care continuum.

Partnerships and online promotional outreach has focused on reaching Black and Latinx MSM and transgender women in areas with lower PrEP uptake and fewer resources.

LESSONS LEARNED: Of 1,015 chat interactions in 2019:

- 83.5% were English, 16.3% were Spanish;
- 74% of visitors were potential PrEP/PEP users;
- 24% were clinic/community-based frontline staff;
- 2% were clinicians;
- Topics included (more than one topic may be discussed per chat):
    - Health systems and benefits navigation (49%)
    - PEP, TasP/U=U, and HIV 101 (48%)
    - PrEP basics (45%)
    - The California PrEP Assistance Program (30%)
- 5% of chats required follow-up:
    - Providing local provider lists (35%)
    - PEP needs (29%)
    - Complex insurance issues (10%)
- Average duration: 15 minutes

CONCLUSIONS/NEXT STEPS Online support for health systems navigation can be a conduit of confidential, accurate information often inaccessible due to geography, stigma, misinformation, or lack of resources.

An online SHCM can support a range of information-seekers—from those not yet engaged in prevention care, to staff navigating clients through payment/insurance systems.

PEC0564

USAID HIV/AIDS FLAGSHIP PROJECT: IMPROVING QUALITY AND EXPANDING HIV TESTING AND ART TREATMENT FOR HARD-TO-REACH KEY POPULATIONS IN MYANMAR

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BACKGROUND: Myanmar has a concentrated HIV epidemic with an estimated number of 252,000 men who have sex with men (MSM) and transgender (TG) persons, 66,000 female sex workers (FSW), and 93,000 people who inject drugs (PWID). HIV prevalence was estimated at 35% among PWID, 14.6% among FSW and 11.6% among MSM. Stigma and discrimination increase the vulnerability and prevent access to HIV prevention, care and treatment services. Services such as harm reduction have traditionally been centered around bigger towns, so KPs living in remote and rural areas have limited access to prevention services.

DESCRIPTION: USAID HIV/AIDS Flagship (UHF) Project implemented the scale-up of HIV prevention, testing and treatment services from September 2017 to September 2019 with the overarching goals of reducing HIV transmission among key populations. UHF project focused on peer-led and community-based prevention interventions, online and social media outreach, tailored harm reduction services for women who use drugs, to reach hidden and higher risk KP in addition to traditional outreach and facility-based services. UHF scaled up mobile activities and community-based HIV service deliveries for KP integrated with existing Community Health Workers (CHW). UHF facilitated differentiated ART initiation at MMT collocated decentralized sites and ART initiation by mobile teams.

LESSONS LEARNED: UHF provided prevention interventions to nearly 75,000 KP, more than 69,000 HTS services and identified more than 93,00 HIV positive cases during 2 years and nearly 5,600 PLHIV were enrolled on ART. UHF provided clinical follow-up and adherence support to nearly 8,300 PLHIV on ART.

CONCLUSIONS/NEXT STEPS Though we have achieved good results, we need to make our efforts to be sustainable and cost effective. The UHF Project is complementary to the existing national response to the HIV epidemic in Myanmar, focusing on the decentralization of services with community-based service-delivery models. The intent of the transition strategy is to intensify on-site HIV service delivery and to establish sufficient capacity, capability, and sustainability of the IP in order to ensure successful, long-term engagement and impact. UHF Project will advocate for the government commitment to capacity building and allocation of resources for HIV program.

INNOVATIVE HIV TESTING STRATEGIES (PEER-LED TESTING, PEER-MEDIATED TESTING, SELF-TESTING WITH AND WITHOUT ONLINE/OFFLINE SUPPORT, USE OF FOURTH-GENERATION AND RECENCY ASSAYS)

PEC0565

"A HORA É AGORA-SÃO PAULO" - HIV SELF-TEST IMPLEMENTATION STUDY: DEFINING WHERE AND HOW TO DISTRIBUTE TESTING KITS TO OPTIMIZE UPTAKE AND DIAGNOSIS AMONG MSM

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BACKGROUND: In Sao Paulo, Brazil, HIV infection is growing mainly among young gays and other men who have sex with men (MSM). One of UNAIDS goals to control the infection is to detect 90% of infected people. Adopting novel strategies to improve testing coverage among key populations is thus warranted. In this implementation study we evaluated the distribution logistics of HIV oral fluid self-tests (HIVST) for MSM living in the city of São Paulo.

METHODS: For this prospective cohort study, we invited MSM over 18 years old who lived in the city. Inclusion was carried out using a digital platform, where the participant could obtain detailed instructions about the study and provide his informed consent. After answering a questionnaire on socio-demographic and behavior data, he was asked to choose where to obtain the HIVST among the following options:

(a) 5 health services with regular working hours;

(b) 2 HIV testing mobile units, operating with alternative schedules in gay-gathering neighborhoods, including afterhours and weekends; or,

(c) a LGBT non-governmental organization (NGO) involved in HIV prevention.

At mobile units, HIVST was offered with a qualified person-to-person approach, with the possibility of kit distribution on site. Study participants could also access a support hotline for guidance counseling, 24 hours a day, 7 days in 7.

RESULTS: From April to December/2018, 7,242 HIVST were digitally requested and 3,450 withdrawn (47.6%) from distribution sites. Preferential sites for HIVST uptake were an HIV/STI specialized healthcare center (20%) and a mobile unit that operates on Sundays at a downtown LGBT gathering area (19,5%). However, the most effective HIVST uptake (rate of withdrawn tests among requested tests) was seen in this mobile unit (74.8% or 1,056 tests altogether). Results from 618/3,450 (17.9%) tests were informed by participants on the digital platform and out of these, only 6 were reported as positive (0.97% prevalence).

CONCLUSIONS: Distribution of HIVST has proved an important tool to increase testing coverage among MSM in São Paulo. Offering the test outside health services and using a qualified person-to-person approach was found to optimize test uptake.

PEC0566

THE ROLE OF INDEX TESTING IN ENDING THE HIV EPIDEMIC: LESSONS LEARNED FROM BHUTAN

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BACKGROUND: Index testing (aka partner notification, contact tracing) can be an effective approach to test persons at risk for HIV, make early diagnoses, link persons to care, and prevent onward transmission. While the approach has existed since the beginning of the HIV epidemic, now is the time to re-examine its role in the "endgame" of getting to zero HIV infections.

As new HIV cases become rare, identifying the source, spread, and partners and children at imminent risk may become increasingly dependent upon index testing.

DESCRIPTION: Bhutan's HIV epidemic has remained low-level since the first case in 1993. Index testing has always played a prominent role in controlling HIV with a steady 30% of all cases identified through contacts. We present lessons learned through three frameworks: couples services, sexual network investigations, and expansion of index testing to social networks, communities, and environments.

LESSONS LEARNED: Among all persons diagnosed with HIV to date in Bhutan (N=663; females 48%, males 52%), 466 were index patients and 197 were contacts. Comparable numbers of women and men are diagnosed through index testing (28% vs. 31%, respectively, p=0.269). All persons diagnosed with HIV were offered and engaged in partner elicitation. On average, each index case named 1.8 partners (leading to an additional 0.3 partners of partners), and 2.9 children. Among partners elicited, 58% were found and tested, with a high yield of 53% HIV-positive. With couples, a key lesson learned was the need for continuous counseling to ensure disclosure and engagement of all partners over time. Sexual network testing holds potential to reach marginalized key populations such as commercial sex partners. Expanding index testing to mobile and community-based events provided confidentiality cover and reached persons with HIV who otherwise would not come to be tested.

CONCLUSIONS/NEXT STEPS From our perspective, we posit that index testing will play a pivotal role in getting to zero infections by 2030. Next steps to strengthen index testing under consideration in Bhutan include improving key population-sensitive services (e.g., for MSM, transgender persons, and female sex workers), integrating recent infection detection into partner services, and implementing HIV self-testing into partner services.

PEC0567

FACILITATORS OF ROUTINE HIV SCREENING AMONG PRIMARY CARE PHYSICIANS: RESULTS FROM AN ONLINE PANEL OF U.S. HEALTHCARE PROVIDERS

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BACKGROUND: Since 2006, the U.S. Centers for Disease Control and Prevention (CDC) has recommended routine HIV screening in healthcare settings for all persons aged 13-64 years, including at least annual rescreening for persons with ongoing risk for infection. However, more than half of the U.S. adult population has never been tested. Provider-initiated screening is an important component of efforts to improve early diagnosis and end the HIV epidemic in the United States.

METHODS: We analyzed data from DocStyles, a web-based, panel-derived survey of U.S. healthcare providers conducted in 2018, to assess facilitators of routine HIV screening. Eligible respondents were those who actively see patients and have practiced for at least 3 years. Respondents were asked about their knowledge, attitudes, and practices regarding routine HIV screening and what resources would help them order an HIV screening test for more of their patients.

RESULTS: Of 1,004 primary care physicians (PCPs) who completed the survey, 66.7% were male, 44.1% were aged ≥50 years, and 65.9% worked primarily in a group outpatient practice; their median length of practice was 17 years. Half (52.6%) of the PCPs were aware that CDC recommends HIV screening for all patients aged 13-64 years, while less than half (37.1%) endorsed routine screening as the most effective approach, and 40.1% reported that they routinely screen all their patients for HIV. Among the 59.9% of PCPs who do not practice routine HIV screening, the most commonly endorsed resource to help PCPs order an HIV screening test for more of their patients was an integrated laboratory panel that incorporates testing for HIV with testing for other pathogens (sexually transmitted infections or hepatitis C) (52.1%), followed by electronic medical record prompts (40.9%) and training on one or more topics (40.1% overall; 31.6%, recommended laboratory testing algorithm; 13.0%, how to offer an HIV test; 11.5%, how to take a sexual health assessment).

CONCLUSIONS: Most PCPs are not practicing routine HIV screening as recommended, potentially hindering efforts to improve early diagnosis. However, PCPs endorsed a wide variety of tools that, if implemented, could increase provider uptake of routine HIV screening.

PEC0568

HIGH ACCEPTABILITY AND EFFECTIVENESS OF AN ONLINE SELF-SAMPLING INTERVENTION FOR HIV IN GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN AND TRANS WOMEN IN SPAIN

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BACKGROUND: The objective of the study was to evaluate the acceptability and effectiveness of an online self-sampling intervention for HIV testing and online consultation of the results addressed to gay, bisexual and other men who have sex with men (GBMSM) and trans women users of websites and online dating applications in Spain.

METHODS: The website www.testate.org was designed to offer the test, consult the results and collect sociodemographic and behavioral information. This was advertised in: Grindr, Scruff, Wapo, PlanetRomeo, Bakala, MachoBB and Trans4men. After signing the informed consent online, the participants requested the delivery of a saliva self-sampling kit by mail and a postage-paid envelope to send the sample to the reference laboratory. Participants received a reminder by SMS to repeat the test at 3/6/12 months. All reactive participants were called by phone. An anonymous acceptability survey was conducted on all participants.

RESULTS:

[Figure 1. Flow chart of the main stages of the study]

From November 2018 to October 2019, self-sampling kits were sent to 2,548 participants (66.6 % return rate). 1,979 participants (77.7%) had a single test, 412 (16.2%) had two, 137 (5.4%) had three and 43 (2.2%) took four tests. 19.1% resided in cities with <50,000 inhabitants. 24.1% had never been tested. 37.9% had not used condom in their last anal relationship. 28.8% had had an STI in the last 5 years. 54 reactive results were detected (3.25%). All were men. 8 were already known positive, one was a false positive, 33 confirmed their result and 31 were linked to care and started treatment. 97.8% would recommend it to a friend. The most identified advantages were comfort and privacy.

CONCLUSIONS: The intervention counted with a high acceptability among the target population. The intervention has been shown to be effective given the high percentages of reactiveness, confirmation and linkage to care observed.

PEC0569

REACHING THE FIRST 90: IMPROVING YIELD FROM ROUTINE COMMUNITY-LED HIV TESTING SERVICES USING A QUALITY IMPROVEMENT APPROACH IN KOGI STATE, NIGERIA

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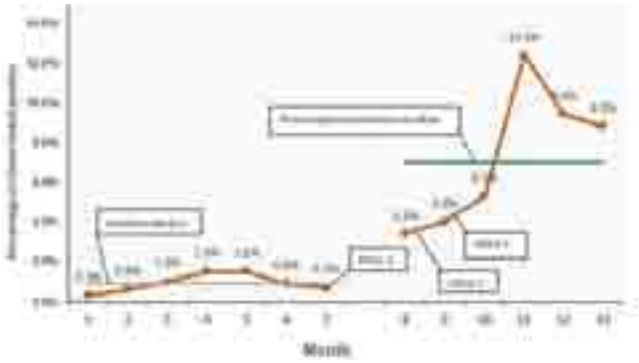
BACKGROUND: Less than 70% of Nigeria's estimated HIV population of 1.8 million are aware of their status. Shortage of test kits in recent years have led to scaling down of testing services threatening the achievement of the first 90 thereby necessitating innovations for case-finding. Routine community-led testing yield averages 0.8% compared to facility-based testing of 2.0% or more leading to many organizations stopping or scaling down community outreaches. This project aimed at increasing the community-led testing yield to five-folds within a period of 6 months.

METHODS: Using a hybrid of Six Sigma and the Model for Improvement, a multi-disciplinary team including front-line community workers identified challenges with current community testing approach and came up with intervention plans: identification of at-risk sub-population, the use of checklist to screen out people who are less at risk and have had a recent HIV test, and performance payment based on yield. These were implemented in three Plan, Do, Study and Act (PDSA) cycles. The outreaches were conducted in various communities between June and November 2019. Data was collected using routine reporting tools and the outcome plotted on a run-chart.

RESULTS: A total number of 1650 persons were tested with women accounting for 78% (n = 1291) and men 22% (n = 359). Thirty-four percent of the people were young people (n = 555). Of the 92 new HIV positive clients identified (yield of 5.6%), 81 were females (yield of 6.3%) and 11 were males (yield of 3.1%). First month of implementation recorded a yield of 3.4% which rose to peak of 12.4% in the fourth month of the project.



[Figure. Improving yield from community-led HIV testing services]

CONCLUSIONS: The project achieved beyond the set target suggesting that routine community-led testing can be optimized to increase yield. Further evaluation of the impact on linkage to treatment, and retention rate is needed to support wider implementation.

PEC0570

USING MENTOR MOTHER INITIATIVE AS A STRATEGY FOR ACHIEVING PMTCT IN HARD-TO-REACH COMMUNITIES IN NORTH CENTRAL NIGERIA

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BACKGROUND: In 2017, 35% of pregnant women in Nigeria received an HIV test, fewer than in 2015 when 42% did. Of those women diagnosed with HIV in 2017, just 30% were on ART. In the same year, 36,000 children became HIV positive, a number that has been rising since 2014. Early infant diagnosis is also extremely low at only 12%. North central Nigeria bears most of these statistical prevalence burden. Mentor Mother Initiative (MMI) intervention was introduced to curb this transmission in Nasarawa State, North Central Nigeria. This article evaluates the effectiveness of this 9-months initiative intervention.

METHODS: 20 mentor mothers with one supervisor who are HIV positive women, passed through the PMTCT cascade with a successful livebirth and baby is HIV negative as a result of the PMTCT intervention and are willing to support others to do same were recruited. They were given package of services which aimed at PMTCT to provide and were sent into hard-to-reach communities in 7 Local Government Areas of the state. Referral/linkage of clients were to 10 ART facilities supported by AHF Nigeria. The intervention initiative lasted for 9 months (January to September, 2019). At the end of the 9 months, the activities of the mentor mothers in the various facilities were compared with that of 2018 in the corresponding months with data been extracted from the PMTCT registers.

RESULTS: During intervention period, 2753 new ANC were recorded as against 1807 in 2018 without MMI intervention. Of these ANC 3.1% (n=2753) were tested HIV positive and were enrolled and linked into care, 53 HEI were linked for ARV prophylaxis within 72hrs of birth and EID within 6-8weeks. 170 index partners were traced and referred for HTS out of which 14.1% (n=170) were tested HIV positive and were linked into ART care.

CONCLUSIONS: MMI is a successful intervention which has led to identification and linkage of HIV positive pregnant mothers especially in rural areas. This initiative intervention should be sustained and be considered in more states and especially rural areas so as to make EMTCT a reality in Nigeria.

PEC0571

INDEX TESTING FINDS MANY PREVIOUSLY UNDIAGNOSED HIV POSITIVE INFANTS AND PREGNANT AND BREASTFEEDING WOMEN IN ZAMBIA

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BACKGROUND: Although Zambia has nearly eliminated mother-to-child HIV transmission, some pregnant and breastfeeding women (PBFW) and their children remain at risk. Targeted strategies are needed to reach these priority populations. We present results from the Community Impact to Reach Key and Underserved Individuals (CIRKUITS) project on index testing for PBFW and their children.

DESCRIPTION: CIRKUITS is a five-year PEPFAR CDC grant awarded to the University of Maryland Baltimore to support HIV case-finding and antiretroviral (ART) linkage for key and priority populations in five districts in Zambia. CIRKUITS community health workers collaborate with health facilities to implement community index testing by tracing all sexual contacts of newly diagnosed HIV persons, including PBFW and their children. PBFW identified as sexual contacts are offered HIV testing, and all children <15 years with an HIV+ biological mother are also tested. All HIV+ persons are supported in linkage to care. We conducted a cross-sectional analysis of aggregated routinely collected program data; outcomes of interest were positivity rates and linkage to ART initiation among women and children aged <15 years.

LESSONS LEARNED: From October 2018 to September 2019, CIRKUITS tested 50,931 adults and children in Zambia. HIV positivity rates were 8% among children <15 years and 26% among adults. Of the 18,309 women aged >15 years who were tested, 6,261 (34%) were HIV-positive, and 5,570 (89%) were linked to care.

Among the women with new HIV diagnoses, 328 were previously undiagnosed PBFW; of these, 324 (99%) were linked to ART. Of the 146 children aged <1 year with mothers with a new HIV diagnosis, 28 were HIV positive, for a positivity yield of 19%. Of these, 24 (86%) were linked to ART. The positivity rate among children aged 1–14 years was much lower (7.8%), but linkage was higher (93%).

CONCLUSIONS/NEXT STEPS Community index testing targeting PBFW and their children identified previously undiagnosed women and children and linked them to care. HIV positivity among infants was high compared to older children, suggesting that many infants are being missed by standard facility-based screening. Further efforts are needed to strengthen HIV services for PBFW and their children.

PEC0572

INNOVATIVE COMMUNITY DRIVEN TESTING STRATEGIES FOR INCREASING HIV CASE FINDING AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN GHANA

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BACKGROUND: In Ghana, HIV case detection among MSM is low despite targeted interventions implemented by CSOs. Conventional outreach approaches at fixed locations reach large number of MSM but often do not target the high risk and closeted MSM who are living with HIV. Identifying new MSM HIV positives require using more efficient and effective innovative approaches to engage different segments of unreached MSM who are most at risk.

DESCRIPTION: Various innovative approaches were introduced to identify high risk MSM who are HIV positive.

Conventional large group outreach at fixed venues that produced low HIV positive yield were halted and replaced with flexible community-based strategies and cross-cutting initiatives through assessment of MSM according to their risk behaviors and linking them to an appropriate testing strategy.

Outreach workers used peer-driven and multiple testing approaches to reach different high-risk MSM positives in different networks: (1) Social media platforms (Facebook, Grinder, dating apps) were used to reach and engage peers for HTS; (2) HIV Testing took place at homes and/locations identified by and agreed to by peers at their own convenience; (3) Nurses and case managers encouraged MSM who had been initiated on ART to introduce their recent sexual partners to HTS; (4) Testing were conducted within a flexible schedule, using more daytime interventions than the predominantly large-group evening outreach interventions.

LESSONS LEARNED: Trends from programmatic data indicate that HIV positive yield among MSM increased after the introduction of innovative community-driven testing strategies to reaching high risk MSM. Between January and June, 2019, 561 MSM were tested using the conventional large group outreach at fixed venues; 36 MSM (6.4% HIV+ yield) were diagnosed positive. After the introduction of innovative testing interventions, between July and December 2019, 389 MSM were tested and 71 MSM (18.3% HIV+ yield) were diagnosed HIV positive.

CONCLUSIONS/NEXT STEPS Innovative strategies to HIV testing through community-driven approaches is effective and efficient in reaching a high number of MSM who are HIV positive and should be complemented with traditional peer outreach to enhance HIV case finding.

CSOs can adopt multiple tailored and flexible approaches to improve results in reaching, testing and linking MSM who are most at risk.

PEC0573

IMPACT OF PROVIDING FREE HIV SELF-TESTING KITS ON FREQUENCY OF TESTING AMONG MEN WHO HAVE SEX WITH MEN AND THEIR SEXUAL PARTNERS IN CHINA

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BACKGROUND: The HIV epidemic is rapidly increasing among men who have sex with men (MSM) in China, yet HIV testing frequency remains suboptimal. HIV self-testing (HIVST) is recommended by the WHO as a complementary approach to site-based HIV testing (SBHT) services in healthcare facilities; evidence is sparse regarding the efficacy of self-testing interventions among Chinese MSM and their sexual partners.

METHODS: This randomized controlled trial was conducted in four cities in Hunan Province, China. Sexually active and HIV-negative MS were recruited from communities and randomly assigned to intervention or control arms. Participants in the control arm had access to routine SBHT services and self-paid HIVST kits; those in the intervention arm were provided with two free finger-prick-based HIVST kits at enrollment and could receive two to four kits every 3 months for 1 year in addition to routine SBHT accessibility. They were encouraged to distribute self-testing kits to their sexual partners. Data were collected through online questionnaires at baseline, 3-, 6-, 9- and 12-month follow-ups. Outcomes examined included the mean frequency of HIV tests among MSM participants and their sexual partners during 12-month follow-up. Z and t tests were performed to compare data.

RESULTS: The sample was composed of 216 MSM, 110 in the intervention and 106 in the control arm. During 12-month follow-up, the total frequency of HIV testing among MSM participants in the intervention arm (mean=3.71) was higher than that in the control arm (mean=1.82, P<0.01). This finding was due to different frequencies of HIVST in two arms (intervention mean=2.19 vs. control mean=0.40, P<0.01); no differences were found in use of SBHT between the arms (1.56 vs 1.41). The total frequency of HIV testing among sexual partners of MSM was higher in intervention than control arm (2.65 vs 1.31; P<0.01), with differences in HIVST also contributing to this finding (1.41 vs 0.36; P<0.01). Use of SBHT remained similar (1.24 vs 0.96).

CONCLUSIONS: Providing free HIVST kits significantly increased testing frequency among Chinese MSM and positively impacted sexual partners within their social networks. This effective intervention has the potential to be easily scaled up through the extensive Chinese public health networks.

PEC0574

THREE COMMUNITY BASED STRATEGIES TO PROVIDE PREVENTION AND TESTING SERVICES TO MSM IN MOZAMBIQUE

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BACKGROUND: When compared to the general population, in all countries with reliable epidemiological data, men who have sex with men (MSM) are disproportionately affected by HIV. This is true also for Mozambique where the prevalence of HIV among MSM 25 years or older living in Maputo has been estimated at 33.8% (IBBS among MSM, Mozambique, 2011) against a national prevalence of 12.6% (UNAIDS Estimates 2019) for the adult population (15-49). To address this inequity it is vitally important to implement community-based strategies and packages of interventions that can reach MSM in their own communities and provide them with HIV services tailored to their needs.

DESCRIPTION: Funded by the Elton John Aids Foundation, Frontline AIDS implemented a 2.5 year project designed to increase demand and uptake of HIV prevention and testing services by the LGBT populations of Mozambique. At the community level, the project - implemented in the capital city Maputo and in 3 other provinces- provided packages of HIV and STI services through three integrated community- based strategies:

(1) night mobile clinics in settings visited by LGBT people,

(2) LGBT safe spaces and

(3) community outreach done by LGBT peer educators.

An evaluation of all three strategies through focus group discussions and in-depth interviews has been conducted to determine services utilization and preferences of LGBT people.

LESSONS LEARNED: In the period January 2018 to November 2019 the project reached 18708 LGBT people with HIV community based services and conducted a total of 16060 HIV tests. (positivity rate 6%). Of the 18708 LGBT people who accessed the service package, 74% have been reached by a LGBT peer educator and 26% have been reached by a trained health professional. Preliminary findings seem to indicate that in project intervention areas LGBT people are more likely to access HIV services (including HIV testing) when the package is provided by a LGBT peer educator.

CONCLUSIONS/NEXT STEPS Community based strategies designed for and with LGBT people proved to be an effective strategy to provide HIV services to LGBT people in Mozambique,

PEC0575

INCREASING HIV CASE FINDING AMONG KEY POPULATIONS: LESSONS LEARNED FROM IMPLEMENTING INDEX TESTING IN MALAWI

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BACKGROUND: The Malawi Ministry of Health (MOH) has adopted index testing as a strategy for increasing HIV case finding among all populations. We present the experience and lessons learned from implementing index testing among key populations (KPs) under the USAID/PEPFAR-funded LINKAGES project led by FHI 360.

DESCRIPTION: From August to September 2018, LINKAGES began implementing HIV index testing among female sex workers (FSWs) and men who have sex with men (MSM) in six LINKAGES-supported districts in Malawi. Using the MOH-approved training curriculum, KP service providers in drop-in-centers (DICs), including those at referral public clinics, were trained to implement index testing in DICs and outreach mobile clinics. HIV testing services were offered to sexual partners of MSM, FSWs, spouses and clients of FSWs, and biological children of FSWs through mobile outreach services and at DICs. Routine program data were collected and analyzed to understand the contribution of index testing to the LINKAGES' overall case finding.

LESSONS LEARNED: During the two-month implementation period, a total of 267 KP individuals (MSM and FSWs) were offered voluntary partner referral slips as index clients. Of these, 90% (241/267) accepted index testing, and 335 partners were elicited. Among the elicited partners, 49% (164/335) were tested for HIV, and 63% (103/164) tested HIV positive. Of those partners who tested positive, 98% (101/103) were linked to treatment. Under index testing, the case-finding rate among MSM was 93% (88/94) and 21% (15/70) among FSWs, compared to 19% (102/528) among MSM in routine testing for the same period and 27% (477/1,734) among FSWs.

CONCLUSIONS/NEXT STEPS: Index testing generated a higher case-finding rate than routine HIV testing among KPs in Malawi. It also provided an opportunity for KP members to access HIV testing services in preferred and safe settings. Effective KP programming must emphasize and implement index testing as a key innovation for increasing case finding. The project incorporated index testing as routine and promoted provider referral to increase uptake of the service following the early findings. Since FSWs have multiple partners, some of whom cannot be traced, innovative means of partner elicitation and active index case testing should be used.

PEC0576

ASSISTED PARTNER NOTIFICATION: IMPROVING HIV TESTING YIELD TO ACHIEVE THE FIRST 95 TARGET IN LANGO SUB-REGION IN NORTHERN UGANDA

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BACKGROUND: According to the Uganda Population-Based HIV Impact Assessment, 84 percent of people living with HIV know their status. The Uganda national consolidated HIV prevention, care and treatment guidelines (2018) recommend Assisted Partner Notification (APN) as a critical strategy to achieve widespread testing of those at risk—the first of the UNAIDS 95-95-95 goals. APN provides comprehensive services for persons infected with HIV or sexual transmitted infection, and their partners, with focus on index clients who are newly diagnosed HIV positive, have non-suppressed viral loads and/ or have a new STI or partner.

DESCRIPTION: The JSI-led USAID RHITES-North, Lango project supports health care workers (HCWs) in Lango region to implement APN. The project conducted a phased roll out by training and mentoring HCWs, peer clients and community health workers in 70 health facilities; provided data tools, job aids and telephones. The index clients were line listed and teams consisting of a health worker, counselor and community worker were formed to conduct APN.

LESSONS LEARNED: Between October 2018 and September 2019, Of the 21,081 index clients eligible for APN services, 8,742 (41%) were interviewed; 12,434 partners elicited (an average of 2 partners elicited for each individual); 11,101 (89%) of the partners were notified and offered HIV testing services; 9,427 (85%) of them tested for HIV, and 2,656 (28%) were newly diagnosed as HIV positive. More females (55%) were identified HIV positive through APN, with a higher yield at 30% compared to 1,197 men identified positive with a yield of 27%.

CONCLUSIONS/NEXT STEPS Success of APN depends on good data management systems to identify eligible clients and their partners, and good knowledge and skills among HCWs, peer clients and community health workers. It can enable identification of HIV positive clients. APN identifies persons previously unaware of their HIV-positive status, yet they are sexual partners of newly infected HIV positive individuals, thereby enabling linkage to care and same-day treatment and reducing onward transmission risk. An approach focused on identifying partners of HIV infected persons has the potential to better target testing strategies to identify >95% of people living with HIV in a community.

PEC0577

COMMUNITY-BASED VOLUNTARY COUNSELING AND TESTING IN RURAL SOUTH AFRICA AMONG ADOLESCENT GIRLS AND YOUNG WOMEN

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BACKGROUND: In sub-Saharan Africa, adolescent girls and young women (AGYW) ages 15 – 24 are at exceptionally high risk for HIV. Community-based voluntary counseling and testing (CBCVT) is a validated strategy to increase HIV awareness and testing uptake. We describe a successful CBVCT strategy to engage AGYW in rural South Africa.

METHODS: Trained community health workers, supervised by a nurse, conducted community-based voluntary and confidential rapid HIV testing and concurrent TB screening in congregate community settings in rural KwaZulu Natal. AGYW identified with HIV were offered confirmatory testing, CD4 staging, individual counseling and referral to care and antiretroviral therapy (ART) according to national guidelines.

RESULTS: CBVCT was performed among 1808 AGYW at community sites including municipality events (n=697), pension pay points (n=348), taxi ranks (n=229), schools (n=122), and home based care visits (n=208). The median age was 20 (IQR 15 - 24) and a high proportion (94.95%) consented to VCT. A third of participants (594, 32.9%) reported first-time HIV testing. Of AGYW who consented to VCT, 114 (6.6%) were HIV positive and linked to public sector facilities for HIV care.

Correlates of HIV-positive status included community testing site (p=0.04) and belonging to the 19-24 age group rather than 15-18yo (p<0.001). Pension Pay Points yielded the greatest proportion of AGYW (24/322 7.5%) with HIV-positive test result, followed by taxi ranks (7.1%) and municipality events (7%). Among all HIV-positive AGYW (n=114), the greatest proportion (45, 39.4%) was identified at municipality events, followed by pension pay points (24, 21%) and taxi ranks (15, 13%).

CONCLUSIONS: AGYW accept HIV testing outside of health care facilities and by non-clinical personnel. Utilizing a variety of community testing sites reaches different demographic groups, including high-risk young women. CBVCT can detect AGYW living with HIV, and may provide an opportunity for engaging hard-to-reach AGYW for HIV prevention interventions including pre-exposure prophylaxis.

PEC0578

INNOVATIVE ENHANCED PEER OUTREACH APPROACH REACHES HIGH-RISK ADOLESCENT GIRLS AND YOUNG WOMEN IN LUSAKA, ZAMBIA

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BACKGROUND: Adolescent girls and young women (AGYW) in Zambia have high HIV prevalence rates (5.7%). Despite increased HIV risk, less than half of Zambian AGYW know their status. Risk factors for AGYW include transactional sex (exchange of sex for material support or other benefits), substance use, and inconsistent condom use. We piloted an innovative, youth-friendly, enhanced peer outreach approach (EPOA) to engage high-risk AGYW networks and promote HIV-testing services (HTS) in an urban compound of Lusaka, Zambia.

METHODS: Working with community partners, we recruited 10 high-risk AGYW aged 15–24 years engaged in transactional sex to act as seeders. We gave each seeder 20 music-themed, non-HIV–branded recruitment coupons featuring the hashtag #utuntu (Bemba for "You should know things") to distribute within her social network. The coupons could be redeemed for HTS at a confidential location during community-based and social venue–based AGYW mobilization. Coupon holders were given (50 Kwacha (~$3.50(USD)) after testing and receiving their results, and seeders received 40 Kwacha (~$2.70 (USD)) for every person who redeemed their coupon. All participants completed a simple risk-assessment form and received condoms and lubricant. All AGYW testing HIV-positive were referred to antiretroviral therapy (ART) services.

RESULTS: During implementation (July–August 2019), 76.5% (153/200) of distributed coupons were redeemed for HTS. Among coupon redeemers, 84.3% (129/153) reported engaging in transactional sex in the last 6 months; another 15.0% (23/153) were classified as high-risk for not using condoms, for using illicit drugs, or for reporting sexually transmitted infection symptoms in the last 6 months. Only one AGYW (0.7%) did not meet high-risk criteria. Of the 153 AGYW tested, 37 (24.2%) were HIV-positive: 5 (13.5%) knew their status and were receiving ART. Of the 32 (86.5%) with new HIV diagnoses, 21 (65.6%) were linked to ART.

CONCLUSIONS: This youth-friendly approach reached high-risk AGYW and identified HIV-positive AGYW who may not access traditional HTS. These results indicate that EPOA strategies may be effective for identifying high-risk and hard-to-reach AGYW for HIV prevention and testing services. Additional investments may be needed to identify complimentary strategies that ensure linkage and retention in care for HIV-positive AGYW after EPOA.

PEC0579

REACHING MALE CLIENTS AND PARTNERS WITH HIV SELF-TEST KITS DISTRIBUTED BY FEMALE SEX WORKERS IN IRAN: ACCEPTABILITY AND EFFECT OF MONETARY INCENTIVES IN A RANDOMIZED CONTROLLED TRIAL

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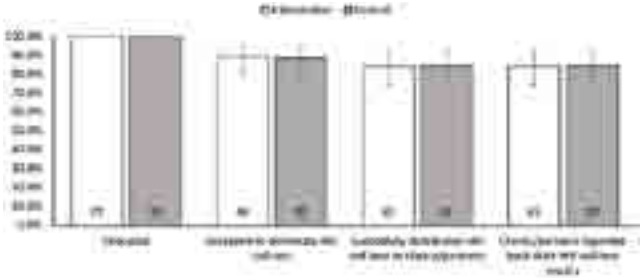
BACKGROUND: HIV self-testing has great potential to improve early diagnosis among highly stigmatized, hard-to-reach populations. Distributing HIV self-test kits through female sex workers (FSW) may be an effective way to reach male clients. We implemented the "SELFii" study to assess FSW willingness to distribute free self-tests and to the impact of offering monetary incentives on client/partner uptake through a randomized controlled trial (RCT).

METHODS: In an open-label RCT (#IRCT201710039506N1), FSW aged 18+ years were recruited through peer-referral sampling in Tehran and Isfahan, Iran 2019. FSW were randomly allocated into two groups and enlisted to distribute free HIV self-test kits to their clients/partners. The intervention group received monetary incentives (~$2/kit) to distribute kits; the control group received no incentive. Outcomes compared include accepting to distribute, success in distributing, and reporting back their partners/clients test results to the study.

RESULTS: Of 192 eligible FSW initially referred by peers, 156 (81.2%) accepted to participate in the trial. In the intervention arm (N=77), 69 (89.6%, 95%CI 80.6-95.4) FSW accepted to distribute self-tests and 65 (84.4%, 95%CI 74.4-91.7) successfully distributed them and had their clients/partners report back their HIV self-test results (N=65, 84.4%); Of 65 clients/partners 1 (1.5%) tested positive and was later confirmed. In the control arm (N=79), 70 (88.6%, 95%CI 79.5-94.7) FSW accepted to distribute self-tests and 67 (84.8%, 95%CI 75.0-91.9) successfully distributed them and had their clients/partners report back their HIV self-test results(N=67, 84.4%); Of 67 clients/partners 1 (1.5%) tested positive and was later confirmed. Acceptance to distribute self-tests, successful distribution, and client/partner report-back of results was similar in both arms (P>0.05) [Figure 1].



[Figure 1]

CONCLUSIONS: We found high acceptability among FSW to distribute HIV self-test to their clients/partners, and a high acceptability among clients/partners to test themselves. The monetary incentive had no effect on distribution, acceptability, and test reporting outcome measures.

PEC0580

UPTAKE OF HIV TESTING AMONG ADOLESCENTS AND YOUNG PEOPLE ATTENDING PEER-LED COMMUNITY-BASED SEXUAL AND REPRODUCTIVE HEALTH SERVICES IN LUSAKA, ZAMBIA: EARLY RESULTS FROM THE "YATHU YATHU" TRIAL

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BACKGROUND: Adolescents and young people aged 15-24 (AYP) are underserved by available HIV-testing services (HTS). Delivering HTS through community-based, peer-led, hubs may prove acceptable and accessible to AYP, thus increasing HIV-testing coverage. Using data from the pilot phase of a cluster-randomised trial of community-based, peer-led comprehensive sexual and reproductive health services for AYP in Lusaka, Zambia, we describe and explore factors associated with self-reported history of HIV-testing and uptake of HTS through community-based hubs.

METHODS: Twenty clusters across two urban communities were randomly allocated to intervention or standard-of-care. From August–December 2019, AYP in all 20 clusters were enumerated and offered a prevention point's card to enable tracking of services accessed. In intervention clusters, peer support workers, nurses and lay counsellors, provide comprehensive services, including HTS, from centrally-located hubs.At first hub visit, AYP are screened for alcohol use disorders using AUDIT-C and asked their HIV-testing history. We used card data from intervention clusters only to describe: HIV-testing history and uptake of HTS by age, sex, AUDIT-C score, education and marital status, and explored whether these factors were associated with both outcomes.

RESULTS: In the first 4-months of implementation, 5,206 AYP attended a hub; 65% (n=3380) were female. Among AYP self-reporting their HIV-testing history, 69% (n=3461/5013) ever-HIV-tested before their hub visit. Adjusting for age and sex, ever HIV-testing differed by sex, age, educational attainment (Table 1).

Description		Distribution of characteristics (N=5206; N (column%))	Number and % self-reporting previous HIV test (N=3461)*	Number and % HIV testing at the hub (N=3895)+
Overall		5206 (100%)	3461 (69.0%)	3895 (76.0%)
Sex	Male Female	1826 (35.1) 3380 (64.9)	**1134 (64.1)** **2327 (71.7)**	1380 (76.4) 2515 (75.8)
Age	15-19 20-24	3620 (69.5) 1586 (30.5)	**2112 (60.5)** **1349 (88.8)**	2773 (77.3) 1122 (73.0)
Marital status	Never married Co-Habiting /married	4592 (88.2) 614 (11.8)	2942 (66.3) 519 (90.4)	**3506 (77.2)** **389 (66.3)**
Educational attainment	None/Primary Secondary/higher	1263 (24.3) 3943 (75.7)	**662 (54.4)** **2799 (73.7)**	939 (75.5) 2956 (76.1)
At risk of hazardous alcohol use	No Yes	4999 (96.0) 207 (4.0)	3289 (68.3) 172 (86.0)	**3764 (76.4)** **131 (65.5)**

*193 individuals missing data on history of HIV-testing, +80 individuals self-reported HIV-positive

[Table 1]

76% (n=3,895) of AYP attending the hubs HIV-tested (75% via finger-prick HIV-testing; 25% HIV self-testing); including 80% (n=1243/1552) of AYP self-reporting never HIV-testing before visiting the hub. Lower uptake of HTS at hubs was associated with being married/cohabiting and at risk of alcohol use disorders.

CONCLUSIONS: A high proportion of AYP with no history of HIV-testing accessed HTS through community-based hubs. Better targeting of HTS to key groups who may not perceive their risk of HIV needs to be considered.

PEC0581

ASSISTED PARTNER NOTIFICATION HIGHLIGHTS A GAP IN DISCLOSURE AMONG SEXUAL PARTNERS IN LANGO SUB-REGION IN NORTHERN UGANDA

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BACKGROUND: According to the Uganda Population-Based HIV Impact Assessment, 84 percent of people living with HIV know their status. The Uganda national consolidated HIV prevention, care and treatment guidelines (2018) recommend Assisted Partner Notification (APN) as a critical strategy to achieve widespread testing of those at risk—the first of the UNAIDS 95-95-95 goals. APN provides comprehensive services for persons infected with HIV or STDs and their partners. Couples HIV testing is an approach that encourages couples to test together, and to disclose their HIV status to each other during the counseling session. This approach leads to improved outcomes such as linking couples to care, increasing adherence to treatment and reducing stigma.

DESCRIPTION: The JSI-led USAID RHITES-North, Lango project supports health care workers (HCWs) in Lango region to implement APN through assisted HIV PN services where a trained provider helps consenting index patients notify their sexual partner's status and partner's potential exposure to HIV infection. The provider then offers HIV testing to these partner(s). Couples are encouraged to test together, and to disclose their HIV status to each other.

LESSONS LEARNED: Between October 2018 and September 2019, Of the 21,081 index clients eligible for APN services, 8,742 (41%) were interviewed with 12,434 partners elicited (an average of 2 partners elicited for each individual). Among these 1,336 (11%) partners were already on antiretroviral therapy without the knowledge of the index client who was their sexual partner. Of these, 156 (11%) were 15-24 years, 942 (70.5%) were 25-44 years and 238 (17.8%) were above 45 years. Non- disclosure was 2 times higher among younger females aged 15-24 years compared to males in the same age group and 1.6 times higher among older males above 45 years.

CONCLUSIONS/NEXT STEPS The goal of partner testing is to provide HIV testing to undiagnosed persons who are in a relationship with a person diagnosed with HIV. However, lack of disclosure among sexual partners may elicits partner who are already on treatment. HIV positive clients need support to ensure their partners are aware of their HIV status and get tested, and linked to treatment or preventive services.

PEC0582

PEDIATRIC SALIVA-BASED HIV TESTING: ACCEPTABILITY OF HOME-BASED AND PARENT-ADMINISTERED TESTS

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BACKGROUND: Pediatric HIV testing services (HTS) remain suboptimal in many resource-limited settings. The OraQuick oral mucosal transudate test (saliva-based test [SBT]) is validated in pediatric populations 18 months and above. SBT could complement traditional healthcare worker-delivered, facility-based, blood-based HIV testing.
METHODS: A trained qualitative interviewer conducted 4 focus group discussions (FGDs) with healthcare workers (HCW) and 4 with caregivers of children seeking health services in western Kenya. FGDs explored acceptability among HCW and caregivers of pediatric SBT, home- and facility-based SBT use, ideal instruction attributes, and changes to clinic operations anticipated with pediatric SBT. Two reviewers conducted thematic analyses of debrief reports.
RESULTS: Some HCW and few caregivers had heard of SBT. Prior to seeing SBT instructions, both had concerns about saliva volume and potential HIV transmission through saliva, which were mostly alleviated after kit demonstration and instruction. Noted benefits of SBT included usability, avoiding finger pricks, and avoiding HCW exposure. However, lack of caregiver familiarity with SBT was commonly noted. Caregivers urged literacy and language be considered when disseminating information on SBT and generally favored video, pictorial, or in-person instruction.
Benefits of facility-based pediatric SBT included shorter client time, reduced congestion in busy clinics, and higher HTS coverage. Noted challenges of SBT at a facility included ensuring confidentiality.
Benefits of caregivers using SBT at home included shorter time, convenience, privacy, decreased costs, increasing child testing, reduced HCW workload, easier administration, child comfort due to familiar setting, and caregiver belief results. Perceived challenges included not receiving pre-test counseling, disagreements with partners or child neglect, response to positive results, and not trusting results.
Overall, HCW felt that SBT could be used instead of blood-based testing, but saw limited utility for caregivers performing home- or facility-based SBT without an HCW. Caregivers saw utility in home-based SBT, but wanted easy access to HCW to confirm and counsel positive results.
CONCLUSIONS: SBT was generally acceptable to HCW and caregivers and seen as a means to improve waiting time, HTS coverage, and client comfort. Further studies are needed to address concerns related to pre-test counseling and disseminating test information.

PEC0583

MACHINE LEARNING TO IDENTIFY PREDICTORS OF HIV POSITIVITY

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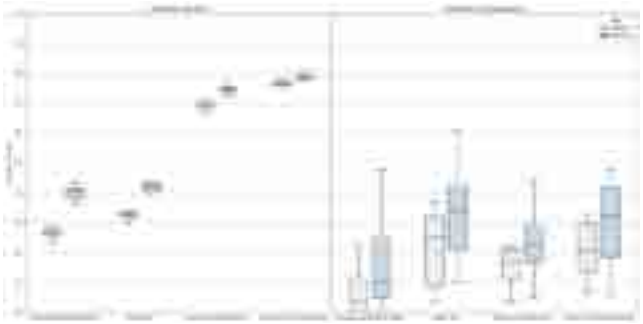
BACKGROUND: High yield HIV testing strategies are needed for epidemic control. We aimed to predict the HIV status of individuals based on demographic and socio-behavioural characteristics.
METHODS: We analysed the most recent DHS surveys from 10 African countries in East and Southern Africa. We trained 4 machine-learning algorithms and selected the best based on the f1 score. Training, validation and, optimization were done on 80% of the data. The model was tested on the remaining 20% and on a left-out country which was rotated around. The best algorithm was retrained on the variables which were most predictive. We studied two scenarios: one aiming to identify 95% of people living with HIV (PLHIV) and one aiming to identify individuals with 95% or more probability of being HIV positive.
RESULTS: Overall 55,151 males (86 variables) and 69,626 females (122 variables) were included. XGBoost performed best in predicting HIV with a mean f1 of 76·8% (± 0·8%) for males and 78·8% (± 0·6%) for females. Among the ten most predictive variables, nine were identical for both sex: longitude, latitude and altitude of place of residence, current age, age of most recent partner, total lifetime number of sexual partners, years lived in current place of residence, condom use during last intercourse and, wealth index. Model performance based on these variables decreased minimally. For the first scenario, 7 males and 5 females would need to be tested to identify one HIV positive person. For the second scenario, 4·2% of males and 6·2% of females would have been identified as high-risk population.



[Figure]

CONCLUSIONS: We were able to identify PLHIV and those at high risk of infection who may be offered pre-exposure prophylaxis and/or voluntary medical male circumcision. These findings can inform the design and implementation of HIV prevention and testing strategies.

PEC0584

FINANCIAL INCENTIVE AND PEER REFERRAL IN PROMOTING DIGITAL SOCIAL-NETWORK DISTRIBUTION OF HIV SELF-TESTING AMONG CHINESE MSM: AN INTERMEDIATE ANALYSIS OF A THREE-ARM RCT

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BACKGROUND: Social network-based HIV self-testing (SN-HIVST), in which an individual is given multiple self-test kits to distribute to people in their social network, is an innovative approach to increase HIV testing among key populations. The purposes of this three-arm RCT were to evaluate the effectiveness of financial incentive (Intervention one) and financial incentive and peer referral (intervention two) in promoting SN-HIVST among Chinese MSM, as compared to conventional SN-HIVST approach (Control group).

METHODS: Eligible MSM were recruited from a digital health platform as indexes and were randomly assigned to one of the three arms in a 1:1:1 ratio. In control group, index MSM were invited to apply for up to five self-test kits (15 USD/kit for deposit, refundable); in intervention group one, the index MSM were given 3 USD for each returned testing result; and in intervention group two, the index MSM were given 3 USD for each returned testing result, and for each successful referral and returned result (by the private application link up to five people for kits application). Both the indexes and the alters (men who received self-test kits from indexed) uploaded a photograph of a completed test result via the digital health platform (ChiCTR1900025433).

RESULTS: From November 1st of 2019 to January 12th of 2020, a total of 120 participants were recruited. Majority were < 30 years old (62%), have attended college (82%), and self-identified as gay (78%). Of them, 42, 41 and 37 were assigned into intervention group one, two, and control group, respectively. The mean number of HIVST kits distributed to the index MSM in the intervention group two was 3.9, which was significantly higher than the other two groups (2.5 and 2.3, P<0.001). Among the distributed kits, 36, 73, and 20 were already returned by alters, and 39% (group 1), 32% (group 2), and 10% (Control) of the alters in the three groups are new testers, of which was 11% for all the index MSM.

CONCLUSIONS: Financial incentive and peer referral may hold promise to promote SN-HIVST and increase HIV testing coverage among Chinese MSM, especially among those who never tested before.

PEC0585

NO MISSED OPPORTUNITIES: INTEGRATING LINKAGE AND PARTNER NOTIFICATION SERVICES INTO VMMC SITES IN TWO DISTRICTS IN KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Voluntary medical male circumcision (VMMC) is a platform for reaching men who may not otherwise seek HIV testing services (HTS). While HTS yield in VMMC is low (<2% in published estimates), the absolute number of men testing positive is considerable, with millions of VMMC clients receiving HTS across East and Southern Africa per year. Case finding and linkage are central to the HIV response, yet VMMC programs struggle to adopt evidence-based linkage approaches or routinely offer partner notification services (PNS).

DESCRIPTION: In partnership with the South African government and the US Centers for Disease Control and Prevention, Jhpiego introduced enhanced linkage and PNS in Ugu and King Cetshwayo Districts in KwaZulu Natal, South Africa, from October 2018 to September 2019. Men aged ≥15 years presenting to VMMC were offered HTS, and HIV-positive clients were offered active linkage to treatment, and PNS. Men could select passive/self-referral, or assisted referral (provider, contract, or dual) for PNS. Dedicated PNS facilitators linked positive clients with treatment, and traced partners using the selected approach.

LESSONS LEARNED: During the implementation period, the project identified 712 HIV-positive clients out of 35,449 tests (2%); 167 (23%) were newly diagnosed, 6 (1%) had fallen out of care, and 539 (76%) were stable on treatment. Of 173 who needed linkage, 137 (79%) were initiated on treatment; 114 (83%) doing so on the same day. All 712 index clients were offered PNS, and 670 (94%) accepted and elicited a total of 777 contacts (all female). Index clients chose self-referral for 152 contacts (20%) and assisted referral for the remaining 625. Most of the contacts 593/625 (95%) could be reached, and 497 (84%) accepted HTS: 34 (7%) newly tested positive, 397 (80%) were known positive, and 66 (13%) tested negative. Of those newly diagnosed, 33 (97%) initiated ART on the same day.

CONCLUSIONS/NEXT STEPS Linkage and PNS is feasible and acceptable in VMMC; we can improve ART initiation among HIV-positive men and reach their partners for testing through PNS. Providers need training on linkage and PNS, ongoing mentorship to avoid missed opportunities, and encouragement to take actions not traditionally part of standard VMMC service provision. Given low HTS yield and high rates of prior testing among traced contacts, additional consideration is needed to determine whether scaling up PNS is cost-effective in VMMC.

PEC0586

COMMUNITY-LED INDEX CASE TESTING: A PROMISING STRATEGY TO IMPROVE HIV DIAGNOSIS AND LINKAGE TO CARE IN PARTNERS OF KEY POPULATIONS IN NIGERIA

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BACKGROUND: The HIV epidemic in Nigeria is concentrated in Key Populations (KP), people who inject drugs (PWID), men who have sex with men (MSM), female sex workers (FSW), and partners of people living with HIV. Due to stigma and discrimination, these groups have poor access to HIV testing services (HTS) and linkage to treatment is challenging. To address this gap, index case testing, targeting sexual contacts and injecting partners of KP index clients, was introduced in 2017.

METHODS: HTS was offered in nightclubs, hotels or community-based ART clinics in Akwa Ibom, Cross River, and Lagos states. Index testing was assisted by peer navigators. In-person and social network

methods were used to mobilize partners of KP. We described the feasibility of implementing index testing, analyzed Partner Notification (PN) delivery models, calculated HIV prevalence among persons who underwent Index Testing, and visualized locations where HIV positive index case testers are confined.

RESULTS: We found that a mixed approach to partner notification was effective. PN was predominantly done through provider referral 5,159 (68.3%) and passive referral 2,278 (30.1%). A total of 3,119 index partners; 1,322 FSW (42.4%), 1,255 MSM (40.2%) and 542 PWID (17.4%) identified 8,989 sexual and injecting partners (average of 2.9 per index client). Among 7,556 (84.1%) who received HTS were first-time testers [79.4% (5,999) of male partners tested]. Of the 3,753 (49.7%) partners tested HIV-positive, 3,492 (93.0%) were enrolled in HIV care. HIV prevalence was 65.5% (1,021/1,557) among females and 45.5% (2,732/5,999) among males, and was disproportionately higher among PWID injecting partners 99.1% (581/586), PWID sexual partners 98.9% (433/438) and MSM sexual partners 95.6% (605/633) in Cross river compared with 71.4% (575/805) in FSW sexual partners. The maps revealed high and low clusters of HIV infection distribution among index case testers by local government areas.

CONCLUSIONS: Including index case testing as part of community-led HTS is feasible and effective, particularly for reaching first-time testers, many male KP and persons not yet diagnosed with HIV. Scale-up of index case testing within community-led HTS for KP is essential for achieving the United Nations 90-90-90 goals.

PEC0587

ACHIEVING THE LAST MILE TO THE FIRST 90 IN URBAN SETTINGS OF UGANDA THROUGH THE SOCIAL NETWORK STRATEGY

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BACKGROUND: Of the estimated 1.3 million people living with HIV (PLHIV) in Uganda, 85% know their HIV status, (UNAIDS, 2019). To meet the 90-90-90 UNAIDS 2020 cascade targets, the PEPFAR-funded IDI Kampala Region HIV Project implemented an innovative strategy, the social network strategy (SNS), to find the missing 5% contributing to the 6.9% HIV prevalence in Kampala region.

DESCRIPTION: We supported health workers from 48 health facilities in two districts of Kampala and Wakiso to implement SNS from November 2018 to October 2019.

Trained health workers elicited from index clients details of social contacts presumed to be at high risk of contracting HIV based off their: risky sexual behavior; frequent illness; history of loss of a partner to an unknown disease or if their partner was a known PLHIV. The health workers reached these social contacts through phone call or physical tracing, screened them for testing eligibility using the HIV Testing Services Screening Tool, and offered them an HIV test. Newly identified HIV positive social contacts were linked to HIV treatment and the negatives to other prevention services. We performed a descriptive analysis of data to assess SNS feasibility.

LESSONS LEARNED: We elicited 14,795 presumed high-risk social contacts from 7,580 index clients. We reached and invited 12,851 social contacts (86.9%) for an HIV test. Of these, 8,940 (69.5%) were tested for HIV and 1,329 diagnosed as HIV positive, a 15% yield. All the newly diagnosed HIV positive clients were linked to HIV treatment services. A slight variation in uptake of HIV testing was observed by gender with a higher proportion of men 4,316/6161 (70.0%) than women 4,624/6690 (69.1%) testing, however, the difference was not statistically significant (p-value=0.250). On the other hand, testing rates increased with age (167/192 (1.9%)-0-14 years; 412/574 (4.6%) - 15-18 years; 2,391/3,322 (26.7%) – 19 -24 years; 5,970/8,763 (66.8%) – above 24 years), p-value<0.01.

CONCLUSIONS/NEXT STEPS Social Network Strategy (SNS) is an effective approach for HIV case identification among high-risk populations. Integrating SNS alongside other proven testing interventions will help reach more PLHIV with HIV testing and consequently contribute to the 1st 90.

PEC0588

GATHERING RESULT DATA FOR ANALYSIS AND PROVISION OF FOLLOW-UP SUPPORT AS PART OF A NATIONWIDE HIV SELF-TESTING SERVICE IN THE UNITED KINGDOM

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BACKGROUND: Terrence Higgins Trust ran HIV self-testing pilots in 2016 and 2017 before rolling out the UK's largest free self-testing service in 2018 to expand access to HIV testing.

The service was designed with a clear process for data collection and test result gathering to mitigate concerns that people who test themselves might not receive follow-up support.

DESCRIPTION: Self-test kits are ordered through a dedicated website and delivered by post to any UK address or a click-and-collect point. Tests are available to disproportionately affected populations including men who have sex with men (MSM), black African people (BA) and trans people. Users receive up to two SMS reminder messages to encourage them to report their results through a mobile-optimised web page. Collecting results enables support to be offered to those reporting reactive results and measures the effectiveness of the project. HIV prevention information is provided to those who report a non-reactive result.

The service was free of charge from launch in June 2016 to March 2019. Since April 2019, test kits have cost £15 but users are able to choose a free option if they can't afford to pay. By December 2019, more than 36,000 kits had been ordered.

LESSONS LEARNED: In total, 60% of users reported their results with variance between population groups: 62% for MSM and 50% for BA. Older age groups were more likely to report their results (57% for those 16-25 increasing to 73% for over-65s). Those paying for tests since April 2019 had a significantly higher reporting rate of 67%.

Text message reminders played a vital role in reporting: 51% of those who reported a result did so on the day of the first reminder or the day after, and an additional 17% reported on the day of the second reminder or the day after.

CONCLUSIONS/NEXT STEPS It is possible to achieve a high level of result reporting for analysis of effectiveness and provision of follow-up support for an HIV self-testing service. There are opportunities for research to improve result reporting and to understand better the 40% who declined to report their result, including whether they had used the test or not.

PEC0589

THE KNOWLEDGE, USE AND EXPERIENCE OF HIV RAPID TESTS: A CROSS-SECTIONAL SURVEY TARGETING MSM IN CHINA

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BACKGROUND: HIV rapid test has become an important method for early detection of HIV infected people due to its convenience especially for men who have sex with men (MSM) in China. This study aimed to evaluate the knowledge, use and experience of HIV rapid test service including self-testing among MSM in China.
METHODS: With the help of the dating APP for MSM, the participants were conducted by self-designed electronic questionnaires during August to September 2019 in China and analyzed using logistic regression.
RESULTS: A total of 3478 MSM were enrolled in this study, with the mean age of 23.82±4.38. 98.7% (3435/3478) of participants graduated from junior college or above and 41.6% (1446/3478) of them are students. The awareness rate of HIV rapid tests was 83.1% (2891/3478), and the utilization rate was 53.4% (1857/3478). Participants who were older (OR=1.03, 95%CI: 1.01-1.06), with higher education level (OR=1.28, 95%CI:1.10-1.48), with higher average monthly income (OR=1.11, 95%CI:0.99-1.24), had male regular partners (OR=1.35, 95%CI:1.15-1.59), had friends infected HIV (OR=1.78, 95%CI:1.46-2.17), had more sexual partners in the last 3 months (OR=1.16, 95%CI:1.12-1.21) and with higher HIV related knowledge score (OR=1.27, 95%CI:1.20-1.35) were more likely to uptake HIV rapid tests. During the 1624 participants who took HIV rapid tests in the last one year, 55% (893/1624) of them had taken regular HIV rapid tests. But up to 98.2% participants believed regular testing was an effective way to detect HIV early and the willingness to take regular test was up to 98.4%. 83.7% (1360/1624) of participants who took HIV rapid tests in the last year chose self-testing, 83.4% (1134/1360) of them bought detection reagent on the Internet, and the confidence score of self-testing is 8.18±1.77. The main concerns for self-testing were not knowing whether the test results were accurate or not, and whether the reagents were genuine or fake.
CONCLUSIONS: MSM are more willing to conduct self-testing in the HIV rapid tests service. And the Internet is an important way for MSM to obtain testing, which is also a key place for intervention.

PEC0590

USING INDIVIDUAL STATED-PREFERENCES TO OPTIMIZE HIV SELF-TESTING SERVICE DELIVERY PROGRAM AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN MALAYSIA: RESULTS FROM CONJOINT ANALYSIS

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BACKGROUND: HIV self-testing (HIVST) has the potential to improve HIV testing uptake and frequency for key populations, like MSM, who experience barriers accessing clinic-based HIV testing. With the characteristics of convenience, privacy, and confidentiality, HIVST may be important in communities of MSM, particularly in Malaysia, who face high rates of stigma, discrimination, and legal challenges. To date, however, research on HIVST in the Malaysian context is non-existent. This study investigated the acceptability of HIVST and preferences about the HIVST service delivery approaches using a standardized stated preference method.
METHODS: A cross-sectional online survey to assess the intention to use HIVST among 550 MSM in Malaysia was conducted between January and April 2019. Participants were recruited using a combination of both online (e.g., social media popular among MSM in Malaysia such as Grindr, Hornet, WhatsApp, Facebook) and offline (e.g., LGBT-friendly NGOs, peer referrals) recruitment strategies. Participants ranked the eight hypothetical HIVST service delivery programs with varied combinations of six two-level HIVST service delivery program attributes (cost, privacy, accuracy, kit collection site, kit type, and support). We used the full-profile conjoint analysis (CJA) approach to assess the acceptability of various hypothetical HIVST service delivery scenarios and to quantify the importance of key hypothetical and known HIVST attributes on acceptability.
RESULTS: The acceptability for HIVST service delivery models ranged from 45.0% to 76.9% with mean acceptability of 56.2% across the eight hypothetical HIVST distribution scenarios. The HIVST service delivery scenario with the highest acceptability had the following attributes: no cost (free of charge), anonymous (name not required to receive HIVST kit), 99-100% effective, home-delivered, finger pricked, and the ability to receive pre-test counseling support using telephone hotline or WhatsApp. The cost associated with HIVST was the most important attribute (relative importance score: RIS=19.3), followed by privacy (RIS=18.4), accuracy (RIS=17.3), kit collection site (RIS=16.9), kit type (RIS=15.8), and support (RIS=12.0).
CONCLUSIONS: Key findings include high levels of acceptability if HIVST distribution programs are optimally organized to accommodate user preferences, notably low-cost models that ensure user anonymity. Consequently, researchers and policy-makers will be better equipped for scale-up of HIVST in key populations, such as MSM, in Malaysia.

PEC0591

SELF HIV TESTING VERSUS SERVICE PROVIDER HIV TESTING: WHAT IS THE WAY FORWARD FOR TERTIARY INSTITUTIONS IN ZIMBABWE?

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BACKGROUND: Although commendable efforts have been made in Zimbabwe to make HIV testing readily available and accessible, 1 out of 4 people living with HIV still do not know that they have contracted the virus. Researchers have identified a number of reasons why people may choose not to get tested chief being fears around confidentiality. Self HIV testing has therefore emerged as a panacea to these issues and this study sought to establish student preferences for HIV testing between Self HIV testing and Service Provider HIV testing in 5 tertiary institutions in Masvingo Province of Zimbabwe. Self HIV testing is still on a pilot stage and this study sought to assess levels of readiness for tertiary institutions to roll out Self HIV testing.
METHODS: A pre-tested semi-structured questionnaire was administered to 500 randomly selected students at 5 tertiary institutions in Masvingo Province of Zimbabwe (2 Teacher Training Colleges; 2 Uni-

versities; and 1 Polytechnic). The 500 students (250 male; 250 female) were asked to choose between self HIV testing and service provider HIV testing and to justify their choice.

RESULTS: Whereas 422 students (84, 4 %) preferred Self HIV testing, 78 students (15,6 %) preferred to be tested by a trained service provider. Students who preferred self HIV testing identified breach of confidentiality, lack of a youth-friendly approach to students, and lack of professionalism by college nurses as key deterrents from accessing HIV testing services from the college clinics' providers. They preferred Self HIV testing because of its perceived flexibility on knowing results, ease of access, ability to test partner before sex and increased privacy. Those who preferred service provider HIV testing identified factors like the need for professional counselling, immediate access to treatment and expert guidance on what to do next.

CONCLUSIONS: Student preferences for HIV testing methods are determined by their perceptions and knowledge levels about the testing method in question. Whilst there can be fears of suicidal tendencies among students after the administration of self-test kits, it might be high time tertiary institutions move towards self HIV testing to increase access to HIV testing for early treatment of students living with HIV.

PEC0592

PRACTICABILITY AND PREFERENCES OF BLOOD-BASED VERSUS ORAL-FLUID-BASED HIV SELF-TESTING IN THE HAND OF LESS-SKILLED USERS IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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BACKGROUND: The practicability and preferences of the blood HIV self-test (Exacto HIV Test, Biosynex, Strasbourg, France) and the oral-fluid HIV self-test (OraQuick, OraSure Technologies, Inc., Bethlehem, PA) were compared among among less-skilled users in the Republic Democratic of the Congo (DRC).

METHODS: This multicenter cross-sectional study performed between October and November 2019 in Kinshasa and Kindu, DRC used a face-to-face, tablet-based, and semi-structured questionnaires in a directly assisted HIVST approach. Practicability was operationally defined as the successful performance and the correct interpretation of the self-test result. The results were analyzed by the matching tests and by the logistic regression models.

RESULTS: A total of 528 participants were enrolled. The rate of successful performance of HIV self-test was high with blood test (99.4%) and oral-fluid test (99.8%) yielding the absolute difference of -0.4% (95% CI: -2.8 to 1.5; P=0.456). The rate of correct interpretation of the HIV self-test results was 81.3% with blood test versus 80.2% with oral-fluid test (difference=-1.1; 95% CI: -3.0 to 1.2; P=0.532). The misinterpretation was more about invalid tests (20.4% for both types of test). The female gender (aOR=2.3 [95% CI: 1.2 to 3.1]) and the previous knowledge about HIVST (aOR=1.8 [95% CI: 1.0 to 2.9]) were associated with preference for the oral fluid test. However, the history of exposure to HIV (aOR=3.4 [95% CI: 2.1 to 6.0]) were associated with preference for the blood test. Finally, 23% of participants declared that they did not trust the results of the oral-fluid test; 25% said they were afraid when using the lancet; and 88% preferred that both types of tests be available.

CONCLUSIONS: Our field observations show that the blood self-test and the oral-fluid self-test show high and comparable practicability rates. These two approaches appear to be complementary, which leaves users the choice of each test for comparable results.

PEC0593

DIAGNOSTIC ASSESSMENT IN FIELD AND IN LAB OF THE BLOOD-BASED HIV SELF-TEST EXACTO TEST HIV IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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BACKGROUND: HIV Self-testing (HIVST) has the potential to circumvent the constraints of lack of confidentiality, stigma, discrimination, shortage of counselors and long distances to testing centers. The Democratic Republic of the Congo (DRC) has taken the option of implementing the HIV self-test to boost the first „90" of the UNAIDS 90-90-90 targets by using validated self-test. The objective of this study is to determine the analytical performance and usability characteristics of the Exacto Test HIV (Biosynex, Strasbourg, France) in lab and in field.

METHODS: The performance evaluation was a cross sectional study, and the usability a mixed methods study. For method comparison in lab, INNO-LIA HIV I/II Score (Fujirebio Europe N.V., Ghent, Belgium) was used as the reference test; in field, serological HIV testing was carried out according to the national algorithm of the DR, using Alere Determine HIV-1/2 (Alere Medical Co. Ltd.) and Uni-Gold HIV (Trinity Biotech Manufacturing Ltd.).

RESULTS: In lab, a total of 428 (including 228 positives and 200 negatives) sera were analyzed with Exacto Test HIV self-test, sensitivity was 99.56% (95% CI 98.26-99.86%), and specificity 100% (95% CI 99.80-100%); the concordance was therefore 99.76%. In field, a total of 528 participants took part in the usability study. Of those, 525 (99.43%) found instructions for use easy to follow, 396 (75%) found the finger prick device easy to use, 456 (86.36%) were confident while performing the test, 525 (99.4%) were succeed the performance of the self-test, 503 (95.27) interpreted corrected their self-test result. Finally, in field, sensibility was 99.43% (95% CI 98.34-99.80%), and specificity 100% (95% CI 99.84-100%) yielding the concordance of 99.43%.

CONCLUSIONS: The excellent performance and usability characteristics of Exacto Test HIV self-test make the kit a viable option for HIV self-testing in DRC. To improve the usability of the lancet, the manufacturer should indicate on the instruction for use that the use of the lateral surface of the fingers decreases the pain.

PEC0594

ACCEPTABILITY OF PROVIDER ASSISTED SELF-TESTING AMONG MEN WHO HAVE SEX WITH MEN IN GHANA

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BACKGROUND: Issues: Anecdotal evidence from Maritime Life Precious Foundation's (MLPF), a civil society organization (CSO) working in with MSM in the western region of Ghana, indicated that some of their MSM clients were refusing HIV testing because of fears of breach of confidentiality and stigma. Although Ghana has

not yet fully rolled out HIV self-testing, MLPF introduced the provider assisted HIV self-testing, using the Ghana health Service approved Oral quick to reach out to these MSM to test and link them to treatment.

DESCRIPTION: Descriptions: During the implementation of this strategy (October 2017 and December 2019), MLPF reached 120 MSM who would only accept HIV testing if they could do the test themselves. Not wanting to lose potential HIV positive MSM, MLPF agreed to guide and support the 120 MSM who were willing to test, read, and interpret their own result and disclose to the counselor. The HIV counsellors and case manager were involved in the process by providing each of them with pre-test and post-test counselling. The 120 MSM were then guided to do the HIV test on their own, interpreted the results and willingly disclosed their results to the counsellors. After further engagement with clients for testing, 79 percent were willing to disclose test result for further support from the case managers and health care workers.

LESSONS LEARNED: Lessons learned: The provider assisted Self-testing strategy was successful in testing all the 120 MSM clients who had opted for self-testing and willing to disclose result. This strategy resulted in a high HIV positivity yield (40 out of 120 clients tested positive). Currently, 32 out of 40 are on ART with 22 virally suppressed. The results indicate that the process of actively involving the client through coaching to self-test, gave them the confidence to accept their status and initiate treatment. Provider assisted Self-testing is feasible and acceptable to MSMs in Ghana.

CONCLUSIONS/NEXT STEPS To ensure total coverage in achieving the first 90 of the 90-90-90 in Ghana, the Government should consider rolling out self-testing.

DEMONSTRATION AND PILOT PROJECTS FOR PREP, PEP, MALE CIRCUMCISION

PEC0595

FACTORS AFFECTING PREP UPTAKE AND TIME TO INITIATION AMONG TRANSGENDER PARTICIPANTS IN THE TRIUMPH PREP DEMONSTRATION PROJECT IN OAKLAND AND SACRAMENTO, CALIFORNIA

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BACKGROUND: Transgender people are disproportionately impacted by HIV, yet trials of pre-exposure prophylaxis (PrEP) have largely excluded transgender people. TRIUMPH (Trans Research-Informed communities United in Mobilization for the Prevention of HIV) aims to develop and evaluate a culturally-relevant, community-led PrEP demonstration project to deliver PrEP safely and effectively to transgender and gender non-binary people.

METHODS: TRIUMPH is a trans-specific collaborative between the University of California, San Francisco, and two implementing sites: La Clinica de la Raza, Oakland (a Federally Qualified Health Center), and Gender Health Center (a community-based organization), Sacramento. TRIUMPH utilizes community-led mobilization efforts to increase PrEP knowledge and acceptability, utilizing champions from within trans communities, and clinical integration of PrEP with hormone therapy. The current analysis measures PrEP uptake and time to initiation by first dispensation of PrEP medication.

RESULTS: We enrolled 177 participants; average age was 28 (IQR:23-35), 7% Black, 57% Latinx. Overall, 70% initiated PrEP by week 2 and 90% initiated by week 18. PrEP uptake was 78% in Oakland, 98% in Sacramento, 91% among trans women, 96% among trans men, 70% among non-binary participants. Almost half (47%) rarely/never thought about HIV but 42% reported condomless intercourse in the previous 3 months; 81% were aware of PrEP, interest was low. Univariate analyses revealed more rapid PrEP initiation among participants assigned female sex at birth (P< 0.001), higher socioeconomic status (P<0.001), stronger PrEP interest (P<0.001), higher HIV risk perception (P=0.04), and US-born (P<0.001). White Latinx participants were slower to initiate than other racial/ethnic groups (P<0.001). More participants in Sacramento initiated PrEP and did so more rapidly than those in Oakland (P < 0.001); multivariate analyses indicated that site differences were independent of differences in participant demographics (P<0.001).

CONCLUSIONS: We document rapid PrEP uptake in a young and diverse transgender and gender non-binary cohort with HIV risk. Site differences significantly impact PrEP uptake and time to initiation among TRIUMPH participants. Additional operational barriers within the context of an FQHC likely impact PrEP uptake and time to initiation. Qualitative data collected from both sites will provide additional insight into barriers and facilitators to program implementation and PrEP uptake and initiation among TRIUMPH participants.

PEC0596

OPTIMIZING CARE FOR PEOPLE AT RISK OF ACQUIRING HIV: HEALTH CARE PROVIDERS' PERSPECTIVE OF AN ONLINE PREP CONSULTATION TOOL WITHIN THE SWISSPREPARED PROGRAM

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BACKGROUND: The growing demand for oral HIV pre-exposure prophylaxis (PrEP) is a challenge for health care providers (HCPs). In April 2019, SwissPrEPared, a nation-wide program in Switzerland, began with the goal of optimizing care for people requesting PrEP.

The program includes a consultation tool that supports HCPs during PrEP consultations. Seven days prior to their consultation, participants receive a link to an online questionnaire via text message/email that addresses adherence, side effects, co-medications, sexual and mental health. Upon questionnaire completion, their HCP receives a summary of the answers to guide the consultation.

METHODS: In December 2019 we conducted an anonymous survey among 62 HCPs working with SwissPrEPared in eleven institutions in order to evaluate the perceived helpfulness of the tool. The survey contained six multiple-choice and two five-point Likert scale questions.

Question	Answers	Results
Which occupational category do you belong to?	Medical doctor/physician: Nurse: Other:	17/29 11/29 1/29
How many PrEP consultations have you approximately conducted with the SwissPrEPared tool?	None yet 1-10: 11-30: 31-100: >101:	3/29 10/29 6/29 9/29 1/29
How helpful is the SwissPrEPared online tool for your counseling in general? (1 point: not helpful, 5 point: very helpful)	1 point 2 point 3 point 4 point 5 point Missing answer Mean	0/26 1/26 7/26 13/26 4/26 1/26 3.8
With the help of the online tool/questionnaire, were you able to detect a particular health risk which otherwise you think you might have discovered too late or even missed? (you can choose more than one answer)	Yes, Family history of osteoporosis Yes, depression Yes, problematic substance use Yes, side effects of PrEP Yes, adherence problems Yes, lack of vaccination Yes, other (freetext) No, the tool has not yet helped me to discover a particular health risk more quickly	6/26 13/26 14/26 7/26 7/26 3/26 1/26 7/26
Have you already been able to discuss a positive depression screening with your client?	No, I have not yet had any clients with a positive depression screening. No, because it didn`t fit into the PrEP consultation No, because I didn`t know how to speak with the client about it Yes, a few Yes, half/half Yes, almost always Missing answer	11/26 1/26 0/26 6/26 0/26 7/26 1/26
How user-friendly do you rate the SwissPrEpared tool? (1 point: not user-friendly, 5 point: very user-friendly)	1 point 2 point 3 point 4 point 5 point Mean Mean, when >11 consultations	1/26 4/26 5/26 9/26 7/26 3.7 4.4
Do you know the SwissPrEPared recommendations for PrEP prescribers and do you use them in your clinical routine?	Yes, I know them and I use them Yes, I know them, but I don`t use them No, I don`t know them Missing answer	18/26 2/26 5/26 1/26
What was in particular helpful for you, when using the SwissPrEPared tool? (you can choose more than one answer)	It helps me not to forget important points of the consultation It saves time It helps to speak about uncomfortable topics (sexual behavior, substance use, mental health) It helps to keep an overview about the important topics Other points where the tool was helpful in your clinical routine Missing answer	15/26 7/26 12/26 14/26 2/26 1/26

[Table 1: results of the online heath care professionals survey]

RESULTS: The tool was used for 1`377 PrEP consultations. Twenty-nine of the 62 HCPs (46%) answered at least one survey question. Three HCPs who reported that they had not yet used the tool were excluded from further analysis. Amongst all survey respondents, overall helpfulness was rated as a 3.8/5; user-friendliness as a 3.7/5 overall, and 4.4/5 among HCPs who had used the tool in >11 consultations. Nineteen of 26 HCPs (73%) reported that the tool helped them detect health issues in their clients that they would have otherwise discovered too late. The most frequently detected health issues were problematic substance use (14/26) and depression (13/26). Other reported benefits of the tool were: a better overview on important topics (14/26); not forgetting (15/26) or addressing important/uncomfortable topics (12/26); and saving time (7/26).

CONCLUSIONS: Most HCPs that used the tool in SwissPrEPared perceived it as being helpful. It seemed particularly useful in detecting health issues, such as depression and problematic substance use. As a next step the tool will be evaluated by less PrEP-experienced HCPs.

PEC0597

TELEPREP IN LOUISIANA TO REACH THOSE LIVING IN THE RURAL SOUTHERN UNITED STATES

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BACKGROUND: Barriers to effective HIV prevention with pre-exposure prophylaxis (PrEP) exist for populations who could most benefit from PrEP services, including those living in the rural Southern United States (US). TelePrEP—providing PrEP care through remote conferencing rather than face-to-face encounters—can help overcome structural barriers related to access, such as transportation.

DESCRIPTION: The Louisiana Office of Public Health's TelePrEP program was launched in May 2018 to provide statewide PrEP access by delivering PrEP through telemedicine. The TelePrEP program operates under a collaborative practice agreement in accordance with the Louisiana State Board of Nursing. The program began by accepting inquiries and scheduling patients for encounters using Vidyo two-way video conferencing. Staffing includes two navigators, two Advanced Practice Registered Nurses, a collaborating physician, and a program supervisor. We report data on client engagement for the first 18 months of the program.

LESSONS LEARNED: From May 2018 to November 2019, the TelePrEP Program received 207 inquiries. Of these, 156 (75%) clients were linked to a TelePrEP navigator, 122 (59%) completed intake, 105 (51%) consented and were enrolled, 85 (41%) received a clinical service (e.g. labs, virtual clinical visit), and 73 (35%) were prescribed PrEP. As of November 2019, 39 (19%) patients are engaged in care, of whom 44% are ages 26-35 years, 31% are African-American, 80% are men who have sex with men, and 47% have Medicaid. Although follow-up is suboptimal, the LA TelePrEP program has notably reached clients from all nine regions in LA, and of ongoing-clients, 69% are from rural regions.

CONCLUSIONS/NEXT STEPS TelePrEP in Louisiana is reaching those in rural areas. However, while initial interest is high, further efforts are needed to improve distal steps along this care continuum. To curb the spread of HIV transmission in the rural South, there is a critical need to develop and strengthen alternative implementation strategies such as TelePrEP. The LA TelePrEP program has already been integrated into the End the Epidemic initiative in East Baton Rouge, one of the US Jumpstart high priority counties. Further efforts to bolster TelePrEP, including capacity building, hiring of new support staff, and honing a marketing strategy are underway in Louisiana.

PEC0598

ACCEPTABILITY AND FEASIBILITY OF HIV PRE-EXPOSURE PROPHYLAXIS IMPLEMENTATION AMONG KEY POPULATIONS IN NEPAL

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BACKGROUND: In Nepal, key populations (KPs), including female sex workers (FSWs), men who have sex with men (MSM), male sex workers (MSWs), and transgender (TG) women, have been reported to have high rates of HIV infection and gaps in reported consistent condom use (less than 70% across all groups). Pre-exposure prophylaxis (PrEP) could serve as a safe and effective means to prevent HIV infection among these KPs. A demonstration study was conducted by the USAID- and PEPFAR-supported LINKAGES project in collaboration with the national HIV program to assess PrEP acceptability and feasibility among KPs in Lalitpur district.

METHODS: Upon receipt of ethical approval from local and international review boards, a mixed-methods prospective cohort study was conducted November 2018 to June 2019. All eligible, consenting HIV-negative individuals at high risk of HIV identified in HIV testing clinics were offered a generic combination of tenofovir and emtricitabine as daily PrEP. Participants were followed up monthly for three months for HIV, pregnancy, renal function, syphilis, and to assess PrEP adherence. Individual interviews with participants, service providers, and program managers were conducted.

RESULTS: Of 112 eligible KP members, 104 (93%) consented to participate in the study (100% of 27 trans women and 26 FSWs, 87% of 30 MSM, and 88% of 29 MSWs). Average continuation in PrEP throughout the study period was 64%, ranging from a low of 27% among FSWs to a high of 88% among MSWs. During the three-month study period, we observed no HIV seroconversion, no pregnancy, no serum creatinine level changes, and two syphilis-reactive cases. Qualitative findings suggested that PrEP implementation was both feasible and acceptable. Participants cited a perception of personal HIV infection risk as a motivation to accept PrEP. Reasons cited for discontinuation were reported side effects, stigma, alcohol use, and frequent travel.

CONCLUSIONS: In Nepal, PrEP is an acceptable HIV prevention method among KPs. Implementation is feasible and could serve as a valuable complement to existing prevention methods to achieve HIV epidemic control.

PEC0599

HIV PREVENTION USING ORAL PRE-EXPOSURE PROPHYLAXIS IN THE UNITED REPUBLIC OF TANZANIA. RESULTS FROM THE DEMONSTRATION PROJECT

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BACKGROUND: In 2017 and 2019, the Ministry of Health implemented a demonstration project with the aim of informing the Government on feasibility and acceptability of PrEP in Tanzania. It was implemented using both facility lead community outreach and facility HIV services modalities. It was layed in the existing combination prevention interventions for KVPs. Female Sex Workers (FSW), Men who have sex with men (MSM), People who Inject Drugs (PWIDs), vulnerable Adolescent Girls and Young Women (vAGYW), who tested negative for HIV and HIV negative partners of sero-discordant couples, were considered as KVPs.

METHODS: It was done in 21 months that include 3 months of preparing the sites, 12 months of implementation and data collection, and 6 months of data analysis and dissemination. It was longitudinal open cohort with two components namely HIV Self-Testing (HIVST) and PrEP. For PrEP a longitudinal open cohort design was conducted in 9 regions. Data collection was done through routine HIV services monitoring through the National HIV database.

RESULTS: Out of 23,597 clients reached during the implementation of the project, 17,252 (73.1%) were given HIVST kits. 15,401 (89.3%) collected kits through outreach services while 1,851(10.7%) did at health facilities. The positivity rate for the one who returned for confirmation was (552) 4.1%. A total of 7,816 (40%) clients was given PrEP, of which 6,437 (82.4%) received through outreach services and 1,379 (17.6%) from health facilities. Out of 7,816 clients who received PrEP, 6,917 (88.5%) were female and 899 (11.5%) were male. Client aged 20-24 years accounted for a quarter of all clients given HIVST and/or PrEP. Half of PrEP users were self-employed individuals and 69.7 % of had primary education as the highest level of education. The finding also revealed that the uptake for HIVST and PrEP is 30% and 65% respectively.

CONCLUSIONS: There was high uptake of HIVST and PrEP among KVP. The facility lead community outreach services was feasible for both interventions. The majority of the clients were reached through outreach led by a health facility.

PEC0600

HIV RISK AND THE UPTAKE OF SAFER CONCEPTION STRATEGIES AMONG YOUNG WOMEN DURING THE PERICONCEPTION PERIOD: THE ZINK STUDY – SAFER CONCEPTION FOR WOMEN

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BACKGROUND: Women in sero-different or sero-status unknown relationships wishing to conceive are at a high risk of HIV infection and need strategies to prevent HIV infection.

METHODS: We enrol HIV-uninfected women, 18-35 years with personal/partner plans for pregnancy, not using long-acting contraception, and with a stable partner living with HIV or of unknown-serostatus. Safer conception counselling occurs at each study visit, inclusive of: TDF/FTC as PrEP; partner HIV testing; treatment as prevention; couples counselling; timing-sex to peak fertility; testing and treating sexually transmitted infections; and delaying pregnancy. Data on safer conception strategy uptake for the first 79 non-pregnant participants completing 12 months of follow-up are reported here.

RESULTS: Participants' mean age is 24.6 years [18.1-35.7], the highest level of education is grade 12 (46%), and most (74%) are unemployed. Most (88%) reported having one sexual partner. At baseline, 95% did not know their pregnancy partner's HIV status, 58% had not used a condom during last sexual contact, and 62% suspected their primary partner of infidelity. Only 37% felt likely to acquire HIV. The majority (81%) had not used a safer conception strategy prior to enrolment.

At the six-month visit, condom use decreased to 28% and partner suspected infidelity increased slightly to 65%. Self-perceived HIV risk decreased to 18%. Reported uptake of safer conception strategies was good, with all participants interested in initiating a strategy. PrEP was initiated by 61% and 21% chose timed-sex.

At 12 months/study exit, 28.15% reported condom use, and suspected partner infidelity increased to 68%. Self-perceived HIV risk remained similar at 19%. PrEP remained the most popular strategy at 55% followed by timed-sex at 28%.

CONCLUSIONS: Women wishing to conceive are eager to adopt safer conception strategies. Most were at high risk for HIV acquisition but had low self-risk perception, which decreased with study participation, likely due to counselling and high PrEP uptake. PrEP was the most popular safer conception strategy, followed by timed-sex. These two strategies are within women's control and could explain their high acceptability. Comprehensive counselling and strategy choice are essential to decrease HIV risk for women during the periconception phase.

PEC0601

DECENTRALIZED PREP DELIVERY IN VIETNAM: HIGH PERSISTENCE AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN AT MONTH TWELVE, AND STRONG PREFERENCE FOR COMMUNITY CLINIC SETTING

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BACKGROUND: In March 2017, first ever HIV pre-exposure prophylaxis (PrEP) services were offered in Vietnam as part of the Prepped for PrEP (P4P) pilot enabling same day PrEP enrollment in three key population (KP) owned/led community clinics and four public district HIV clinics in Ho Chi Minh City.

METHODS: P4P followed 1069 men who have sex with men (MSM) and 62 transgender women (TGW) in a rolling enrollment cohort study from March 2017-September 2018. The study assessed the acceptability of PrEP among MSM and TGW by measuring rate of enrollment over time, persistence rates and predictors of persistence, as well as observing clinic enrollment preferences by type (public clinic setting or KP-led clinic). Here we present enrollment and continuation rates, factors associated with PrEP continuation at month 12, and clinic type preference.

RESULTS: The median age of MSM at enrollment was 26, and age 24.5 for TGW. 94.6% of clients opted for PrEP at one of three KP-led clinics. Average monthly enrollment rate was 33 new clients at months 1-3 and 140 at months 9-12. At month 12, PrEP continuation among MSM was 68.8% and 54.8% among TGW. MSM ages 25-30 (aOR 1.43 (95% CI 1.03-1.98) p=0.029) and >30 years of age (aOR 1.87 (95% CI 1.25-2.82) p=0.002) had greater odds of continuing on PrEP, as were those that attained above a high school education (aOR 1.62 (95% CI 1.14-2.30, p=0.007) or had health insurance (aOR 1.57 (95% CI 1.09-2.25) p=0.013). Among TGW, albeit with a limited sample size, those >30 years had greater odds of remaining on PrEP (aOR 5.62 (95% CI 1.05 -29.9) p=0.043).

CONCLUSIONS: We found PrEP to be highly acceptable among MSM and TGW, with a strong preference to receive PrEP at a KP-led clinic. Persistence rates were relatively high for first roll-out of PrEP, however adolescents and young adults were much more likely to discontinue services. Ensuring there is choice in service models, and further differentiating and adapting PrEP delivery among young MSM and TGW seeking PrEP will be essential as part of PrEP scale-up in Vietnam.

PEC0602

SIDE EFFECTS, LIFE TRANSITIONS, AND DISCLOSURE: REASONS FOR ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) DISCONTINUATION AMONG YOUNG WOMEN ENGAGED IN SEX WORK IN UGANDA

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BACKGROUND: Uptake of PrEP remains far short of global targets and many studies in sub-Saharan Africa report high levels of drop-out. Understanding why individuals may intentionally stop using an effective HIV prevention methodology could orient future programming around PrEP. This study examined the reasons for PrEP discontinuation among young women engaged in sex work.

METHODS: In-depth exit interviews (n=15) and focus group discussions (n=4, 40 respondents) were conducted in Mukono district in Uganda with women who were enrolled in a PrEP demonstration project between December 2017 – July 2019. Thematic data analysis was conducted to identify perceived and experienced challenges around PrEP use and reasons for PrEP discontinuation.

RESULTS: PrEP experience among respondents ranged from 1 - 12 months. Three key themes emerged as reasons for PrEP discontinuation, regardless of time on PrEP: side effects, life transitions, and disclosure. Respondents reported experiencing side effects including headaches, dizziness, blurred vision, nausea, and diarrhea. Most side effects subsided as soon as respondents stopped taking PrEP, but while on PrEP the severity of these side effects interfered with their daily lives and livelihoods. Second, key life transitions such as stopping sex work, settling down with one main partner, and becoming pregnant were also a motivation for PrEP discontinuation. These life transitions shifted the HIV risk perception among respondents and they no longer felt the need for PrEP. Finally, disclosure of PrEP use led to discontinuation. In a few instances, accidental disclosure of PrEP use resulted in rebuke from peers, partners, and family members. Among some participants, the similarity of the PrEP packaging to ART medication for HIV treatment caused persistent fear of being labeled as HIV-positive or revealing their engagement in sex work.

CONCLUSIONS: To enhance uptake of PrEP in similar populations, programs need to provide more supportive counseling to help manage the side effects associated with PrEP. Counseling sessions need to address how to maintain HIV risk reduction strategies during key life transitions. Further, PrEP packaging needs to be de-linked from HIV treatment, and PrEP messaging should aim to create broader awareness to reduce stigma.

PEC0603

UPTAKE OF PRIMARY CARE SIGNIFICANTLY ASSOCIATED WITH PREP RETENTION IN A MID-SIZED U.S. CITY

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BACKGROUND: PrEP engagement and retenion among the most at risk remains challenging. Integration of PrEP services into a primary care environment may enhance retention.

METHODS: In 2014, SUNY Upstate—the largest health care provider covering the mid-sized city of Syracuse, NY and surrounding areas—reformatted their adult and pediatric HIV clinics to become centers for PrEP and HIV primary care. Extensive insurance support and embedded mental health services were offered and the practices were advertised throughout the community. Demographics, appointment and prescription histories were obtained from grant program reports and electronic medical records. All patients were offered to received primary care as well as PrEP at the practice; continuing PrEP was not a requirement to remain in primary care. A proportional hazards model was used to determine factors associated with length of time on PrEP.

RESULTS: Between March 1, 2014 and June 30, 2019, 367 patients presented for PrEP; most were male (308, 83.9%) and reported sex with other men [(MSM) 277, 75.4%]; 66 (18.0%) were Black and 36 (9.8%) were Hispanic/Latino. Most (314, 85.6%) filled a prescription for PrEP and presented to at least one follow up visit; however, 154 (42.0%) ultimately left the program. Median amount of time on PrEP was 161 days. A proportional hazards model demonstrated retention in PrEP care was most strongly associated with being a primary care patient within the adult or pediatric practices where PrEP was prescribed [hazard ratio (HR) for loss to follow up 0.39, p<0.0001]. Lower rates of PrEP retention were associated with sexual orientation other than MSM (HR 1.7, p=0.004), having partners of unknown HIV status (vs. known HIV-positive) (HR 1.6, p=0.004), and being in the lowest age quartile [(≤25 years), HR 1.6, p=0.009]. These factors remained significant after adjusting for patients who reported relocating or transferring with intent to remain on PrEP. Black race, Hispanic/Latino ethnicity, and sex at birth were not associated with time on PrEP.

CONCLUSIONS: Receipt of primary care was strongly associated with a longer time on PrEP in a PrEP program in a mid-sized U.S. city. Scaling up PrEP into primary care practices should be strongly prioritized.

PEC0604

PRE-EXPOSURE PROPHYLAXIS AMONG BRAZILIAN TRANSWOMEN: RETENTION AND ADHERENCE IN 48 WEEKS FOLLOW-UP OF PREPARADAS STUDY

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BACKGROUND: Transgender women are disproportionately affected by HIV in Latin America. Although efficacious, PrEP adherence is a major issue among transwomen. PrEParadas is a demonstration study tailored for transwomen aiming to assess oral PrEP uptake, safety and adherence among transwomen at high risk for HIV in Rio de Janeiro, Brasil.

METHODS: HIV-negative transwomen, aged 18+ years, who reported 1+risk criteria (condomless anal sex in the last 6 months, sexually transmitted infection diagnosis in the last 12 months, transactional sex in the last 6 months, HIV-infected partner in the last 30 days) were enrolled and followed at 4 weeks and quarterly thereafter for 48 weeks. HIV viral load and dried blood spots (DBS) were collected at all follow-up visits. Anal Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) were assessed at w0 and w48. PrEP retention was defined by attendance of w48 visit; PrEP adherence was evaluated by measuring tenofovir diphosphate concentrations in dried blood spots (DBS) at all follow-up visits. We used GEE logistic regression to identify factors associated with high adherence (defined as TFV concentration in DBS correspondent to 4+ doses/week).

RESULTS: 130 transwomen initiated PrEP between Aug-2017 and Dec-2018, 109 (83.8%) were retained at w48. Anal CT and NG prevalence remained similar at w0 and w48 (CT: 7.7% and 8.3%, p=0.79; NG: 9.4% and 8.3%, p=0.88). Overall proportion of high PrEP adherence across all study visits was 57.0% (52.2% at w48). In the univariate analysis, black (OR=0.39 [95%CI:0.17-0.92]) and younger transwomen (OR=0.36 [95%CI:0.16-0.79] had a lower chance of high PrEP adherence across the study but did not remain significant in the adjusted model. Transwomen with high PrEP adherence at w4 had a higher chance of high adherence across the study (aOR=13.90, [95%CI: 6.30-30.87]). There were no HIV seroconversions during follow-up.

CONCLUSIONS: Even in a gender-affirming setting, achieving high PrEP adherence among transwomen remains a challenge, despite high retention, especially for those young and black. Strategies to support early PrEP adherence and to increase knowledge of PrEP as a self-empowering HIV prevention tool may contribute to longer-term PrEP adherence in that highly-vulnerable population.

PEC0605

SIMPLIFYING THE SHANGRING TECHNIQUE FOR VOLUNTARY MEDICAL MALE CIRCUMCISION AMONG PRIORITY ADOLESCENT AND ADULT MEN: RESULTS FROM AN ACCEPTABILITY AND SAFETY STUDY IN TANZANIA

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BACKGROUND: Male circumcision (MC) reduces the risk of acquiring HIV infection in heterosexual men by 60%. Accelerating the scale-up of MC in areas with high HIV prevalence and low MC coverage is key in a comprehensive response for HIV epidemic control. MC devices such as ShangRings have the potential to speed up the rollout of MC by making the procedure quicker and easier than surgical circumcision while remaining just as safe. The ShangRing was prequalified by the World Health Organization (WHO) in 2015 as a promising device for circumcision in adolescent and adult males. Based on the WHO's framework for introducing MC devices in countries, IntraHealth International, in partnership with the government of Tanzania, CDC, and Jhpiego, conducted a study to evaluate the acceptability and safety of the ShangRing.

METHODS: We conducted a single-arm, open-label, prospective cohort evaluation of MC using the ShangRing in routine clinical settings between April and July 2019 in two facilities in Shinyanga Region. The recently approved "no-flip" ShangRing procedure was performed on male participants aged 13 years and over. The primary study outcomes included adverse events (AEs), procedure time, pain, healing, and acceptability of the device. Data were collected through observations during placement of the ShangRing and post-procedure surveys.

RESULTS: A total 575 participants were enrolled, of which nine (1.6%) reported AEs due to swelling, displacement, self-detachment, gaping, self-removal, pain, bleeding and infection. The mean procedure and device removal times were eight and six minutes respectively. The proportion of participants with complete wound healing by day 49 was 99.5% while only three participants had delays due to poor personal hygiene. Almost all participants (99.3%) were satisfied and would recommend the procedure to others. The common reasons men opted for ShangRing included the use of topical anesthetic and avoiding sutures.

CONCLUSIONS: ShangRing no-flip technique is safe and acceptable by participants due to its short procedure times and ease of use. However, pre-and post-procedure counseling to strengthen ShangRing circumcision outcomes and back-up surgical procedures in cases of ring placement failures are needed. Active surveillance is also needed to determine device performance at larger scale.

SCALE UP OF PREP

PEC0606

PRE-EXPOSURE PROPHYLAXIS CASCADE AMONG HIV NEGATIVE MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN HONG KONG: A TERRITORY-WIDE COMMUNITY-BASED CROSS-SECTION STUDY

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BACKGROUND: Pre-exposure prophylaxis (PrEP) provides a new bio-medical means of HIV prevention for individuals at high risk of HIV infection. This study aimed to profile the risk behaviour, PrEP awareness and willingness of self-reported HIV negative men who have sex with men (MSM) and transgender women (TG) in Hong Kong.

METHODS: Socio-demographics and behavioural data of MSM and TG were collected from a territory-wide community-based survey in Hong Kong. HIV-related risk behaviours including engaging in condomless sex, group sex, and chemsex, having multiple sex partners, and recent sexually transmitted infection diagnosis were evaluated. Factors associated with PrEP awareness and willingness were examined separately for MSM and TG in logistic regression models.

RESULTS: Between April and September 2017, 4133 MSM and 104 TG were recruited, with 3044 and 77 being sexually active in the past 6 months, respectively. Of them, 1929 (63%) MSM and 47 (61%) TG with a self-reported HIV negative status in the past 3 months were analysed. Along the cascade, PrEP awareness and experience was 58% and 4% among MSM, and 32% and 2% among TG, respectively. After excluding PrEP-experienced respondents, PrEP willingness was 48% for MSM and 51% for TG. Engagement in chemsex (OR=4.22 for awareness; OR=2.26 for willingness) and condomless anal sex (OR=1.96 for awareness; OR=1.85 for willingness), but not group sex or having multiple sex partners, were significant factors associated with both MSM's PrEP awareness and willingness. Condomless anal sex was the only risk factor significantly associated with PrEP willingness among TG (OR=10.8). Of 60% MSM and 85% TG practiced at least two forms of risk behaviours, 54% and 53% were willing to take PrEP, respectively.

CONCLUSIONS: Only half of MSM and TG at high risk of HIV infection were willing to take PrEP. TG's awareness was especially low, despite their higher level of willingness to take PrEP. Scaling up the coverage along PrEP cascade is needed for individuals at high risk, especially for TG.

PEC0607

CHALLENGES AND OPPORTUNITIES OF PREP (CHOP); A MIXED METHODS STUDY EXPLORING PREP USE, ACCESS AND BARRIERS IN A UK SEXUAL HEALTH CLINIC OUTSIDE LONDON

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BACKGROUND: We examined knowledge and attitudes towards HIV pre-exposure prophylaxis (PrEP) among attendees at a large, urban sexual health clinic, during the IMPACT trial (England, UK) to ascertain if PrEP impacted on sexual decision-making or perception of risk.

METHODS: All clinic attendees (November 2018 for 12 months) self-identifying as men/trans-persons-who-have-sex-with-men (MSM/TPSM) were sent an electronic questionnaire. Eligibility required completed responses to questions concerning HIV-status and sexual decision-making concerning PrEP use by partners or self; consent to participate; and self-identification as MSM/TPSM. Interviews were conducted with 24 respondents at high risk of HIV acquisition and analysed thematically utilising an inductive approach and integrated with questionnaire data using the 'following a thread' method.

RESULTS: There were 617/2818 eligible respondents.

202/578 (35.0%) HIV-negative respondents had used PrEP of whom 86.1% (174/202) were current PrEP-users. Interviewees reported widespread awareness and enthusiasm for PrEP, which was described as 'life-changing'. Among respondents who had never used PrEP, 145/376 (38.6%) were unaware how to access PrEP and 101/376 (26.9%) could not access the IMPACT trial, of whom 78/101 (77.2%) would have been eligible. Interviewees identified expense and difficulty sourcing PrEP were the main barriers, many of whom would only take PrEP if freely available. Access through the trial was described as 'a gift from the gods'.

379/578 (65.6%) HIV-negative respondents indicated they would be more likely to have condomless sex if taking PrEP, while 472/578 (81.7%) believed taking PrEP would reduce their anxiety about acquiring HIV. 31/39 (79.5%) HIV-positive respondents believed PrEP would reduce anxiety about transmission to their partners.

Interviewee's reported using PrEP flexibly with other risk-reduction strategies, for reassurance during periods of increased HIV risk. PrEP provided 'peace of mind' and reduced fear around HIV testing. PrEP-users were seen as responsible and proactive.

CONCLUSIONS: PrEP awareness was high. However, access was limited by lack of trial places and cost of private purchase. PrEP may lead to increased condomless sex, but many interviewees had good understanding of their HIV acquisition risk and used PrEP as one risk reduction tool of many, as an extra precaution. The reduced fear of HIV transmission and testing should be considered in policy decisions.

PEC0608

WHAT ARE CHARACTERISTICS OF MEN WHO HAVE SEX WITH MEN WHO ARE INTERESTED IN, BUT NOT ON HIV PRE-EXPOSURE PROPHYLAXIS IN THE UNITED STATES? A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND: Although 85% of men who have sex with men (MSM) in the U.S. are aware of PrEP, only 25% have used it. By understanding the characteristics of MSM who are interested in but not using it, we may be able to identify sub-populations within this community that need increased access to PrEP. The purpose of this review was to identify characteristics of MSM who are interested in, but not using PrEP.

METHODS: We searched the CDC HIV/AIDS Prevention Research Synthesis cumulative database of HIV prevention literature to identify U.S-based studies published in 2000-2019 that reported factors correlated with interest in using PrEP among MSM who are not using PrEP. Two reviewers independently screened citations, extracted data, and conducted risk of bias assessment using the Newcastle-Ottawa Scale. Discrepancies were resolved through discussion. Meta-analyses were performed to synthesize data.

RESULTS: We screened 2,069 citations and identified 25 relevant studies; the majority had a low-risk of bias and were cross-sectional studies conducted in urban areas. MSM who were interested in PrEP were significantly more likely to be non-white vs.white (OR=1.33, 95%CI:1.12-1.59, k=12, I^2=53.5) or uninsured vs. insured (1.28, 1.06-1.54, 10, 49.5). MSM who perceived benefits of PrEP (2.78, 1.42-5.43, 3, 78.0), were diagnosed with sexually transmitted infections (1.48, 1.06-2.06, 5, 72.4), used substances (1.42, 1.03-1.96, 10, 84.1), engaged in high-risk sexual behavior (1.36, 1.14-1.62, 24, 89.5), or had a high-risk perception (1.33, 1.01-1.76 , 4, 82.3) were significantly more likely than their respective counterparts to be interested in PrEP. Education level, employment status, income, age, HIV-related stigma, and sexual identity were not significantly associated with PrEP interest.

CONCLUSIONS: MSM of color, MSM without insurance, and MSM with HIV-risk were more likely to be interested in PrEP, but not using it. This may imply limited access to PrEP among these vulnerable MSM sub-populations. Study limitations include the inability to conduct meta-analyses on certain predictor variables due to a limited number of studies. This review identifies MSM sub-populations who may benefit from interventions for increasing access to PrEP care.

PEC0609

INTEGRATION OF MINIMUM PREVENTION PACKAGE INTERVENTION (MPPI) MODEL AS A STRATEGY FOR PREP UPTAKE AMONG KEY POPULATION IN CROSS RIVER STATE NIGERIA

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BACKGROUND: Low uptake of PrEP among key population has been a major concern towards tackling the HIV epidemic in Nigeria. The Minimum Prevention Package Intervention (MPPI) Model is a better strategy that can be used to address the slow uptake of PrEP among key population in Nigeria. This study aims on improving PrEP uptake among key populations in Nigeria. Minimum Prevention Package Intervention (MPPI) is a strategy that aims to improve PrEP uptake among Key Population in Nigeria.

DESCRIPTION: MPPI Model is a strategy that is used to improve HIV services. The components of MPPI Model should be integrated in PrEP services which are the Behavioral (Counseling, Peer Education, Interpersonal communication and outreach sensitization), Biomedical (PrEP screening, Referral and medication) and Structural (Enabling environment to provide the PrEP services). This strategy ensured that at all HIV points, PrEP service is embedded in it.

LESSONS LEARNED: A comparative baseline data was collected between January and April 2019 and MPPI Model implementation period between May and August 2019 in 2 out of 5 One Stop Shop that is implementing comprehensive HIV services in Cross River state. The outcome established that there is inadequate PrEP awareness among the community members (Key Populations), weak referral strategies, rare PrEP screening and poor PrEP adherence were the key bottlenecks. A progression result of 70% improvement shows that embedding MPPI Model into PrEP services will drastically increase the uptake and improve PrEP retention.

CONCLUSIONS/NEXT STEPS MPPI Model strategy was a success in limited sites, the expansion of the MPPI Model is warranted to improve PrEP uptake and some aspects of the MPPI could be adapted to other services to further improve PrEP uptake and achieve reduction in HIV. MPPI model emerged as a one of the key approach that will bring a lasting solution to low PrEP uptake among key population.

PEC0610

UNMET NEED FOR PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG TRANSGENDER WOMEN IN CHINA

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BACKGROUND: Transgender women may bear the highest burden of HIV of any population worldwide, and are under-represented in PrEP programs. China's latest national guidelines call for increasing PrEP to reverse the HIV epidemic in populations at highest risk, yet few data exists on PrEP awareness and willingness among transgender women in China. This study aimed to measure these indicators in a community-based sample of transgender women in Jiangsu province, China.

METHODS: From July 2018 to May 2019, a cross-sectional survey was conducted in Nanjing and Suzhou cities of Jiangsu province, China. Participants who were 18 years of age or older and assigned male sex at birth but identified as women or another feminine gender were recruited through respondent-driven sampling (RDS). Analysis focuses on PrEP awareness and willingness to use among 222 participants who were HIV negative or sero-status unknown.

RESULTS: Nearly half (48.2%) of the transgender women surveyed were aged 18-24 years; 31.1% had a university degree or higher. Over half (52.2%) had ever taken hormones; 18.5% had gender-affirming surgery. Over one third (36.5%) reported alcohol use before or during sex in the last year; 34.7% reported ≥2 sexual partners and 27.0% had condomless anal or virginal sex in the last 6 months. PrEP awareness was reported by 33.3%. Willingness to use PrEP (after explaining the intervention) was reported by 49.1%. PrEP awareness was associated with having a university degree or above (AOR 2.77, 95% CI 1.31-5.89) and not using alcohol before or during sex (AOR2.02, 95% CI 1.01-4.09). Those having one (AOR 3.56, 95% CI1.68-7.54) or multiple sexual partners (AOR2.53, 95% CI1.24-5.15) were more willing to take PrEP than those with no partners.

CONCLUSIONS: Transgender women in China are at high risk for HIV and there is an unmet need for PrEP interventions for this group. Our study witnessed low awareness of PrEP, yet substantial willingness to use PrEP. PrEP education and promotion programs should be enhanced for transgender women, especially targeting venues with alcohol use. Meanwhile, implementation research to scale up access and test the effectiveness of PrEP for transgender women is also urgently needed.

PEC0611

UNPACKING THE USE OF ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) AS PART OF THE HIV PREVENTION PACKAGE IN A CLINICAL TRIAL

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BACKGROUND: The ECHO (Evidence for Contraceptive Options and HIV Outcomes) trial which was conducted at 12 sites in Africa measured HIV incidence among 7829 women randomised to one of three effective contraceptives. PrEP was offered as part of the HIV prevention package throughout the trial, and the trial provided oral PrEP at the Durban, South Africa site part-way through the trial. We present findings below on experiences of women who initiated oral PrEP at the Durban site.

METHODS: All women who initiated oral PrEP on-site at the Durban site were invited to complete an additional structured interviewer-administered questionnaire that probed experiences with using trial-provided PrEP. Women were interviewed approximately three months after initiating PrEP from April to October 2018. Data were entered on REDCap and analysed using Stata. Open-ended questions were coded into categories and descriptively analysed.

RESULTS: In total, 132 (96.4% of 137 women who initiated PrEP on-site) were interviewed. The mean age was 24 years. Twenty-seven (20.5%) women felt they would probably get infected with HIV. Women felt at risk for acquiring HIV due to many reasons including: not knowing their partner's HIV status (24, 18.2%), feeling their partner had other sexual partners (57, 43.2%), not always using a condom when having sex (97, 73.5%) and having had a previous sexually transmitted infection (17, 12.9%). PrEP use was disclosed by 119 (90.2%) women: 46(38.7%) disclosed to partners, 44(37.0%) to friends, and 81(68.1%) to family. In total, 120(90.9%) women heard about PrEP for the first time from ECHO trial staff. Three-quarters (99, 75.0%) elected to continue using PrEP at study exit. Reasons for stopping PrEP included(n=32): side effects (12, 37.5%), partner or family influence (5, 15.6%), forgetfulness (4, 12.5%) and other reasons (11, 34.4%).

CONCLUSIONS: Staff were found to be vital in the delivery of oral PrEP and up to 38% of attrition from PrEP was due to side effects. Most clients disclosed PrEP use. Three-quarters of women continued PrEP at study exit. These findings can be used to inform other trials delivering oral PrEP.

PEC0612

IMPACT OF PREP ON SOCIAL DOMAIN OF QUALITY OF LIFE: A COHORT STUDY

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BACKGROUND: HIV pre-exposure prophylaxis (PrEP) has been recently implemented in the public healthcare system in Brazil. Although PrEP efficacy for HIV prevention has been extensively documented, few studies have analyzed its impact on quality of life (QOL).

METHODS: In this cohort study, we included ≥18 years old HIV-uninfected patients receiving a first PrEP prescription in the public healthcare system and applied the WHOQOL-bref questionnaire at baseline and at 7 months after PrEP initiation. The change in QOL scores were explored using Wilcoxon sign rank tests.

RESULTS: 114 PrEP users were included between July/2018 and May/2019. Participants were mostly white (72%) males (97%), with ≥12 years of education (96%) and had median age of 30 years old (range 19-61). Most were men who have sex with men (93%). Condom use in <half of sexual intercourse episodes ≤3 months prior to inclusion was reported by 14%, and 61% reported some illicit/club drugs use ≤3 months prior to inclusion. Baseline and 7-month health perception, overall QOL perception and scores in QOL domains (physical, psychological, social relationships and environment) are presented in Table 1.

QOL measurements	Baseline, N=114	7-month follow-up, N=47	p-value
Overall health perception	75 (75-75)	75 (75-75)	0.635
Overall QOL perception	75 (75-100)	75 (75-75)	0.299
Physical domain	75 (64-86)	79 (68-86)	0.087
Phycological domain	71 (58-79)	75 (63-79)	0.470
Social domain	67 (58-75)	75 (58-83)	0.057
Environmental domain	69 (59-78)	72 (66-84)	0.071

Variables are presented as medians and interquartile ranges
[Table 1.]

QOL measurements at 7 months after PrEP initiation were collected for 60 participants. WHOQOL-bref social domain, which comprises questions on social relationships (friends, relatives, colleagues), sexual life and support from friends, improved from a median score of

67 (interquartile range [IQR] 58-75) at baseline to 75 (IQR 58-83) at 7th-month visit (p=0.057) among 47 PrEP users who reported good adherence (≥4 pills/weeks). Age, race, income and use of illicit and/or club drugs were not significantly associated with change in WHO-QOL-bref social domain score.

CONCLUSIONS: In addition to its documented efficacy for HIV prevention, our findings suggest that PrEP may also improve QOL, especially in the social domain. Favorable effects of PrEP may transcend HIV prevention. These potential benefits should be considered in the context of PrEP referral.

PEC0613

AWARENESS OF AND WILLINGNESS TO USE ORAL PRE-EXPOSURE PROPHYLAXIS IN A COHORT AT HIGH RISK OF HIV INFECTION IN SOUTH-WESTERN UGANDA

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BACKGROUND: Oral pre-exposure prophylaxis (PrEP) is known to reduce HIV acquisition through sex by nearly 100% when taken consistently. However, many people who could benefit from PrEP are unaware of its existence or cannot access it. We investigated awareness and willingness to use PrEP in a cohort at high risk of HIV infection in South-western Uganda.

METHODS: Participants comprised HIV-negative adults (18-45 years) enrolled in a prospective HIV vaccine preparedness study between July 2018 and October 2019. At baseline, data on demographics, HIV risk, awareness of and willingness to use PrEP, were collected using an interviewer administered questionnaire. A cross-sectional analysis was performed using Poisson regression models with robust variance estimates.

RESULTS: A total of 391 (53% female) participants were enrolled. Of these, 38% (95% CI: 32.9, 42.5) were previously aware of PrEP. Awareness was associated with transactional sex in the past month (RR=1.16, P<0.001), condom use at last sex (RR=1.09, P=0.023), and having electricity in the household (urbanisation indicator) (RR=1.09, P=0.038). 75% (95% CI: 70.6, 79.2) of participants reported willingness to use PrEP. Reported willingness was associated with experience of coerced sex (RR=1.21, P<0.001), having an older (>10 years) sexual partner ((RR=1.11, P=0.075), and non-use or being unsure of condom use at last sex (RR=1.10, P=0.041).

CONCLUSIONS: Prior awareness of PrEP in this population was low. However, willingness to use PrEP was high and associated with presence of high risk behaviour. Efforts to promote and provide PrEP to individuals at high risk of HIV infection in this setting should be fast-tracked.

	Awareness of PrEP n/ N (%) 147/ 391 (38%)	Bi-variate analysis		Multi-variable analysis	
		RR	P-value	RR	P-value
Gender					
Male	61/ 183 (33%)	Ref		Ref	
Female	86/ 208(41%)	1.06	0.101	1.02	0.566
Age categorised					
(Min-30)	123/ 315 (36%)	Ref		Ref	
(31-Max)	24/ 76 (32%)	0.95	0.221	0.98	0.650
Highest level of education attained					
No formal education	6/ 21(29%)	Ref			
Incomplete/ complete primary	91/ 239 (38%)	1.07	0.663		
Secondary or higher education	50/ 131 (38%)	1.07			
Occupation					
Professional/ technical	16/38 (42%)	Ref			
Subsistence fisheries worker	31/75 (41%)	0.99			
Salon/ lodge/ bar worker	36/96 (38%)	0.97			
Sex worker	36/70 (51%)	1.07			
Other	28/112 (25%)	0.88	0.004		
Had sex in exchange for goods in last month					
No	25/ 122 (22%)	Ref		Ref	
Yes	122/ 279 (44%)	1.17	P<0.001	1.16	P<0.001
Used a condom at last sex					
No	93/ 283 (33%)	Ref		Ref	
Yes	54/ 108 (50%)	1.13	0.002	1.09	0.023
Current STI syndrome/ symptom					
No	107/ 269 (40%)	Ref		Ref	
Yes	40/ 122 (33%)	0.95	0.183	0.92	0.034
Do you have electricity in your household (Urbanization indicator)					
No	32/ 110 (29%)	Ref		Ref	
Yes	115/ 281 (41%)	1.09	0.030	1.09	0.038

**No one was taking PrEP.*
**Other on occupation includes: agricultural workers, craft and related trades worker, house help and unemployed.*

[Table 1: Factors associated with awareness of pre-exposure prophylaxis among a high risk population in South western Uganda.]

PEC0614

HOW MEN WHO HAVE SEX WITH MEN PERCEIVE PREP-RELATED SERVICES IN CHINA: A MIXED-METHOD STUDY

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BACKGROUND: Despite the proven efficacy of pre-exposure prophylaxis (PrEP) in HIV prevention, the roll-out of PrEP has been challenging among key populations, including men who have sex with men (MSM). The low acceptability and uptake of PrEP compromise the real-world effectiveness of this promising HIV prevention method. This study sought to understand PrEP acceptability among MSM in China. The data will inform the promotion of PrEP services among MSM.

METHODS: The study was conducted in 2018 in Guangdong Province using a mixed-method approach. An online cross-sectional online survey was conducted with 520 MSM to access their PrEP knowledge, information source, and acceptability. Multiple linear regression was performed to identify the factors associated with PrEP acceptability among HIV-negative MSM. In-depth interviews were conducted with 30 MSM to learn about their concerns and preference regarding PrEP service utilization.

RESULTS: Among the 520 MSM, 489 (94%) self-reported to be HIV-negative. Among the HIV-negative participants, 374 (76.5%) had heard of PrEP before the survey. The most frequently cited channel to learn about PrEP was internet/social media (n=167; 32.1%) and community-based organizations (n=158; 30.4%). Among the 489

HIV-negative MSM, 294 expressed willingness to use PrEP once it is approved in China; 269 were willing to use PrEP daily, and 331 were willing to use before sexual intercourse. Two thirds (n=328) of the HIV-negative MSM accepted PrEP even the protective efficacy is less than 100%; 290 were willing to pay out of pocket for PrEP. After controlling for demographic characteristics, insurance coverage, and risk profile, having mental health symptoms was associated with a lower level of acceptability towards PrEP (β=-0.91; p=0.0477) among the HIV-negative MSM. The challenges to using PrEP included high cost, low accessibility, potential side effect, pill burden, stigma, and lack of protective effect against STI. Primary care-based PrEP services were acceptable, but the protection of patients' confidentiality was a concern.

CONCLUSIONS: Social media could be an efficient channel to disseminate PrEP knowledge. PrEP promotion effort need to address mental health challenges among MSM in order to achieve the best result. The involvement of the primary care systems could help to facilitate PrEP-related service provision.

PEC0615

IS PEP A GATEWAY TO PREP? EXPERIENCE FROM A HIGH VOLUME COMMUNITY HEALTH CENTER

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BACKGROUND: Antiretroviral post-exposure prophylaxis (PEP) after high risk HIV exposure has been recommended for more than 2 decades. Pre-exposure prophylaxis (PrEP) was first demonstrated to be effective a decade ago. The current analyses were designed to assess whether individuals presenting for PEP were likely to transition to PrEP, if they had recurrent high risk exposures.

METHODS: Electronic health record data from patients accessing services in Boston community health center specializing in sexual and gender minority health care between 2010 and 2019 were analyzed to determine the frequency of PEP and PrEP use, secular trends in PEP regimens used, and to evaluate the frequency of the PEP-PrEP transition. Time trend analyses were computed using a chi-square two sample test.

RESULTS: In 2010, 146 unique individuals used PEP, with 17 (11.6%) individuals using it more than once, compared to 2019, when 224 unique individuals used PEP, with 53 (23.7%) using it more than once (p=.004). Increasingly, regimens included tenofovir, so that by 2016, all PEP regimens were tenofovir-based, with the majority of courses (76.9%) by 2019 consisting of 2 drugs, and when a third drug was used, it was always an integrase strand transfer inhibitor. PEP users in 2019 were predominantly White (66.5%), non-Latinx (81.3%), male (85.7%), non-heterosexual (88.8%), and aged between 25 and 39 (55.4%). In 2011, only 11 (8.7%) PEP users initiated PrEP within the same year after PEP, while by 2019, 224 (89.3%) did (p<0.001). No PEP users in 2019 became HIV infected. Of 4089 patients with an active PrEP prescription in 2019, 3 became HIV-infected, all of whom were likely to have been recently infected prior to the time of PrEP initiation.

CONCLUSIONS: Over the past decade, the use of PEP and PrEP has significantly increased at a Boston community health center, with an increasing percent of individuals using PEP recurrently, and transitioning from PEP to PrEP. The low HIV incidence among PEP and PrEP users suggests that PEP promotion and facilitated triage to PrEP has the potential to impact HIV spread.

PEC0616

ADOPTION OF HIV PRE-EXPOSURE PROPHYLAXIS AMONG WOMEN AT HIGH-RISK OF HIV INFECTION IN KENYA

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BACKGROUND: Young women in sub-Saharan Africa (SSA) account for a quarter of new HIV infections worldwide. In order to reduce incident HIV infections, in May 2017, Kenya became the first country in SSA to scale-up the availability of oral pre-exposure prophylaxis (PrEP). We evaluated the prevalence and predictors of PrEP use among a cohort of high-risk HIV-negative women in the Nyanza region of Kenya.

METHODS: We analyzed PrEP use over a 12-month period among HIV-negative women participating in an ongoing cluster randomized controlled trial of an HIV self-testing intervention (NCT03135067). HIV-negative women aged ≥18 years with ≥2 sexual partners in the past 4 weeks were eligible. Women in intervention clusters received multiple HIV self-tests for distribution to sexual partners while women in control clusters received mutliple referral vouchers for clinic-based testing. Participants completed a baseline questionnaire assessing socio-demographic characteristics, sexual behavior, and HIV risk. PrEP use was assessed at baseline, 6 months, and 12 months. The primary outcome was PrEP use at any of the study visits. Univariate and multivariate logistic regression were conducted to identify baseline characteristics associated with PrEP use.

RESULTS: Between June 2017 and August 2018, 2,091 participants were enrolled in the study, of which 2,087 had complete baseline data and were included in the analysis. 138 (6.6%) reported PrEP use during the first year of the study. At study initiation, 1.7% indicated PrEP use, which increased to 3.3% at 6 months, and 4.9% at 12 months. In multivariate analyses, PrEP use was associated with a recent STI diagnosis (AOR 4.9, 95% CI 2.0-12.0), having an HIV-positive primary partner (AOR 5.4, 95% CI 2.7-10.8), having regular transactional sex in the past 12 months (AOR 2.2, 95% CI 1.0-4.7), and being a female sex worker (AOR 2.2, 95% CI 1.3, 3.8).

CONCLUSIONS: In the early stages of the national PrEP rollout in Kenya, PrEP appears to be reaching women at high risk of HIV infection. PrEP uptake increased modestly among HIV-negative women in Kenya during a 12-month period, however, overall uptake was low. There is need for interventions that can increase PrEP uptake among women who are at risk of HIV acquisition.

PEC0617

LONG-TERM RETENTION IN HIV PRE-EXPOSURE PROPHYLAXIS CARE AMONG PATIENTS IN RHODE ISLAND, UNITED STATES, 2013-2018

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BACKGROUND: Retention in HIV pre-exposure prophylaxis (PrEP) care is critical for effective PrEP implementation. However, limited studies have reported long-term retention in PrEP care in the United States. We analyzed clinical data from a major PrEP program to evaluate retention in PrEP care and explore factors associated with PrEP discontinuation.

METHODS: All cis-gender patients presenting to the Rhode Island PrEP clinic from 2013-2018 were included in this study. Descriptive analyses were performed to present demographics and behavioral characteristics. We conducted Cox Proportional Hazard regression to analyze PrEP retain in care over the five year period. Discontinuation was defined as no clinical visit after the last visit within 98 days, which was defined as the median of time intervals between each follow-up. The entry point was the date of individuals' first PrEP visit, and the end point was either the date of discontinuation or the end of this study (Dec, 31, 2018). Confounding variables were identified using directed acyclic graphs (DAGs) and a priori.

RESULTS: Of 502 cis-gender PrEP patients, the median age was 31 years old (interquartile range [IQR]: 25, 43). The majority were male (96%), White (65%), non-Hispanic (82%), insured (99%), and having a college degree or above (64%). African American and Hispanic/Latino were 7% and 18% of this study population, respectively. Of these individuals, 53% were retained in care by Year1, 37% by Year2, 30% by Year3, and 18% by Year4, and 1% by Year5. Being one-year older (crude hazard ratio [cHR]: 0.98, 95% confidence interval [CI]: 0.97, 0.99) and having a college education or above (adjusted hazard ratio [aHR]: 0.73, 95% CI: 0.57, 0.94) were less likely to discontinuation. Females had a 1.68 (cHR: 1.68, 95% CI: 1.01, 2.79) times of risk being discontinued than male. Being either heterosexual (aHR: 3.57, 95% CI: 1.66, 7.70) or bisexual (aHR: 2.71, 95% CI: 1.90, 3.86) was associated with having a higher risk of being not retained in care than people who had same-sex partners only.

CONCLUSIONS: The majority of PrEP users were discontinued during five-year follow-up. Future studies should determine why individuals were not persistent and develop intervention to improve PrEP care outcomes.

PEC0618

UPTAKE AND SEROCONVERSION RATES AMONG KEY AND PRIORITY POPULATIONS SCREENED FOR PRE-EXPOSURE PROPHYLAXIS IN KAMPALA, UGANDA

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BACKGROUND: Pre-Exposure Prophylaxis (PrEP) is effective in reducing HIV transmission among populations at high risk of acquiring HIV. Individuals must perceive their risk and faithfully take the daily PrEP. We report the uptake and seroconversion rates among key and priority populations (KP/PPs) on PrEP in Kampala, Uganda.

METHODS: Clients that attended three PEPFAR supported clinics were followed up from August 2017-September 2019. KP/PPs were: discordant couples, female sex workers (FSW), men who have sex with men (MSM), fisherfolk, non-injecting or injecting drug users. A client was eligible for PrEP if: HIV negative, at substantial risk of acquiring HIV (sex work, irregular condom use, multiple partners, recurrent STIs) with normal renal function (creatinine clearance ≥ 60ml/min). Clients were screened using the national PrEP eligibility tool and counselled. Those that accepted provided consent and were initiated on PrEP (TDF/3TC) at the clinic or in the community; followed up monthly and retested for HIV every 3 months. Seroconversion was defined as testing HIV positive after testing negative while on PrEP. Descriptive analysis was done using frequencies/percentages and incidence rate calculated.

RESULTS: A total of 9,878 clients tested HIV negative [Females 6,203 (62.8%); 4,133 (41.8%) young adults 10 to 24 years]. Those eligible for PrEP were 7,381 (74.7%) [Females 4,749 (64.3%), young adults 3,307 (44.8%)]. Majority 6424(87%) accepted, and were initiated on PrEP [Females 4,205 (65.5%), young adults 2,863 (44.6%)]. Uptake was highest among the discordant couples 429 (99%), transgender people 29 (91%) followed by the FSW 3936 (88%), MSMs 1106 (82%).
There were 15 clients that seroconverted, an incidence rate of 7.4 per 100 person years. FSW 10 (66%), 3 (20%) MSMs, 1 (7%) drug user and 1 (7%) DC. Seroconversion was associated with suboptimal adherence. 10 (67%) were taking drugs intermittently, 5 (20%) stopped due to side effects and new partners. The average time on PrEP was 8.2 months (range 3-17). Retention at 12 months was 11%.

CONCLUSIONS: PrEP uptake was suboptimal among KP/PPs. Apparent seroconversions were few, but those lost to followup may have higher seroconversion rates. Further research is needed to understand barriers and develop strategies to improve uptake and adherence to PrEP.

PEC0619

RATES AND RISK FACTORS OF SEXUALLY TRANSMITTED INFECTIONS AMONG MALES USING PRE-EXPOSURE PROPHYLAXIS (PREP)

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is an important element of HIV prevention. However, the increasing incidence of sexually transmitted infections (STIs) among men who have sex with men may compromise the long-term success of PrEP. We examined the rates and correlates of STIs in a cohort of males using PrEP in an integrated healthcare system in United States.

METHODS: We assessed rates of genital and extragenital syphilis, chlamydia, and gonorrhea in males ≥ 14 years old initiating PrEP between 2014-2017 in Kaiser Permanente Southern California. New STIs within 12 months following PrEP initiation were ascertained through laboratory test results in electronic health records. Multivariable logistic regression was used to assess the odds ratios and 95% confidence intervals for factors associated with testing positive for one STI vs. none and ≥ 2 STIs vs. none during the follow-up period.

RESULTS: Of the 4,998 males initiating PrEP, 4,767 individuals received at least one STI test. There were 890 men (17.8%) who tested positive for one STI and 466 (9.3%) had ≥ 2 STIs during follow-up. There were 338 new syphilis infections among 15,478 screening tests (2.2%), 852 (4.2%) gonorrhea and 913 (4.5%) chlamydia infections among 20,215 gonorrhea/chlamydia tests. In multivariable analysis, having a history of STIs in the 6 months prior to PrEP initiation was the strongest predictor of testing positive for STIs after PrEP initiation, followed by having an addiction medicine department visit in the prior 6 months. Blacks and Hispanics (vs. Whites) had 48% and 33% increased odds of STIs. Those aged ≥35 years were less likely to have a new STI (vs. 14-24-year-olds), as were those who lived in a neighborhood with >75% of adults with a high school diploma.

Characteristics		Odds Ratio (95% confidence intervals) One STI vs. none	Odds Ratio (95% confidence intervals) ≥ 2 STIs vs. none
Age at PrEP initiation, vs. 14-24 years old	25-34 years	0.90 (0.71-1.14)	0.88 (0.64-1.20)
	≥35 years	**0.78 (0.61-0.99)**	**0.51 (0.36-0.70)**
Race/ethnicity, vs. non-Hispanic White	Asian	1.26 (0.95-1.68)	1.02 (0.68-1.52)
	Black	**1.48 (1.07-2.04)**	1.06 (0.67-1.68)
	Hispanic	**1.33 (1.10-1.61)**	1.10 (0.85-1.42)
Proportion of adults with a high school diploma in census block	> 75% vs. < 50%	0.66 (0.44-0.99)	0.60 (0.36-1.01)
History of STIs in the prior 6 months	Yes vs. No	**3.51 (2.92-4.22)**	**5.40 (4.25-6.86)**
Having ≥ 1 visit to addiction medicine department in the prior 6 months	Yes vs. No	1.61 (0.85-3.04)	**3.28 (1.45-7.42)**

[Table. Demographic and clinical characteristics associated with testing positive for STIs during follow-up in multivariable analysis.]

CONCLUSIONS: Among an insured population, disparities exist in rates of STIs acquired while on PrEP. Targeted interventions may benefit youth, minorities and those with a STI history.

PEC0620

CURRENT USE AND REFERRAL FOR PREP AMONG PARTNERS OF HIV DIAGNOSED PERSONS CONTACTED BY PARTNER SERVICES PROGRAMS, UNITED STATES: PRELIMINARY ANALYSIS OF 2018-2019 DATA

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BACKGROUND: HIV partner services (PS) provide an opportunity to link HIV-negative partners to prevention services, including pre-exposure prophylaxis (PrEP). However, the extent to which PrEP services are integrated into PS programs is not well known. This preliminary analysis examines current use of PrEP and referral to PrEP providers among HIV-negative partners contacted by PS programs at Centers for Disease Control and Prevention (CDC) funded health departments.

METHODS: The CDC funds 60 state and local health departments to implement HIV prevention programs, including PS. Health departments report client-level data (demographics, geographic location, HIV testing and outcomes, and linkage to care) on named sexual and/or needle-sharing partners. In 2018, the data requirements were expanded to include current PrEP use and referral to PrEP providers. We analyzed data reported by 39 health departments that had implemented the new requirements during July 2018–June 2019. Descriptive and multivariable logistic regression analyses were conducted to determine the extent of and associated factors for current use of and referral for PrEP among HIV-negative partners.

RESULTS: PS programs tested 3,112 partners for HIV; 2,068 (66.5%) of them tested HIV-negative. Information on PrEP was reported for 1,167 (56.4%) of HIV-negative partners. Of these, 139 (11.9%) were already using PrEP. Blacks (7.6%; aOR=0.61, 95% CI=0.38–0.96) compared to whites (13.1%)) and women (7.5%; aOR=0.52, 95% CI=0.32–0.83) compared to men (13.2%) were less likely to be on PrEP. Partners residing in the West (20.2%; aOR=2.18, 95% CI=1.30–3.68) were more likely than those in South (7.9%) to be on PrEP. Among those who were not on PrEP, 254 (24.7%) were referred to PrEP providers. Partners residing in the Midwest (43.3%; aOR=2.33, 95% CI=1.52–3.59) and West (39.9%; aOR=2.08, 95% CI=1.33–3.23) were more likely than those in the South (24.0%) to be referred to PrEP providers.

CONCLUSIONS: Only one-third of HIV-negative partners contacted through PS programs were using PrEP or referred to PrEP providers. The gap in PrEP services may be wider among population groups and regions disproportionately affected by HIV. Further research is needed to identify and address the barriers to integration of PrEP services in PS programs.

PEC0621

REFERRAL LINKAGE TO PRE-EXPOSURE PROPHYLAXIS (PREP) CARE IN AN INTEGRATED HEALTHCARE SYSTEM

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BACKGROUND: Successful PrEP referral linkage is important for PrEP uptake scale-up in populations at risk of HIV. We examined PrEP referral linkage, PrEP prescription and initiation, and factors associated with linkage to PrEP consultation in an integrated healthcare system in the United States.

METHODS: We identified individuals referred for PrEP from 2014 to 2018 at Kaiser Permanente Southern California using electronic health records and assessed the proportion of individuals with a follow-up PrEP consultation (linkage), the proportion receiving a PrEP prescription, and those fulfilling the prescription (initiation). Demographic and clinical correlates of referral linkage were analyzed using multivariable Poisson regression with robust standard errors.

RESULTS: There were 4,766 individuals who received a PrEP referral, of whom 90% were male, 37% were White, and 33% were Hispanic. The median age was 32 (range 17-77). The number of individuals referred for PrEP increased each year from 163 in 2014 to 1,771 in 2018. The majority of referrals were made by Family Medicine (55%) or Internal Medicine (34%) departments. About 75% (n=3,594) of referred individuals were linked to a PrEP consultation, most of whom received a PrEP prescription (99.6 %) and initiated PrEP (97.2 %). Individuals of age ≥25 years, those living in a neighborhood having ≥50% adults with a high school diploma, or those having alcohol use disorder were were more likely to be linked to PrEP consultation, while those with high-deductible insurance and Medicare were less likely to be linked (Table 1). There was no evidence of disparities in PrEP linkage by race/ethnicity.

Characteristics		Adjusted Relative Risk (95% Confidence Interval)
Age at PrEP referral, vs. 14-24 years old	25-34 years	1.18 (1.11, 1.25)
	≥35 years	1.22 (1.15, 1.29)
Insurance type, vs. Commercial without high deductible	Medicare	0.72 (0.59, 0.88)
	Medicaid	0.97 (0.90, 1.05)
	High-Deductible Plan	0.82 (0.78, 0.86)
Proportion of adults with a high school diploma in census block, vs. <50%	50-75%	1.04 (1.01, 1.08)
	>75%	1.13 (1.03, 1.24)
Alcohol use disorder in previous 6 months	Yes vs. No	1.18 (1.05, 1.32)

[Table 1: Demographic and clinical characteristics associated with PrEP referral linkage]

CONCLUSIONS: We observed suboptimal PrEP referral linkage but very high PrEP initiation among individuals successfully linked to PrEP consultation in an insured population. Equipping frontline providers to prescribe PrEP as well as other targeted interventions to improve referral linkage may facilitate scale-up of PrEP uptake.

PEC0622

THE CALIFORNIA PRE-EXPOSURE PROPHYLAXIS ASSISTANCE PROGRAM: LESSONS LEARNED DURING AN INITIAL EXPANSION OF SERVICES

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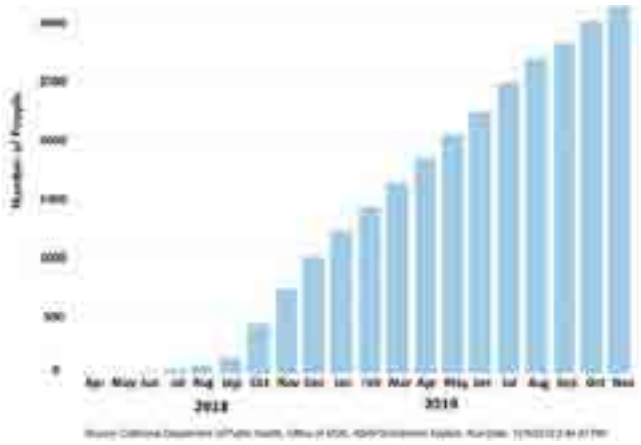
BACKGROUND: HIV Pre-Exposure Prophylaxis (PrEP) is highly effective at preventing HIV infection, but access is often limited for people with low income. The California PrEP Assistance Program (PrEP-AP) seeks to remove financial and structural barriers to PrEP access.

DESCRIPTION: PrEP-AP covers medical out-of-pocket costs for both uninsured and insured people who are eligible based on income. Coverage includes PrEP-related clinical services, laboratory tests, and access to sexually transmitted infection treatment. PrEP-AP supplements PrEP medication access provided through manufacturer assistance programs and covers the provision of post-exposure prophylaxis (PEP).



[Figure. California Pre-Exposure Prophylaxis Assistance Program (PrEP-AP) enrollment, 2018 - 2019]

	Active enrollment in PrEP-AP	HIV Diagnoses in California, 2017
Gender		
Cisgender men	2,775 (95%)	4,138 (87%)
Cisgender women	82 (3%)	526 (11%)
Transgender women	45 (2%)	72 (2%)
Transgender men	3 (0.1%)	5 (0.1%)
Unknown	4 (0.1%)	0 (0%)
Age (years)		
18 - 24	305 (10%)	914 (19%)
25 - 34	1,461 (50%)	1,710 (36%)
35 - 44	691 (24%)	1,005 (21%)
45 - 64	358 (12%)	1,040 (22%)
≥ 65	98 (3%)	81 (2%)
Race/Ethnicity		
Hispanic/Latinx	1,236 (42%)	2,232 (47%)
American Indian/Alaska Native	7 (0.2%)	18 (0.4%)
Asian	260 (9%)	344 (7%)
Black/African American	211 (7%)	802 (17%)
Native Hawaiian/Other Pacific Islander	11 (0.3%)	12 (0.3%)
White	1,065 (37%)	1,245 (26%)
Multiple races	40 (1%)	138 (3%)
Unknown	83 (3%)	0 (0%)
Geographic region of residence		
Southern California	2,545 (87%)	3,053 (64%)
Bay Area	268 (9%)	859 (18%)
Central Valley	11 (0.4%)	503 (10%)
Other regions	100 (3%)	376 (8%)

[Table. Demographic characteristics of people enrolled in the California Pre-Exposure Prophylaxis Assistance Program (PrEP-AP) and number of people with an HIV diagnosis in California in 2017.]

LESSONS LEARNED: From April 2018 – November 2019, active enrollment increased to over 3,000 people (Figure) of whom 58% were uninsured, 38% had commercial insurance, and 4% had Medicare. Comparisons between PrEP-AP enrollees and people with HIV diagnosis in California in 2017 identified several groups with low PrEP-AP enrollment (Table). Potentially under-enrolled populations included cisgender women, young people (age 18 – 24 years), black/African Americans, and people residing in the Central Valley. Several programs have been introduced to address these lessons learned including state-funded PrEP navigation projects that focus on under-enrolled populations. To address confidentiality concerns for young people and other groups, an enhancement to allow PrEP-AP enrollment without using family or partner's health insurance is planned. To improve access in the Central Valley, PrEP-AP introduced a telemedicine PrEP option in September 2019.

CONCLUSIONS/NEXT STEPS PrEP-AP has expanded access to PrEP in California but several populations may be under-enrolled. New enhancements have been introduced and can be evaluated to address these remaining barriers to PrEP.

PEC0623

ACCESS TO PRE-EXPOSURE PROPHYLAXIS OF HIV IN EASTERN EUROPE CENTRAL ASIA REGION

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BACKGROUND: There is lack of studies about pre-exposure prophylaxis (PrEP) in Eastern Europe Central Asia(EECA). From what is known to date, in EECA PrEP is not adequately addressed. We conducted a baseline assessment in 2018 in 17 EECA countries, and at that time only Georgia and Ukraine had an on-going pilot projects on PrEP for MSM covering 100 clients each with the plans for scale-up in 2019. Other countries such as Moldova, Kazakhstan, Kyrgyzstan and Russia planned to introduce PrEP by 2019. We have reassessed the situation in the end of 2019 to see if the access to PrEP improved.

METHODS: 17 countries participated in the survey: Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Estonia, Latvia, Macedonia, Moldova, Kazakhstan, Kyrgyzstan, Russia, Slovakia, Ukraine, Uzbekistan. The study utilized mixed methods of data collection: desk review of the official regulating documents and on-line structured questionnaire followed by the semi-structured in-depth interviews. First assessment was conducted in July-September 2018, second – December 2019.

RESULTS: Out of 17 countries assessed in 2019 only three - Georgia, Ukraine and Moldova have PrEP programs, that are covering 1000 clients in Ukraine, which is 3.5 times less than has been planned, 200 in Georgia and few clients in Moldova. The situation in other 14 countries hasn't changed and no PrEP had been introduced. Among the main barriers preventing countries from initiating PrEP and negatively impacting scale-up we identified insufficient level of knowledge among medical professionals and clients creating lack of demand; luck of financial and human resources including reluctance to provide a governmental funding; high level of stigma and discrimination, significant disconnection between potential users and key gatekeepers, excessive medicalization of service.

CONCLUSIONS: PrEP is still poorly available in EECA region. Among 17 countries participated in assessment by the end of 2019 only 3 had PrEP programs. Scale up is also not going as fast as planned. The main limiting factors are lack of demand from the community and lack of knowledge among medical professionals. Facilitators - informational support for promotion and demand creation, advocacy support, endorsement from professional society, cooperation with governmental and non-governmental stakeholders, international technical and financial aid.

PEC0624

PREVALENCE OF STIS AMONG ADOLESCENT MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (TGW) AT HIGH RISK OF HIV INFECTION IN A PREP MULTISITE STUDY IN BRAZIL

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BACKGROUND:

PrEP is safe and highly effective in reducing HIV acquisition risk among MSM and TGW. However, concerns remain that risk compensation in PrEP users may lead to decreased condom use and increased incidence of STIs, specially among adolescents for whom data is still scarce. Our objective is to present preliminary data on baseline STI prevalence and behavioral risk factors in a cohort of adolescent (15-19 y.o) MSM and TGW PrEP participating in a research study in three Brazilian cities.

METHODS: Recruitment started in April 2019 in Belo Horizonte, Salvador and São Paulo (Southeast Brazil). We assessed baseline prevalence of syphilis (Rapid Test and/or FTA-Abs and VDRL), chlamydia and gonorrhea (NAAT of pharyngeal, rectal and urethral swabs) and Hepatitis A, B, C (Anti-HAV, HBsAg, Anti-HBc/antiHBs and Anti-HCV respectively). Behavioral data was collected through structured questionnaires.

RESULTS: Data were been presented below:

Demographic data at enrollment (n=289)	
Variables	**%**
Age (>18 years)	55.3
Gender	Cis Men 85.2 TGW = 14.8
Race	Black = 71.4
Regular partner	44
>3 casual partners	49.1
Unprotected anal sex	77.7
Commercial sex	23
Chem sex (specially alcohol)	60.5
Prior STI	29.6
Current STI	42.6
PrEP Knowledge	100
Laboratory data (n)	
Variables	**Prevalence %**
HIV+ at enrollment (393)	4.6
HBV immunity (75)	3
Hepatitis C (133)	0.8
VHA susceptible (202)	86.1
Syphilis -active / previous (339)	17.7 / 21%
Gonorrhea (193)	18.7
Chlamydia (93)	14

[Figure. Demographic data at enrollment (n=289)]

CONCLUSIONS: There are several barriers regarding PrEP use for adolescents at risk for HIV and this research project is the first in Brazil dealing with them. Our preliminary data on sexual behavior and on HIV and STIs are worrisome. On the former, especially the percentage of condomless anal sex and the use of chem sex (mainly alcohol). On the latter, the prevalence of HIV of 4.6%, especially considering that almost half of the recruited are between 15 and 17 years; the high prevalence of Syphilis (active or previous contact): 17.7% and of gonorrhea (18.7%), as both conditions facilitate HIV transmission; Hepatitis A: 86.1% susceptible which is unacceptable considering that vaccination is available free of cost at the public health system and the known role of sexual transmission of this virus. These preliminary findings reinforce the importance of studying in depth this population and the need to facilitate access to all combined prevention tools, including PrEP for this age bracket.

PEC0625

INCREASING KNOWLEDGE OF PRE-EXPOSURE PROPHYLAXIS AMONG KEY POPULATIONS LED TO INCREASED UPTAKE IN BOTSWANA

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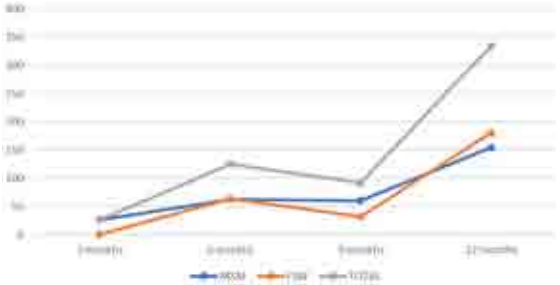
BACKGROUND: The use of pre-exposure prophylaxis (PrEP) is vital to attaining HIV epidemic control among key populations (KPs) and their sexual partners. The second Behavioral and Biological Surveillance Survey (BBSS2) showed awareness of PrEP is low among KPs (6.6% FSWs; 13.4% MSM). However, there was an increase in HIV prevalence 13.1% in 2012 to 19.1% in 2017 amongst MSM. We implemented PrEP for KPs in a community-based setting.

DESCRIPTION: From October 2018 to September 2019, the PEPFAR/USAID-funded LINKAGES project provided PrEP to KPs using differentiated service delivery models including mobile outreach, drop-in centers, and community-based clinics in Maun, Kasane, Gaborone, Selibe-Phikwe, Palapye-Serowe, and Francistown. PrEP, provided as part of a combined prevention strategy, was offered to all eligible KPs. Peer outreach workers (POWs) were trained on explaining PrEP to KPs and provided information, education, and communication (IEC) materials about PrEP during demand creation activities. They also applied a risk-assessment tool to all KP individuals accessing services through the program and referred those at high-risk with a recent HIV negative or unknown result for further screening and assessment for PrEP eligibility. Eligible KPs were offered and started on PrEP, then linked to a peer navigator (PN) for support.

LESSONS LEARNED: PrEP uptake was slow at first; only 26 MSM enrolled in the first three months. At six months, uptake increased five-fold to 125. At 12 months, 334 had enrolled (Figure 1). After one year, a cumulative total of 576 KP members had been initiated on PrEP.



[Figure 1. PrEP uptake over time, October 2018 to September 2019]

CONCLUSIONS/NEXT STEPS: Scaling up demand for PrEP, particularly among FSWs, by improving knowledge, training POWs and peer navigators, distributing IEC material, and accompanying referrals for those who did not enroll the first time helped improve PrEP uptake among KPs.

PEC0626

STAKEHOLDER PERSPECTIVES ON PROMISING INTERVENTIONS TO IMPROVE PRE-EXPOSURE PROPHYLAXIS (PREP) COVERAGE FOR HIV PREVENTION IN LESOTHO: A PARTICIPANT-RANKED PREFERENCES STUDY

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BACKGROUND: Slow uptake and high discontinuation rates persist as major obstacles to realizing the potential of Pre-Exposure Prophylaxis (PrEP) in changing the trajectory of the HIV epidemic in sub-Saharan Africa. This study aimed to determine which interventions relevant stakeholders view as being most promising to increase PrEP coverage in Lesotho.

METHODS: This study was conducted between March and May 2019 among stakeholders across the health system (N=155). Policy makers (n=4) and implementing partners (n=3) were recruited based on their direct involvement in the development and/or implementation of the national PrEP program. Health providers (n=51) delivered direct PrEP services. End-users were sampled from facility records and selected to participate based on current (n=55) or previous PrEP use (n=36), or PrEP decline (n=36). End users were predominantly young women and included, among others, female sex workers and migrant workers. Participants sorted barriers and interventions for PrEP uptake and retention into pre-selected categories of incremental salience (very, somewhat, and not important). Participants then ranked barriers and interventions in the most salient categories in ascending order of importance separately for men and women. Ranked preferences were treated as voting data and analyzed to identify the Smith Set: smallest set of candidates where each candidate in the set would win a two-candidate election against any candidate outside the Smith Set.

RESULTS: Overall, community-based HIV testing was prioritized as the most helpful intervention to improve overall PrEP uptake, and stigma was ranked as the biggest barrier to PrEP retention. However, gendered differences in preferences emerged, with participants selecting lack of PrEP awareness, and fear of HIV testing as the biggest barriers for uptake for women and men, respectively. For men, factors of daily life and medication regimen were also ranked as significant barriers for retention, and an increase in the quantity of PrEP prescribed was prioritized as an avenue to improve men's retention in a PrEP program.

CONCLUSIONS: Eliciting participant perspectives allowed us to quantify policy-level and end-user priorities. Findings from this study can be applied to the current PrEP scale-up in Lesotho, and more broadly inform emerging PrEP programs in Southern Africa.

PEC0627

LONG-TERM PATTERNS OF PREP ADHERENCE AND ASSOCIATION WITH HIV SEROCONVERSION IN A LARGE-SCALE IMPLEMENTATION STUDY IN NEW SOUTH WALES (EPIC-NSW), AUSTRALIA

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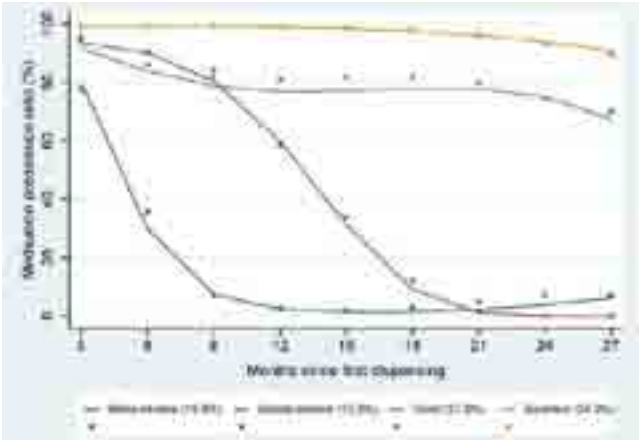
BACKGROUND: Adherence is critical to the success of HIV PrEP. We report patterns of long-term PrEP adherence and the association with HIV seroconversion in a population-based implementation study in NSW, Australia.

METHODS: EPIC-NSW was an open-label study of daily oral PrEP which recruited from March 2016. Adherence was measured using drug dispensing logs. We defined PrEP discontinuation as a ≥120-day period without PrEP coverage assuming daily dosing. Long-term adherence patterns were identified using group-based trajectory modelling (GBTM) and named by the shape of adherence trajectory. Multinomial regression was used to determine predictors of adherence trajectories and Cox regression to describe the association with HIV seroconversion.

RESULTS: Among 9586 participants who were dispensed PrEP, 6460 (67.4%) were followed for at least nine months by April 2018 and were included in this analysis. Participants were mostly male (98.7%), and identified as gay (92.5%), with a median age of 35 years (IQR: 29-44). Over a median of 19 months of follow-up, PrEP discontinuation occurred in 1942 participants (30.1%). Among these, 292 (15.0%) restarted PrEP later. Four distinct groups were identified using GBTM ("Steep decline", "Steady decline", "Good adherence", and "Excellent adherence", Figure).



[Figure]

Participants in the "Steep decline" group (15.4%) were younger, and at baseline more commonly reported recent crystal methamphetamine use, and a recent STI diagnosis (p<0.001 for both). Overall HIV incidence was 0.92 per 1000 person-years (95%CI: 0.48-1.77; n=9), and was highest in the "Steep decline" group (4.92 per 1000 person-years; p=0.001). No participants in the "Excellent adherence" group seroconverted.

CONCLUSIONS: A minority of participants stopped PrEP early and were at increased risk of HIV infection. They were more likely to be younger and report an episode of STI or methamphetamine use prior to PrEP initiation. Strategies to encourage adherence to PrEP among those at high-risk of HIV should be investigated.

PEC0628

ASSESSING PREP DEMAND AND PREFERENCES TO PROMOTE SCALE-UP AMONG MSM AND MALE SEX WORKERS IN INDIA: A DISCRETE CHOICE EXPERIMENT

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BACKGROUND: India has the third largest HIV epidemic globally, with 20-fold higher prevalence among MSM vs. general population. With PrEP demonstration projects being planned, empirical evidence on community demand and preferences can be applied to promote scale-up. We conducted a survey and discrete choice experiment (DCE) to assess demand and preferred PrEP attributes among MSM in India.

METHODS: From 12/2016-03/2017, participants recruited by peer outreach workers from hotspots/cruising areas in Mumbai and Chennai completed an interviewer-administered survey in community-based organization offices. DCE was conducted on Android tablets using choice scenarios of 5 hypothetical, multi-attribute PrEP cards with Tamil/Marathi text and illustrative graphics. In 8 successive double-rounds of choice scenarios, participants chose their "best" and "worst" product out of 5, and then out of 3 remaining cards, using a drag-and-drop technique on the Tablet screen. Additional items assessed demographics, sexual practices, sex work, and willingness to use PrEP. We fitted full ranking data to a multinomial logit likelihood function using the rank-exploded logit model. We then estimated marginal willingness-to-pay (mWTP) and odds ratios from regression coefficients for each attribute, with sub-group analysis by sex work.

RESULTS: Among 200 MSM (mean age, 26.5 years [SD 6.5]; 66.5% < college-degree education), 67.5% reported condomless anal sex, mean number of partners = 6.0 (SD 4.0) (past month), 15.0% forced sex (past year). Half (49.0%) engaged in sex work. Overall, 77.0% indicated willingness to use PrEP. Efficacy had the greatest marginal effect on choice (high vs. moderate, AOR=5.7, 95% CI 4.5 7.3), followed by side effects (none vs. minor, AOR=2.0, 95% CI 1.8 2.4), and dosing (on-demand vs. daily, AOR=1.6, 95% CI 1.5 1.7), with venue (private vs. government hospital) nonsignificant. Sex workers had higher preference for efficacy, and non-sex workers higher preference for on-demand PrEP and preference for government hospitals.

CONCLUSIONS: Educational and social marketing interventions emphasizing high PrEP efficacy and minimal side effects, and programs providing choices of intermittent or daily dosing in both government and private hospitals/clinics will support PrEP uptake among at-risk MSM, including male sex workers. Demonstration projects should monitor uptake/non-uptake, adherence, and evolving preferences to support evidence-informed PrEP scale-up among MSM in India.

PEC0629

PREP USE AND EVOLUTION OF SEXUAL BEHAVIOR FOR MSM IN COHMSM-PREP, A COMMUNITY-BASED COHORT IN WEST AFRICA (ANRS12369 - EXPERTISE FRANCE)

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BACKGROUND: Although PrEP is being introduced in Sub-Saharan Africa, access remains difficult for MSM. In West Africa, PrEP rollout faces unknowns such as the impact of PrEP on sexual behavior and adherence. We sought to explore the evolution of PrEP use and sexual behavior among West African MSM.

METHODS: In 2017, CohMSM-PrEP, a cohort in Mali, Cote d'Ivoire, Burkina Faso, and Togo, added PrEP to their prevention package. Quarterly follow-up includes the choice of PrEP scheme (daily or on-demand) and the collection of socio-behavioral data. Outcomes included: 1) PrEP use (correct, suboptimal, poor, and no-PrEP), 2) condomless anal sex (CAS) in the last 3 months (yes/no); 3) condomless receptive anal sex (CRAS) during last sex (yes/no); 4) number of male partners (0, 1, and ≥2). Generalized estimating equations (GEE) were used to investigate whether these outcomes changed over time, while adjusting for confounders like country, age, education and PrEP scheme.

RESULTS: 555 MSM were included. PrEP use and sexual behavior concerned 1752 (M3-M15) and 2296 (M0-M15) analyzable questionnaires, respectively. PrEP use decreased during follow-up for correct (aOR:0.70, 95%IC:0.49-0.99, p-value:0.046), suboptimal (aOR:0.45, 95%IC:0.23-0.87, p-value:0.019) and poor use (aOR:0.46, 95%IC:0.31-0.70, p-value:<0.001). When compared to daily users, on-demand users were less likely to use PrEP correctly (aOR:0.32, 95%IC:0.21-0.48, p-value:<0.001) and more likely to use it poorly (aOR:3.82, 95%IC:1.97-7.39, p-value:<0.001). Over time, however, no difference in PrEP use was found between PrEP schemes. Concerning sexual behavior, participants were less likely to have either 1 partner (aOR:0.44, 95%IC:0.28-0.69, p-value:<0.001) or ≥2 partners (aOR:0.63, 95%IC:0.40-0.98, p-value:0.040): i.e. they were more likely to declare no partners. No significant trend for CAS or CRAS was found.

CONCLUSIONS: Globally, PrEP use appears to be coherent and evolve with sexual behavior: less partners and less risk leads to less PrEP use. However, more attention should be given to on-demand users, who seem to struggle to take PrEP correctly. Even though risk behavior seems to remain stable, its frequency remains elevated in this population. This, coupled with low adherence and the absence of other forms of prevention, could compromise PrEP's efficacy and put on-demand users at risk for HIV exposure.

PEC0630

PREDICTORS OF PRE-EXPOSURE PROPHYLAXIS UPTAKE AMONG YOUNG SEXUAL MINORITY MEN AND TRANSGENDER WOMEN IN NEW YORK CITY: A P18 COHORT SUBSTUDY

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BACKGROUND: Pre-exposure prophylaxis (PrEP), a highly effective form of HIV prevention available since 2012, is still not widely used by those who could benefit. While many studies have examined disparities in access and uptake by demographic factors such as gender and race/ethnicity, fewer studies have examined psychosocial factors such as medical mistrust, PrEP-related stigma, and other beliefs about PrEP. This study examined the demographic and psychosocial factors associated with current PrEP use in a diverse sample of sexual minority men and transgender women in the New York City metropolitan area.

METHODS: The mixed methods Health-Related Beliefs Study took place within the P18 Cohort Study, a prospective cohort study exploring syndemic development in a racially/ethnically and socioeconomically diverse sample of young adult sexual minority men and transgender women. A total of 202 P18 Study participants who were HIV-negative were enrolled in the quantitative study portion. The CASI (computer-assisted self-interview) measured sociodemographic variables, healthcare access and utilization, medical mistrust, PrEP awareness/uptake, and various beliefs about and experiences with PrEP.

RESULTS: Almost all participants were aware of PrEP, but only 23.2% were currently taking PrEP. There were no significant differences in current PrEP use based on key sociodemographic factors such as age. race, health insurance status, and healthcare utilization. PrEP use was less common among those with greater endorsement of HIV/AIDS „conspiracy beliefs" and more mistrustful beliefs about medications. In adjusted regression models, PrEP use was significantly more likely among those who received PrEP info from a healthcare provider and those who believed that they might contract other STIs if taking PrEP made their condom use decrease. Additionally, PrEP use was significantly less likely among those who don't like taking pills if they're not sick, have concerns about remembering to take a daily pill, and are not sure if everyone should take PrEP.

CONCLUSIONS: PrEP is a key component of HIV prevention, but individuals' experiences with and beliefs about PrEP may impact their likelihood of PrEP uptake. Providers should educate all eligible patients about PrEP, and make space to discuss medical mistrust, conspiracy-type beliefs, and other beliefs or concerns that are barriers to PrEP use.

PEC0631

MEASURING NATIONAL DISPARITIES IN PRE-EXPOSURE PROPHYLAXIS (PREP) USE IN US COUNTIES RELATIVE TO PREP NEED IN 2018

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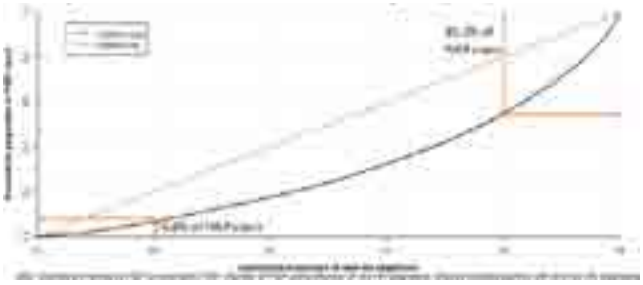
BACKGROUND: PrEP is an effective biomedical HIV prevention method when adherence and coverage are high, but its use is unevenly distributed across the United States (US). Lorenz curves provide an easy-to-implement metric for health inequalities with diverse potential applications in the HIV prevention field. We sought to measure disparities in PrEP use by US county relative to new HIV diagnoses, a proxy for PrEP need.

METHODS: Lorenz curves compare the distribution of PrEP across counties to an ideal 'line of equality' that assumes PrEP is being prescribed proportionally to the number of new HIV diagnoses in all counties. Lorenz curves were used to compare the cumulative proportion of overall PrEP use to that of new HIV diagnoses by county, ranked by PrEP-to-need ratio (PnR) (Figure 1). PnR is calculated as the number of prevalent PrEP users in 2018 divided by new HIV diagnoses in 2017. We also calculated the Gini coefficient of inequality. Data on PrEP use were obtained from Symphony Health national pharmacy records' aggregator.

RESULTS:



[Figure 1. Lorenz curve of PrEP users versus new HIV diagnoses by county in the U.S. in 2018]

The Lorenz curve demonstrated a large variability in PrEP distribution between counties after adjusting for inequalities in new HIV diagnoses (Gini=0.38198). When ranking counties by PnR, persons living in counties that accounted for the lower 20% of new HIV diagnoses had only 6.6% of PrEP users, while persons living in counties that accounted for the top 20% of new HIV diagnoses had 45.3% of PrEP users.

CONCLUSIONS: PrEP use relative to its need is limited in some counties and highly concentrated in others in the US. This indicates that geography is closely linked to access and may serve as a proxy for structural-level factors. Our findings support policies and programs targeting underserved areas in need for PrEP scale up that may be able to adopt successful strategies from areas with higher PrEP uptake.

PEC0632

AWARENESS ABOUT AND WILLINGNESS TO USE LONG-ACTING INJECTABLE PREP (LAIP) AMONG PEOPLE WHO INJECT DRUGS

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BACKGROUND: Long-acting injectable pre-exposure prophylaxis (LAIP) is being developed as an alternative to the oral form of pre-exposure prophylaxis (PrEP) currently prescribed to individuals at high-risk for HIV infection. People who inject drugs (PWID) are an important target population for the use of LAIP as it has the potential to eliminate concerns of poor adherence to daily oral PrEP. Our study aims to understand the willingness of PWID to use LAIP over daily oral PrEP.

METHODS: Between July 2018 and October 2019, 234 participants were recruited from an inner-city addiction treatment program in New Haven, CT. HIV-uninfected individuals who reported high-risk behavior were asked to completed a questionnaire assessing their knowledge and awareness of daily oral PrEP and LAIP. After a brief description of LAIP, participants were asked about their willingness to use and concerns related to uptake of LAIP. Bi-variate and multivariate analyses were employed for data analysis.

RESULTS: From the sample, 67.1% and 25.6% of participants reported having heard of daily oral PrEP and LAIP, respectively, and 25.6% had ever used daily oral PrEP for protection against HIV. A high proportion of participants (76.9%) voiced worries about long-term side-effects as a potential barrier to uptake for LAIP. Male PWID had lower odds of being willing to use LAIP as compared to females (aOR=0.459, p=0.018). Having visited primary care physician was associated with almost three-fold odds (aOR=2.919, p=0.023). Having high perceived HIV transmission risk (aOR=3.255, p=0.007) and having ever used daily oral PrEP (aOR=3.284, p=0.017) were associated with over three-fold odds of willingness to use LAIP compared to their counterparts.

CONCLUSIONS: This is the first quantitative study to assess the willingness of PWID to use LAIP. Our findings showed that PWID who visit the doctor often and who perceive themselves at high-risk for HIV transmission were more likely to be willing to use LAIP. A majority of participants were concerned with the potential side-effects of LAIP, outlining the need for more information and education on this form of PrEP. Results of this research are fundamental for guiding future efforts for the implementation of a program to incorporate LAIP into preventive medicine for PWID.

PEC0633

FACTORS ASSOCIATED WITH INTEREST IN COMMUNITY PHARMACY DELIVERED PRE-EXPOSURE PROPHYLAXIS AMONGST A COHORT OF PATIENTS SEEKING HIV TESTING: A RETROSPECTIVE COHORT STUDY

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BACKGROUND: Pre-exposure prophylaxis (PrEP) uptake has been lower than desired in specific populations. California state legislation will soon allow pharmacists to initiate and furnish PrEP without

a prescription, and in other states pharmacists may work under collaborative agreements to furnish PrEP under protocol. Mission Wellness Pharmacy (MWP) provides pharmacy-based HIV, Hepatitis C, sexually transmitted infections (STI) testing and a PrEP program in collaboration with the San Francisco Department of Public Health. The goal of this project was to examine sociodemographic factors associated with interest in a community pharmacy based PrEP program in a cohort of persons who presented to the pharmacy for HIV testing.

METHODS: This is a retrospective cohort study of persons who received rapid HIV testing at Mission Wellness Pharmacy from 3/1/2017 – 4/1/2018, prior to implementation of the One Stop PrEP program. Social and demographic factors were collected for all patients receiving testing. Patients were also asked whether they viewed the pharmacy as a place to receive PrEP. Fisher's exact and Student's T-tests were used to determine associations between demographic/risk factors and interest in pharmacy-based PrEP.

RESULTS: Of 94 persons who presented for HIV testing 3% were taking PrEP and only 53% had heard of PrEP. 81% positively viewed pharmacies as a place to obtain PrEP. There were no statistical differences in pharmacy-driven PrEP interest by gender (p=0.48), having a primary care provider (p=0.44), insurance (p=0.74, none vs. public vs. private), or high-risk sex in the last year (p=0.12). Patients with a higher number of sex partners were more likely to be interested in pharmacy based PrEP (p=0.04). Patients who identified as African American were more divided about their interest (56% interested) as compared to other race/ethnic groups (p=0.04).

CONCLUSIONS: One strategy to encourage PrEP uptake is to provide services in less traditional settings. There was a high degree of interest in community pharmacy based PrEP in a population with varied demographic backgrounds who received HIV testing services in a pharmacy. Pharmacy PrEP programs can potentially reach a wide variety of persons at risk and will be an important point of access in PrEP scale up.

PEC0634

BARRIERS TO UPTAKE AND USE OF ORAL PREP AMONG FSW IN BLANTYRE, MALAWI

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BACKGROUND: Ministry of Health in Malawi approved the delivery of oral pre-exposure prophylaxis (PrEP) for HIV prevention in 2018. This was followed by the roll-out of the PrEP implementation science project under the USAID/PEPFAR-funded LINKAGES project in February 2019 which aimed to assess acceptability, feasibility and uptake of oral PrEP among female sex workers (FSWs). We present barriers affecting uptake and use of PrEP among FSWs from a qualitative study conducted in Blantyre.

METHODS: Qualitative study using in-depth interviews (IDIs) explored perceptions about PrEP among FSWs unwilling to take PrEP. Participants were recruited from drop in centres at Chirimba, Naperi and Bangwe PrEP study sites in Blantyre. Seven IDIs were conducted among recruited study participants who self-identified as FSW; aged 18 and above; tested HIV negative; and eligible but unwilling to enroll in PrEP. Consent was obtained from all participants and ethical approval obtained from relevant authorities. Data were digitally recorded, transcribed and analyzed thematically to identify barriers of uptake.

RESULTS: Between February and November 2019, 841FSW were screened for PrEP. Out of these, 474 FSW were eligible and enrolled in the study. Of those enrolled, 24 FSW were unwilling to initiate PrEP while 450 FSW initiated on PrEP. Of those initiated, 210 discontinued PrEP. Several factors affected uptake and continuation. These include; myths and misconceptions regarding PrEP; perception that PrEP negatively affects sexual drive as well as fear that HIV treatment will be ineffective if they seroconvert while on PrEP. Other factors included anticipated stigma from sexual partners and peers in case of PrEP being mistaken for HIV treatment, lack of motivation to take PrEP, perceived pill-burden and fear of blood draws for associated tests. One of the recurring reasons for default for those who discontinued PrEP was mobility. This affected follow-up visits and adherence. Despite the barriers, all participants acknowledged the risk of HIV in their personal lives due to indulgence in unprotected sex and multiple concurrent sexual partners.

CONCLUSIONS: Understanding barriers to PrEP uptake is critical in supporting the development of communication and demand creation interventions that address specific reasons that affect decision to initiate on PrEP.

PEC0635

RETENTION IN CARE OUTCOMES AMONG KEY POPULATIONS RECEIVING HIV PRE-EXPOSURE PROPHYLAXIS IN HAITI

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BACKGROUND: The HIV prevalence in Haiti is 2% among the general population but rises up to 4% in prisoners, 8% in FSW and as high as 18,2% in MSM. To reach the goal of zero new HIV infections by 2030, the National AIDS Control Program launched the pre-exposure prophylaxis (PrEP) in 2019, as part of HIV prevention services offered to key populations (KP) and other high-risk groups in Haiti. This study aims to evaluate PrEP use and retention in care outcomes in KP in Haiti.

METHODS: Medical records of clients screened for PrEP eligibility between March and December 2019 from 8 KP friendly health facilities in Port-au-Prince Haiti, were abstracted. Clients either self-referred or were offered PrEP by clinicians or peer educators, based on known risk factors: Men having sex with men (MSM), female sex workers (FSW), serodiscordant couples (SDC)... Follow-up visits were scheduled every 1–3 months. Clients who did not return within 60 days of a scheduled follow-up visit were considered no longer retained in the program. Cox proportional hazard regression was used to identify factors associated with time to PrEP discontinuation.

RESULTS: A total of 330 clients were medically evaluated for PrEP. The median age was 27 years (interquartile range 10 years). About 32.7% of the participants are identified as MSM, 25.8 as FSW, 18.2 as SDC and 23.3 as others. At enrollment, 3.3% (11/330) were diagnosed with syphilis and 5.8% (19/330) with other sexually transmitted infections. Among the clients who initiated PrEP, median follow-up time was 68 days (range 45–134). The cumulative incidence of discontinuing PrEP services at 6 months was 21% (70/330). MSM, SDC

and FSW were significantly less likely to be retained (adjusted hazard ratio [aHR]:0.16, 95% confidence interval [CI]:0.09–0.29; aHR:0.41, 95% CI:0.22–0.76; aHR:0.31, 95% CI:0.15–0.64 respectively) compared to non-KP clients presenting high risk behaviors. One Client (0.3%) became infected with HIV during the six-month period after being prescribed PrEP.

CONCLUSIONS: Retention in PrEP care was suboptimal among KP in Haiti. Further research is needed to identify the individual, social and structural factors that may impede or enhance retention among KP receiving PrEP care.

PEC0636

KNOWLEDGE OF EVENT-DRIVEN PRE-EXPOSURE PROPHYLAXIS (ED-PREP) AMONG PREP-EXPERIENCED GAY AND BISEXUAL MEN IN AUSTRALIA

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BACKGROUND: Event-driven PrEP (ED-PrEP) has recently been endorsed in global and national PrEP guidelines as an effective alternative to daily dosing. However, there has not yet been widespread community education about ED-PrEP in Australia. In a sample of PrEP-experienced gay and bisexual men (GBM), we assessed knowledge about ED-PrEP in the absence of community education campaigns.

METHODS: In October/November 2019, 2,164 previous participants of the EPIC-NSW PrEP trial were invited to participate in an optional survey ≥12 months after PrEP became available via public subsidy. Participants were asked if they were aware of ED-PrEP, followed by three multiple-choice knowledge questions: number of pills to take before sex; minimum time before sex to take the loading dose; number of days after last episode of sex that one pill should be taken per day. Associations were examined with multivariate logistic regression; we present adjusted odds ratios (aOR) and 95% confidence intervals (95%CI).

RESULTS: 1,305 men completed the survey. Median age was 35, 92.8% identified as gay and 80.9% were currently taking PrEP. Over two-thirds (n=888, 68.1%) were aware of ED-PrEP. Only 56 of these men (6.3%) used ED-PrEP in the previous 6 months. ED-PrEP-aware men were no more willing to take ED-PrEP than unaware men (43.2% vs 42.0%, p=0.664). Being more socially engaged with gay men (aOR=1.2, 95%CI=1.1-1.4, p<0.001), believing in the efficacy of ED-PrEP (aOR=1.5, 95%CI=1.2-2.1, p=0.004) and higher income (aOR=1.8, 95%CI=1.2-2.6, p=0.004) were associated with ED-PrEP awareness. Of the 888 ED-PrEP-aware respondents, only 109 (12.3%) answered all three knowledge questions correctly, 296 (33.3%) answered 1-2 questions correctly, and 483 (54.4%) answered all questions incorrectly, including 306 (34.5%) respondents who answered "I don't know" to all three questions. The question on how many days after last sex a pill should be taken was the most likely to be incorrect (75.8%). Correct knowledge was higher among ED-PrEP users than non-users (46.4% vs 10.3%, p<0.001).

CONCLUSIONS: Despite most respondents being aware of ED-PrEP, knowledge of dosing requirements was poor. Lack of knowledge about ED-PrEP use was more common than incorrect answers. Community education about ED-PrEP is critical.

PEC0637

MOVEMENT ALONG THE PREP CASCADE IN A LONGITUDINAL US NATIONAL COHORT OF SEXUAL MINORITY INDIVIDUALS

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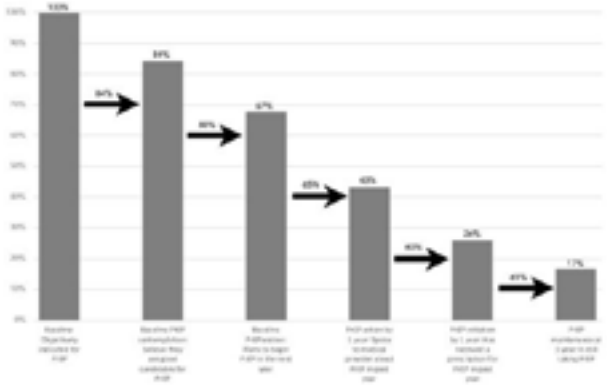
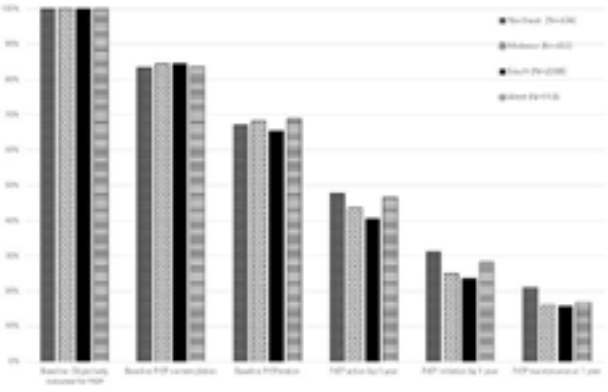
BACKGROUND: Widespread scale-up of PrEP is essential for reducing HIV incidence, but PrEP uptake remains low. The PrEP cascade outlines the necessary steps to maximize PrEP's impact and helps highlight potential intervention targets to improve PrEP implementation.

METHODS: The Together 5000 Study is an internet-based, U.S. national cohort of PrEP-eligible men and trans persons who have sex with men who were not taking PrEP at enrollment. Using longitudinal data from baseline and year one follow-up (N = 4,229), we assessed five steps of the PrEP cascade—PrEP contemplation, PrEParation, PrEP action, PrEP initiation, and PrEP maintenance over the course of one year. We compared the PrEP cascades by region, gender, and race, and identified factors associated with PrEP initiation using unadjusted logistic regression.

RESULTS: After one year, 1092 (26%) participants had initiated PrEP, 709 (17%) were still using PrEP, and 117 (4%) were no longer clinically indicated for PrEP. The largest gap in the cascade was between PrEP action and PrEP initiation (Figure 1).



[Figure 1. The 1 year PrEP cascade in the Together 5000 Study (N=4229)]



[Figure 2. 1 year PrEP cascade by region]

We found differences in the PrEP cascades by U.S. region (Figure 2), but not by gender and race. Baseline characteristics associated with lower odds of PrEP initiation at year one include: not having a college

degree (OR:0.60 [0.52, 0.69]); earning <$20,000/year (OR: 0.67 [0.57, 0.78]); not having health insurance (OR: 0.68 [0.57, 0.81]); having very low food security (OR: .81 [0.68, 0.97]); and not having a primary care doctor (OR: 0.66 [0.57, 0.76]).

CONCLUSIONS: Healthcare access is a major barrier to PrEP implementation.

PEC0638

MIDDLE AND HIGH SCHOOL STUDENT ACCESS TO HIV PREVENTION EDUCATION AND PRE-EXPOSURE PROPHYLAXIS (PREP) IN OAKLAND, CALIFORNIA SCHOOL-BASED AND COMMUNITY HEALTH CENTERS

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BACKGROUND: In May 2018, the US Federal Drug Administration approved daily oral pre-exposure prophylaxis (PrEP) for adolescents. However, lack of information, adolescent's inability to navigate the healthcare system, and physicians unwillingness to prescribe PrEP are all barriers to PrEP use by adolescents at risk of HIV. To address this gap, the Oakland Unified School District (OUSD) developed comprehensive sexual health education curricula, with HIV prevention methods inclusive of PrEP, and partnered with 16 School Based Health Centers (SBHC) to provide PrEP to students at school.

DESCRIPTION: Sexual Health Education is delivered in 6th, 7th and 9th grade, including information about PrEP and access to sexual health services. Student knowledge is evaluated through a pre and post assessment. OUSD's SBHCs are operated by six Federally Qualified Health Agencies that provide medical care to students and family members ages 12-24, including prescriptions to same-day PrEP. Ten physicians who provide care to adolescents in SBHCs completed a survey assessing PrEP prescriptions, provider's willingness to prescribe PrEP, and challenges in supporting students to access and adhere to PrEP.

LESSONS LEARNED: During 2017-2018, 7,500 students received OUSD's Sex Education. High School students reported a 19% increase and middle school students reported a 25% increase in knowledge of where and how to access sexual health services. The same school year, 7,249 reproductive health visits occurred in 16 SBHCs; 1522 (21%) of the visits were for HIV screening and 1667 (23%) were for other STI screenings. Most (98.8%) SBHC providers reported they prescribe PrEP but cited challenges with insurance coverage, understanding of minor consent laws, inadequate patient follow up, and patient phobia of needles for HIV screening.

CONCLUSIONS/NEXT STEPS School-based access to PrEP is feasible, acceptable and readily available to young people at school. Opportunities to improve our program include expanding health education, providing professional development to providers to increase willingness to prescribe PrEP, and implementing best practices for student adherence to PrEP. OUSD has created a model that can be adapted by other urban school districts and used successfully to have an impact on overall student wellness.

PEC0639

EXPERIENCES OF ACCESSING HIV PRE-EXPOSURE PROPHYLAXIS (PREP) FOLLOWING INCLUSION ON AUSTRALIA'S SUBSIDISED MEDICINE SCHEME

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BACKGROUND: Little is known about the impact on participants of transitioning from accessing PrEP via a study to accessing PrEP in health care services. We report on experiences of accessing PrEP in the year following inclusion of PrEP on Australia's list of subsidised medicines.

METHODS: PrEPX, a population level intervention study, provided PrEP in three Australian states from July 2016 to national subsidisation of PrEP in April 2018. PrEPX participants (99% gay, bisexual men) were invited to complete an online survey in April 2019. We describe experiences related to PrEP access and use in the year following national subsidisation. Multivariate logistic regression identified covariates associated with continuing PrEP at a non-study clinic. Thematically analysed free text responses to an open-ended question described experiences of post-study PrEP access among all respondents.

RESULTS: Of 4849 PrEPX participants, 1383 (28%) completed the survey, 1277 (92%) reported any post-study PrEP use, and 1161 (84%) were currently using PrEP. Among those reporting post-study PrEP use, few (18%) changed their PrEP provider clinic. Factors associated with changing to a new clinic included age <30years (aOR2.0 95%CI:1.3523.96), not having all anatomical sites tested for STIs at most recent non-study appointment (aOR2.52 95%CI:1.53-4.15), taking a break from PrEP in the previous three-months (aOR1.44 95%CI:1.01-2.07), and not reporting a positive experience at the most-recent non-study clinic (aOR3.91 95%CI:2.31-6.61) or pharmacy visit (aOR1.55 95%CI:1.02-2.35).

Free-text responses indicated a range of negative experiences when attempting to access PrEP in the community, especially when seeking PrEP from doctors and pharmacists with little previous experience providing PrEP. Also, despite these participants having previous experience of PrEP, and perceiving that PrEP was becoming normalized within their communities, many expressed concerns that might affect their continued use, such as side effects, toxicity, cost, and expressed interest in non-daily dosing.

CONCLUSIONS: Most survey respondents transitioned to subsidised PrEP with little change to their PrEP access or patterns of use. However, those who changed PrEP provider had poorer experiences and receiving less thorough sexual-health care. Negative reactions from doctors and pharmacists also suggest a need for increased training for service providers.

PEC0640

DAILY AND EVENT-DRIVEN PRE-EXPOSURE PROPHYLAXIS REGIMENS AND RETENTION LEVEL IN REAL LIFE: A MULTICENTER RETROSPECTIVE COHORT STUDY IN TAIWAN

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BACKGROUND: Taiwan implemented daily and event-driven (ED) pre-exposure prophylaxis (PrEP) in 2016 and 2018 respectively. While both regimens have been proved effective among men who have sex with men, the data of their retention rate in real life remains scarce.

METHODS: This multicenter retrospective cohort study was conducted in the PrEP clinics of three hospitals in Taiwan from August 2018 to December 2019. The demographic characteristics and laboratory data were collected at first visit and quarterly follow-ups. PrEP clients were categorized into daily, ED, and mixed (defined as switching between daily and ED regimens more than twice) users. We defined the level of retention based on the number of visits yearly: high (>4), medium (2-3), and low (<2).

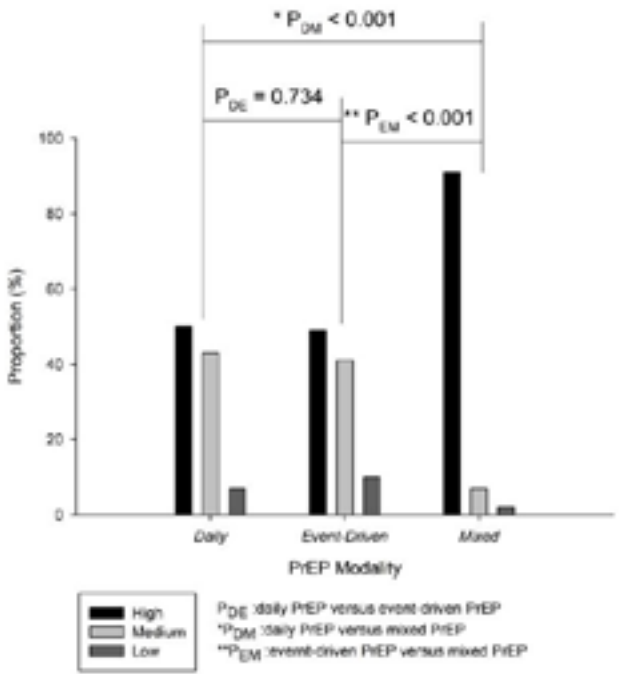
RESULTS: Of 541 clients visiting the PrEP clinics, six were diagnosed with HIV at first visit, and 35% did not initiate PrEP. There were 344 clients started PrEP (with a total follow-up of 2,418 person-months); 40% used daily, 44% used ED, and 16% were mixed users. No participant was seroconverted during follow-up.

The mixed users were significantly younger (P<0.001), with longer follow-up time (P<0.001) than the other two groups. Daily PrEP users reported previous use of post-exposure prophylaxis more frequently (P=0.004). Mixed PrEP users had the highest retention level (Ps<0.001) (Figure).

CONCLUSIONS: Our study suggested switching between daily and ED PrEP regimens was not uncommon and did not decrease the retention rate in real life. More efforts should be addressed to facilitate such practice.

	Daily (n=137)	Event-Driven (n=150)	Mixed (n=57)	P value
Male (%)	134 (97)	150 (100)	57 (100)	0.14
Age (Mean±SD)	33.8±8.1	33.4±7.9	28.0±5.8	<0.001 (ANOVA)
Partner with HIV (%)	17 (12)	10 (7)	6 (11)	0.01
Partner with UVL (%)	13 (9)	8 (5)	5 (9)	0.13
Condomless Sex (%)	115 (84)	111 (74)	46 (81)	0.34
History of PEP (%)	44 (32)	27 (18)	9 (16)	0.004
History of syphilis infection (%)	22 (16)	15 (10)	10 (18)	0.22
History of chemsex (%)	38 (29)	27 (18)	11 (23)	0.21
Total follow-up time (person-month)	903	989	526	<0.001 (ANOVA)

[Table. Demographic characteristics of 344 PrEP users in the study.]



[Figure. The level of PrEP retention with regard to PrEP modalities]

PEC0641

BEYOND LABS AND DRUGS: THE COMPREHENSIVE COSTS OF REAL-WORLD PREP IMPLEMENTATION AND SCALE-UP IN ZAMBIA

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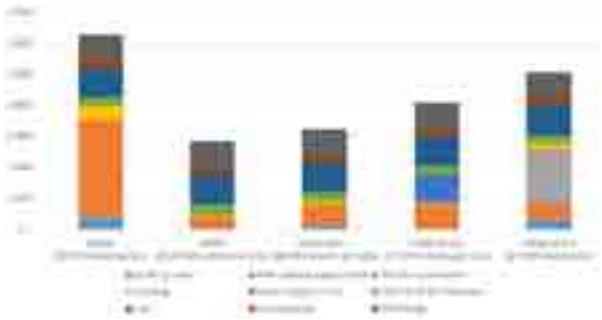
BACKGROUND: Pre-exposure prophylaxis (PrEP) is effective at preventing HIV infection, but PrEP cost-effectiveness is sensitive to PrEP implementation costs- for which there is limited data. Preliminary studies indicate that, in addition to direct delivery cost, PrEP provision requires substantial demand creation and user support to encourage PrEP initiation and persistence. We estimated the cost of providing PrEP in Zambia through different PrEP delivery models.

METHODS: We estimated the annual cost of providing PrEP per client for five delivery models: two key population (adolescent girls and young women (AGYW) and men-who-have-sex-with-men (MSM)) and three integrated (operated at primary healthcare centres). Program start-up, provider, and user support costs were based on program expenditure data and number of PrEP sites and clients in 2019. PrEP clinic visit costs were based on micro-costing at two PrEP delivery sites. We took a guidelines-based approach for visits, labs and drugs assuming fidelity to the expanded 2018 Zambian PrEP guidelines for 12-months of PrEP. Costs are in 2018 USD.

RESULTS: The annual cost/PrEP client varied greatly by program type, from <USD300 (MSM) to USD650 (AGYW). Even between the integrated programs there was substantial variation(USD310-USD500). Cost differences were driven largely by volume (clients initiated/

model) which impacted the relative costs of program support and technical assistance assigned to each PrEP client. Service delivery costs were a key component in the cost of PrEP, representing 18%-63% of total costs. Reductions in service delivery costs per PrEP client are expected with further scale-up.



[Figure. Average cost/PrEP client per year; 2019]

CONCLUSIONS: The results show that accessing vulnerable, marginalised populations at substantial risk of HIV infection is likely to cost more than originally assumed even when integrated into full service delivery models. Improved data on patient level resource usage (e.g. drugs, labs, visits) and outcomes (e.g. initiation, persistence) is required to take the next step in estimating expected annual cost of PrEP provision in Zambia.

PEC0642

MINI FREQUENT PREP INFORMATION GROUP SESSIONS HELP RETAIN A HIGH RISK MSM ON PREP FOR LONGER PERIOD OF TIME

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BACKGROUND: In Sub Saharan African countries, MSMs have 19.3 folds higher odds of being HIV infected compared with the general population. Kenya MSM have a HIV prevalence of 18.2. PrEP protects up to 90% of HIV infection in those who adhere well. However retention of high risk MSM on PrEP in Kenya has proved to be a challenge
METHODS: This was an experimental design, 168 MSM were initiated on PrEP and simple randomly assigned to either control or treatment arm. Both arms were followed for six months to measure retention on PrEP. Control arm received PrEP as per the government guidelines without any intervention, while the intervention arm had 30 minutes group sessions prior to PrEP refills on each visit that ensured they knew name of PrEP agent, time to swallow in relationship to meals, PrEP side effects, importance of not missing PrEP appointment and strategies to use to ensure they take their pills without fail. The participants who completed the study accessed an endline questionnaire and their baseline responses were compared to their endline responses, McNermar's test was used to check for significance in consistency of their responses
RESULTS: At month six the intervention arm had 58/84(69.0%) MSM still taking PrEP compared to control arm at 16/84(19.0%) irrespective of all 168 being active at the facility and reporting high risk sexual behavior. The study showed no significant difference (p=1) among the control arm participants in ability to identify PrEP agent at baseline (25%) and end-line (25%). However the intervention arm demonstrated significant difference from 45.2% to 98.7% at baseline and end line respectively on ability to identify PrEP agent. At month six 96.8% intervention arm participants knew how to take PrEP in relation to meals compared to 31.2% control arm. While only 8.6% in intervention arm compared to 31.3% control arm had missed taking PrEP pill, 5% intervention arm compared to 34% control arm had missed at least one PrEP appointment. Regression analysis was done and presented in the attached table.
CONCLUSIONS: Policy makers should adopt PrEP mini group sessions to enhance PrEP retention among MSM

PEC0643

HIGH ADHERENCE TO PREP FOR HIV PREVENTION AMONG ADOLESCENTS MEN WHO HAVE SEX WITH MEN (AMSM) AND TRANSGENDER WOMEN (ATGW) IN BRAZIL

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BACKGROUND: Maintaining a high level of adherence to daily PrEP is a challenge for AMSM and ATGW. Rates of adherence in "real-world" settings remain largely unknown for this group. Our goal is to estimate PrEP adherence among adolescent's key populations in Brazil.
METHODS: Data are from PrEP1519, a first PrEP demonstration cohort study among AMSM and ATGW aged 15-19 yo ongoing in three Brazilian cities, and collected between March-December, 2019. The outcome "self-reported adherence" was categorized in taking <16 (low) and ≥16 pills (high) and measured at two cross sectional periods of the cohort: 1) past 30 days after PrEP initiation and 2) in the last 30th days of use reported by each participant in the last study visit. Descriptive and bivariate analysis conducted.
RESULTS: 205 MSM (89.3%) and TGW (10.7%) aged 15-17 yo (13.7%) and 18-19 yo (86.3%), at least completed study visits at 4 weeks after PrEP initiation. 70.7% (145) self-reported PrEP adherence in 1st measure: 93.1% (CI 95%: 88.9-97.2) high adherence, and slight differences between MSM vs TGW (93.9% vs 86.7%), those engaged in commercial sex vs no (96.1% vs 92.4%), those 15-17 yo vs 18-19 yo (94.1% vs 93.0%) and those reporting unprotected anal sex vs no (94.7% vs 93.1%). There was no difference in demographic profile for those with and without (30%) adherence data. For the last 30 days of PrEP use reported in the last study visit, 90.9% (100) of 110 participants self-report adherence: 94.0% (CI 95%: 89.2-98.7) high adherence, with a similar pattern as for the 1st measure, except for a lower adherence observed among those engaged in commercial sex (83.3% vs 94.5%). No HIV infection detected in 10 months of PrEP enrolment.
CONCLUSIONS: High rates of PrEP adherence were estimated in PrEP1519 study. It may be explained by youth friendly clinics and peer-navigation strategies to retain participants, used in the study. Despite high adherence rates, TGW and those engaging in commercial sex need more attention. Results indicate the feasibility of AMSM and ATGW adhering to daily PrEP, and suggests the pertinence of expanding PrEP offer to adolescents within the Brazilian National Health System.

PEC0645

PREP AS A LAYERED SERVICE FOR DREAMS AND OTHER AGYW IN ZAMBIA: INSIGHTS FOR ROLLOUT FROM THE USAID DISCOVER-HEALTH PROJECT

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BACKGROUND: The USAID DISCOVER-Health Project (DISCOVER), implemented by JSI Research & Training Institute Inc (JSI), supports the Ministry of Health to improve access to and utilization of quality HIV services in Zambia. DISCOVER is among the first MOH-partners to rollout PrEP after May 2018 scale-up approval, and is the partner currently providing oral PrEP services to AGYW in DREAMS districts, using product donated for DREAMS by Gilead Sciences.
DESCRIPTION: Shortly after MOH PrEP scale-up approval, DREAMS PrEP ARVs arrived in-country, requiring DISCOVER to rollout DREAMS PrEP services with both speed and prudence. Three months into program implementation, we undertook a rapid program review to inform future program direction. Below are the challenges/lessons-learned, and the mid-course corrections implemented to improve program effectiveness.
LESSONS LEARNED:

#	Challenge	Course-Correction
1.	Staff not competent to provide PrEP	Training, intensive mentorship and supportive supervision for staff (lay/clinical), to assure quality service-provision across the care-continuum
2.	Limited bandwidth among ART providers to add-on all PrEP service delivery.	Trained RMNCH providers with Option B+ training to provide PrEP (off-site or integrated into FP/MCH services).
3.	Over-crowded clinics - PrEP adding to congestion.	Layered PrEP services onto a successful pre-existing service-mix, off-site, at DREAMS centres.
4.	Staff/provider biases about AGYW taking PrEP – some judgmental/ disapproving.	Retrained/mentored staff, increasing PrEP knowledge-levels and improving interpersonal communication competencies.
5.	High PrEP demand from non-DREAMS AGYW	Obtained flexibility to use DREAMS centres and Gilead product to provide PrEP to non-DREAMS AGYW. Win-win: higher enrolment of older AGYW into DREAMS
6.	Challenging environment for AGYW on PrEP at start-up – delayed official launch of PrEP delayed start-up of community awareness activities for a supportive environment for PrEP	Provided targeted support to AGYW facing parent/guardian PrEP-related challenges; and supported MOH to launch PrEP and develop a national HIV prevention campaign: Zambia Ending AIDS
7.	No competent/motivated peer-mentors for community-based support to AGYW on PrEP.	Recruited DREAMS graduates as peer-mentors/mobilizers. Already HIV-prevention champions. Contributed to program success.

[Table]

CONCLUSIONS/NEXT STEPS Layering PrEP onto successful pre-existing DREAMS-centre-based services provided greater HIV-resilience for AGYW at substantial HIV-risk, while use of program data for mid-course correction increased program effectiveness.

PEC0646

MEN-WHO-HAVE-SEX-WITH-MEN HIV PREP PREVENTION CASCADES ACROSS EUROPE: FINDINGS FROM THE EUROPEAN MSM INTERNET SURVEY 2017

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BACKGROUND: Men-who-have-sex-with-men (MSM) are the sub-population at greatest risk of HIV in Europe. HIV pre-exposure prophylaxis (PrEP) has great potential to interrupt transmission. Prevention cascades have been proposed to focus primary HIV prevention programmes on the most commonly unmet needs. We constructed a PrEP cascade for MSM and compared it across 43 countries using data from the European-MSM-Internet-Survey-2017.
METHODS: EMIS-2017 was a multi-language, self-completion on-line survey (10/2017–01/2018) recruiting 122,495 MSM without discrepant data in 50 countries, of whom 109,344 (89.3%) were without diagnosed HIV. We constructed a 5-step PrEP cascade: awareness (heard of PrEP); knowledge (key facts); intention to use (very likely to use PrEP if affordable/accessible); accessibility (tried to get PrEP); current use (daily/on demand). We applied the cascade to multiple countries with different denominator populations of non-HIV-diagnosed MSM (100%): (A) all; (B) reporting two or more episodes of condomless anal intercourse with a non-steady partner, past 12 months (objective risk); (C) disagreeing with 'The-sex-I-have-is-always-as-safe-as-I-want-it-to-be' (subjective risk).
RESULTS: Among men not diagnosed with HIV, 21.1% met the behavioural and 13.2% the subjective risk measure.
Among all men not diagnosed with HIV, awareness was 58.2%, knowledge 32.6% (56.1% of the previous step), intention to use PrEP 10.2% (31.1%), accessibility 4.6% (44.8%), and 3.1% (67.7%) used PrEP daily or on demand. Across 43 countries, variation was large for all steps: awareness 26.7–82.7%; knowledge 11.2–54.6%; intention 1.3–21.9%; accessibility 0.3–12.6%; current use 0–8.4%. The table shows the five steps for the subgroups objectively and subjectively at risk of HIV infection. Among those with objective or subjective risk behaviour, all the cascade steps were better met than among the broader group.

	(A) MSM without diagnosed HIV (N=109,344)		(B) Objective risk MSM not diagnosed with HIV, who had condomless intercourse with 2+ non-steady male partners in the last 12 months (N=23,128)		(C) Subjective risk: MSM not diagnosed with HIV who disagreed To The sex I have is always as safe as I want it to be' (N=14'442)	
	% of all	% of last step	% of all	% of last step	% of all	% of last step
Capacity to benefit	100.0	--	100.0	--	100.0	--
Awareness	58.2	58.2	66.6	66.6	68.3	68.3
Knowledge	32.6	56.1	44.6	67.1	48.7	71.3
Intention	10.2	31.1	23.7	53.0	32.3	66.3
Accessibility	4.6	44.8	14.0	59.2	25.5	79.0
Current use	3.1	67.7	10.7	76.3	23.3	91.5

[Table]

CONCLUSIONS: Awareness and practical knowledge, but also intention to use PrEP among men with objective or subjective HIV risk are currently major gaps in the MSM HIV PrEP cascade. EMIS-2017 data allows the comparison of prevention data across multiple countries/ cities.

PEC0647

INCREASING PREP UPTAKE THROUGH HTS COUNSELOR SENSITIZATION, INTEGRATED SCREENING, AND CLIENT EDUCATION

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BACKGROUND: PrEP (Pre-Exposure Prophylaxis) serves as a powerful new tool for reducing HIV infection for at-risk populations and moving toward epidemic control. In early 2019 in Eswatini, however, few patient education resources existed for PrEP. In some cases, PrEP was seen as a service only for key populations. In response, The Luke Commission (TLC) designed and implemented a PrEP uptake plan. TLC provides free HIV/AIDS testing and treatment in Eswatini as part of a comprehensive healthcare platform reaching over 95,000 patients annually through mobile medical hospital outreaches and at a fixed site in central Eswatini.

DESCRIPTION: TLC integrated PrEP into its healthcare platform through a four-pronged strategy. First, HTS counselors were sensitized to the availability of PrEP for at-risk clients who tested nonreactive (NR). Next, PrEP screening questions were incorporated into a comprehensive patient assessment tool. Third, SMS invitations were designed for index partners, inviting them for a wellness check with TLC that included education about PrEP. Finally, HIV+ clients returning to TLC for a followup visit were invited to bring their partner to the visit.

LESSONS LEARNED: Initial uptake of PrEP was high in the early months of the initiative; however, one-month retention was low as many clients did not return for a first refill. In response, TLC adjusted strategy to focus on more extensive education and counseling about consistent use of PrEP. By including a private code in SMS invitations, indexed HIV-negative clients were identified to counselors without stigma as potential candidates for PrEP.

[Figure. PrEP initiations]

CONCLUSIONS/NEXT STEPS Following the strategy above, TLC initiated 1,862 clients on PrEP between March and November 2019. Providing increased training for staff and analyzing potential entry points to screen for and encourage PrEP initiation significantly increased the number of PrEP patients identified and initiated.

PEC0648

ONLY HALF OF GAY, BISEXUAL AND OTHER MSM MEETING HIGH RISK CRITERIA ACCEPTED REFERRALS TO PREP SERVICES IN TORONTO AND VICTORIA, CANADA: PRELIMINARY FINDINGS FROM THE PRIMP STUDY

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BACKGROUND: To maximize the public health impact of HIV pre-exposure prophylaxis (PrEP), health systems should actively link those at greatest HIV risk to PrEP services.

METHODS: PRIMP is a multi-centre Canadian implementation science effort to link gay, bisexual and other men who have sex with men (gbMSM) to PrEP through a cascade of steps: 1) identify gbMSM meeting high-risk criteria, 2) recommend PrEP, 3) client acceptance of the recommendation, 4) referral to PrEP services, 5) PrEP clinic attendance, 6) PrEP initiation, and 7) retention on PrEP. We documented this PrEP cascade among gbMSM seen at eight sexual health facilities in Victoria and Toronto between 12/2018-11/2019. Sequential patients were categorized according to a hierarchy of risk criteria (infectious syphilis, rectal gonorrhea/chlamydia, HIRI-MSM (high incidence risk index for MSM) score ≥25, recurrent post-exposure prophylaxis (PEP) use, 'other') and the proportion completing each subsequent step was tabulated using program data or chart review.

RESULTS: Numbers (% of previous step) of gbMSM meeting each of steps 1-4 are shown in the Table. Common reasons that PrEP was not recommended to gbMSM meeting criteria included already being on PrEP (25.9%) and being HIV-positive (1.4%), although another 4.6% were not offered PrEP for unclear reasons. PrEP was only accepted by 50.2% of clients. Reasons for refusal were similar in Victoria and Toronto, and most commonly related to clients not believing themselves to be at risk for HIV acquisition.

Cascade step	Toronto	Victoria	TOTAL
STEP 1. IDENTIFIED	771	617	1388
STEP 2. PrEP RECOMMENDED	653 (84.7)	292 (47.3)	945 (68.1)
Not recommended; HIV+ or on PrEP	72 (9.3)	307 (49.7)	379 (27.3)
Not recommended; other reason	46 (6.0)	18 (2.9)	64 (4.6)
STEP 3. ACCEPTED PrEP	322 (49.3)	152 (52.1)	474 (50.2)
Declined; Doesn't feel at risk	103 (15.8)	56 (19.2)	159 (16.8)
Declined; Concerned about side effects	17 (2.6)	8 (2.7)	25 (2.6)
Declined; other reason	211 (32.3)	76 (26.0)	287 (30.3)
STEP 4. REFERRED FOR PrEP	322 (100)	151 (99.3)	473 (99.8)

[Table]

CONCLUSIONS: Despite implementing routine procedures at sexual health clinics to recommend PrEP to gbMSM meeting evidence-based criteria, only half of clients were referred. Interventions to aid men in recognizing risk for HIV are urgently needed.

PEC0649

ESTABLISHING A ROBUST PRE-EXPOSURE PROPHYLAXIS (PREP) IMPLEMENTATION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) IN THE DREAMS PROGRAM 2017-2019: THE KENYAN SUCCESS STORY

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BACKGROUND: The Determined, Resilient, Empowered, Aids free, Mentored and Safe (DREAMS) program provides a package of evidence-based HIV prevention interventions including Pre exposure prophylaxis (PrEP) for adolescent girls and young women (AGYW) ages 18-24 years. Kenya DREAMS program pioneered the use of PrEP when there was limited programmatic experience on PrEP implementation among AGYW. We describe the processes, strategies, and lessons leant from the Kenya DREAMS PREP program for possible replication.

DESCRIPTION: A systematic multi-step process inclusive of government, donors, implementing partners, civil society and communities working together was employed. The processes embraced stakeholder input and buy-in and included (1) information gathering and learning from PrEP demonstration projects, PrEP users and other studies; (2) capacity building for implementing partners and health workers (3) facility readiness assessment and commodity needs assessment and distribution strategy; (4) development of materials and tools for service provision, monitoring and evaluation (5) strategies for mobilization; awareness and demand creation. The model of service provision was jointly decided upon by the respective implementing partner and the sub county health officials.

LESSONS LEARNED: Round table discussions with PrEP users from demonstration projects provided valuable inputs for implementation approach. A cascade approach to capacity building for health workers and facility management created demand for service provision. The push strategy adopted for commodity distribution to central facilities ensured proper control. Two models of service provision were employed: facility approach where services are integrated into existing services, and community based where the safe space platform (a non- challenging environment) are used for service provision. The safe space approach is preferred by the AGYWs for PrEP services. There has been an upward trend in uptake of PrEP from 3,444 in 2017 to 6,589 in 2018 and 14,004 as of September 2019.

CONCLUSIONS/NEXT STEPS Successful PrEP implementation among AGYW in Kenya can be attributed to the use of a systematic and collaborative approach to implementation and roll out. The safe spaces platform is more feasible for PrEP implementation as it ensures continuous assessment for the AGYW needs and support. The DREAMS experience was used to inform PrEP roll out among the general population nationally.

SCALE UP OF PEP AND MALE CIRCUMCISION

PEC0650

AN INTEGRATED APPROACH TO CUSTOMARY MALE INITIATION PRACTICES IMPROVES ACCESS TO MALE CIRCUMCISION SERVICES IN EASTERN CAPE, SOUTH AFRICA

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BACKGROUND: Every year in South Africa, thousands of young males participate in Customary Male Initiation (CMI); a significant part of the rite of passage from boyhood to manhood. Safe Male Circumcision is part of the CMI activities of AmaXhosa males in the Eastern Cape Province (EC). We implemented an integrated Voluntary Medical Male Circumcision (VMMC) model into the existing CMI culture.

DESCRIPTION: Right to Care (RTC) and Population for Service International (PSI) implement a VMMC program in five districts (Amathole, Alfred Nzo, OR Tambo, Buffalo City and Chris Hani) in Eastern Cape, South Africa. Integrated CMI support model involved; community entry and stakeholder engagement, advocacy community campaigns, pre-screening of initiates for chronic illnesses; Safe Male Circumcision procedure, Follow-up at day 2 and day 7, adverse events management, and monitoring and evaluation. Dis-aggregated data was collected as per programmatic requirements using standardized National Department of Health (NDoH) tools. Data was captured and stored in a PEPFAR cloud data storage system called DATIM. This data was analyzed using descriptive data analysis, in particular, univariate analysis.

LESSONS LEARNED: Table 1. Results before and after implementation of integration of CMI model in EC, SA.

	Before implementation of integrated model of CMI support		After implementation of integrated model of CMI support	
	Q1 of FY 2016	Q1 of FY 2017	Q1 of FY 2018	Total Q1 of 2016, 2017 and 2018
Total number of males circumcised	2393	4328	37909	44630
Circumcised males between the age of 15-34 years (age pivot)	1784	3413	33338	38535

[Table]

After implementation of the CMI support Model, there was an increase in total number of males circumcised from 6,721 (Q1 of 2016 &2017) to 37,909 (Q1 of 2018). the number of males between the age of 15-34 years (target group) also increased from 5,197 to 33,338 between the two periods. Integrating VMMC in existing CMI activities may have improved access to VMMC services and presented an opportunity to reach the target males between 15-34 years.

CONCLUSIONS/NEXT STEPS The findings of this study indicate that integrated approached to CMI improves access to circumcisions among males 15-34 years, also known as age pivot. This intervention presents an opportunity to reach sexually active males in this pivot age group and subsequently bring immediate impact in reduction of HIV incidence in EC province. Introducing similar model in traditional circumcising communities may increase uptake of VMMC among 15-34 years old.

PEC0651

INNOVATION FOR A SUSTAINED COUNTRYWIDE VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) SCALE-UP IN ZAMBIA

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BACKGROUND: Voluntary Medical Male Circumcision (VMMC) has been shown to be effective in reducing the acquisition of HIV by 60% (UNAIDS,2007). Zambia is a high HIV burden country with an HIV prevalence of 13.3% (ZDHS 2018) and began scaling up VMMC for HIV prevention in 2007. MC Prevalence in Zambia according to ZDHS, 2013/14 was at 21.6% and only increased to 27.1% in 2016 (ZAMPHIA 2016).

DESCRIPTION: In 2016 the program began holding more advocacy meetings with community leaders (Traditional, Civic and religious) and conducting roadshows with music artists. VMMC campaign periods were extended from one month to two months for each of the three school holiday periods. Community volunteers were recruited and oriented to mobilize clients for VMMC. More VMMC providers were trained and deployed to conduct outreach and static VMMC services while ensuring a steady supply of VMMC commodities. Community mobilizers and providers were reimbursed a minimum daily allowance of $6 for their transport and lunch during outreach activities. Program coordination and management data were done through the already existing Ministry of Health structures both at national and sub-national levels.

LESSONS LEARNED: Since program inception, there was a steady increase in the number of annual VMMCs performed from 304 in 2007 to 173,992 in 2012. This trend continued up to 2015 when 222,000 VMMCs were performed in a single year bringing the total number of circumcisions to 1.2 million in 9 years. However, when the above strategies were implemented in 2016 numbers exponentially increased from 312,000 in 2016 an average of 485,000 VMMCs per year from 2017 to 2019 bringing the total of VMMCs conducted in only 4 years (2016-2019) to 1.8 million. This already translates into 88% achievement of the country target (2 million) for 2016 to 2020, with a year to go.

CONCLUSIONS/NEXT STEPS Factors associated with increased VMMC uptake in Zambia included: advocacy with various community opinion leaders; minimally incentivized community mobilizers; deployment of more providers; extension of the campaign periods and a steady supply of commodities. Innovative demand and service delivery approaches are key to improving VMMC uptake.

PEC0652

KENYA'S EXPERIENCE WITH INTRODUCTION OF DEVICES INTO VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM (2009-2019)

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BACKGROUND: From 2009 to 2018, Kenya assessed the PrePex (elastic collar compression) and ShangRing (collar clamp) devices as outlined in the WHO framework for clinical evaluation of male circumcision devices, to explore their utility within the country's voluntary medical male circumcision (VMMC) for HIV prevention programme.

DESCRIPTION: The ShangRing and PrePex devices were first introduced in Kenya in 2009 and 2013, respectively, through implementation pilots (n=40 and n=427, respectively) assessing effectiveness, safety and acceptability. Their safety and operational requirements were further evaluated under active adverse event surveillance (AAES): PrePex in 2016 (n=2,048) and ShangRing in 2018 (n=1,051). Both devices were endorsed for open-ended roll out. Since endorsement, 76 PrePex circumcisions were conducted with one adverse event (AE) (non-fatal tetanus) reported while 194 ShangRing circumcisions have been done with no reported AEs.

LESSONS LEARNED: In pilot studies, both devices were effective, safe and well-accepted. The moderate/severe AE rate in the PrePex pilot was 5.9% (25/427) compared to zero for ShangRing (0/40). Follow up studies showed that ShangRing takes one week and PrePex two weeks longer to heal than conventional surgical circumcision. Under AAES, both devices were well accepted with moderate/severe AE rates of 0.2% (5/2048) for PrePex and 0.3% (3/1,051) for ShangRing, both within Kenya's acceptable rate of 2.0%. Due to a higher risk of tetanus among PrePex clients identified globally, Kenya in 2017 adopted the new WHO recommendation for 2 doses tetanus toxoid (TT) immunization starting 6 weeks prior to device placement. This became an operational challenge to PrePex roll-out. For ShangRing, stock out of some frequently used device sizes was a challenge.

CONCLUSIONS/NEXT STEPS Though PrePex circumcision is simple and effective, requirement for TT immunization prevented its scale up. ShangRing device is safe, simple and effective. In boys 10-14 years old, ShangRing could help eliminate penile glans injuries and urethral fistulas associated with deep stitches during surgical circumcision. The roll-out of ShangRing to scale would confer great public health benefits.

PEC0653

BALANCING PRIORITIES: QUANTITY VERSUS QUALITY WITHIN A VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM OPERATING AT SCALE IN ZIMBABWE

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BACKGROUND: Since 2013, the local ZAZIC Consortium implemented an integrated voluntary medical male circumcision (VMMC) program in 13 districts in partnership with the Zimbabwe Ministry of Health and Child Care (MOHCC). ZAZIC achieved over 350,000 VMMCs with few reported adverse events (AEs). Ministries and donors set increasingly ambitious VMMC targets and require cost reductions. Qualitative study explores whether intense pressure to do more with less influences program quality. Results inform VMMC program improvement.

METHODS: Key informant interviews (KIIs) with seven site-based VMMC program officers and nine ZAZIC roving-team members were conducted in August 2019. Interviews covered adherence to VMMC standards, demand creation innovations, reaching targets, adverse events, client follow-up and overall program quality. Interviews were recorded, transcribed, and analyzed using Atlas.ti 6.

RESULTS: VMMC teams work nights and weekends in diverse settings using locally-adapted strategies to achieve ambitious targets. Rotating teams of trained VMMC providers ensures continuous service delivery to meet demand. In challenging outreach settings, VMMC procedure safety is prioritized and additional quality assurance (QA) measures help ensure client safety, especially among adolescents. However, KIIs noted three areas where pressure to reach targets and cut costs may compromise safety. First, VMMC teams combine individual and group counselling sessions, potentially reducing client understanding of critical wound care instructions. Second, shortcuts within key infection control practices (handwashing, scrubbing techniques, and preoperative client preparation) may speed VMMC procedures; mild or moderate infections attributable to these shortcuts may be underreported. Lastly, emphasis on numbers at reduced program cost diminishes team commitment to the resource-intensive client follow-up needed to identify complications. In combination with KI observations that circumcision-related stigma reduces client care-seeking behaviours, AEs may be identified late or not reported, lessening program quality.

CONCLUSIONS: The pursuit of ambitious VMMC targets and cost reductions may lead to compromised VMMC service quality. Cost-saving best practices in VMMC should be considered; however, prioritizing costs may have a corrosive effect on the culture of safety. Safeguards must optimize risk reduction over productivity. Increased quality assurance efforts that assure provider adherence to guidelines, encourage AE reporting, and promote quality service provision would balance efforts to increase VMMC productivity at lower cost.

PEC0654

YIELDS FROM VOLUNTARY MEDICAL MALE CIRCUMCISION DATA QUALITY AUDIT: A CASE OF ZAMBIA

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BACKGROUND: Male Circumcision reduces chances of males acquiring the HIV virus through heterosexual intercourse by 60%. Zambia has implemented VMMC since 2007 and uses two data collection systems; the Partner Reporting System (PRS), and in 2013 indicators were introduced in the Health Management Information System (HMIS). This was to ensure collection of all VMMC data including health facilities not supported by partners. In April 2015, a comparative analysis of the 2014 data revealed a large discrepancy between HMIS and PRS (PRS reported 37% more circumcisions). A national data audit was conducted to verify the discrepancy, determine the causes, make recommendations and implement possible solutions.

DESCRIPTION: Purposive sampling of the districts and health facilities was done in five provinces, guided by program data targeting four high-volume facilities (two static and two outreach/mobile) in each of the four selected districts in the province. Client intake forms and registers were reviewed for number of VMMCs performed, comparing them with the PRS and the HMIS in each of the facilities for April-September 2014. Key informant interviews were conducted with providers and supervisors at health facility, district and provincial levels.

LESSONS LEARNED: The audit revealed non availability of source documents at service delivery points, aggregated non-granular data reported by the PRS which could not be traced to the facility and there were poor data capturing and handling practices at service delivery points. This was combined with a weak linkage between program implementation teams and monitoring and evaluation. Recommendations were made to leave source documents at facilities, disaggregate data when reporting and foster linkage between providers and Health Information Officers. There was a marked improvement in 2018 with HMIS reporting 476,396 MCs above the PRS's 257,056.

CONCLUSIONS/NEXT STEPS A large data discrepancy between reporting systems was verified in 2014. A comprehensive monitoring and evaluation system for VMMC requires frequent audits with collaboration from partners, government and all levels of the health system. The discrepancies in the 2014 VMMC data, served as a call-to-action for strengthening the HMIS as the official source of VMMC data. Recommendations from this exercise laid the foundation for data quality improvement, which has been realized in following years.

PEC0655

UPTAKE AND OUTCOMES OF A NOVEL COMMUNITY-BASED POST-EXPOSURE PROPHYLAXIS (PEP) PROGRAM IN RURAL KENYA AND UGANDA

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BACKGROUND: Post exposure prophylaxis (PEP) is a highly effective and complimentary approach to PrEP for HIV prevention; however, in Africa, PEP for sexual exposures is infrequent, under-advertised and highly dependent on access to HIV clinical care sites. We assessed demand, feasibility, acceptability, uptake, adherence and outcomes in a pilot study of a clinic-based patient-centered community program for persons seeking PEP after high-risk sexual exposures.

METHODS: We conducted this pilot study in 5 rural communities in Kenya and Uganda after population-level HIV testing and HIV risk assessment linked to clinics with PrEP programs (SEARCH Trial:NCT01864603). We assessed barriers to PEP in the population and then implemented an intervention that addressed these barriers, building on existing in-country PEP protocols. Additional intervention components were (a)PEP availability 7 days/week, (b)PEP hotline staffed by providers, (c)option for home medication delivery, and (d)facilitation to start or re-initiate PrEP as clinically indicated after PEP completion. The PEP regimens were atazanavir/ritonavir, lamivudine, tenofovir(ATZ/r/3TC/TDF) or dolutegravir(DTG/3TC/TDF). We measured adherence by self-report using three-day recall. Adverse events were measured using DAIDS scale. Successful "PEP completion" was defined as self-reported adherence over 4 weeks of therapy with post-PEP HIV testing.

RESULTS: A total of 124 persons sought PEP; 66% were female, 24% were ≤25 years, and 42% were fisherfolk. Of these, 20% reported exposure with an HIV-discordant spouse, 72% with a new or existing relationship, 7% from transactional sex, and none from rape. 12% of all visits were conducted off-site; 35% of participants had ≥1 off-site visit. No severe/serious adverse events were reported; 7% reported mild nausea, dizziness or malaise that resolved spontaneously. 97% of participants were retained at four week follow-up with 86% reporting adherence over all follow-up visits. 95% were HIV-tested at week 4 follow-up and 88% at week 12. Overall, 85% met the definition of PEP completion. There were no HIV seroconversions.

CONCLUSIONS: Participants in an integrated PEP/PrEP pilot based at community clinics, reporting high-risk exposures, completed PEP with high adherence, few side effects, and no seroconversions. Community-based PEP is an underutilized, on-demand option that compliments PrEP for HIV prevention and expands the reach of current prevention strategies.

PEC0656

ASSOCIATION BETWEEN VOLUNTARY MEDICAL MALE CIRCUMCISION AND HIV RISK COMPENSATION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND: Voluntary medical male circumcision (VMMC) reduces HIV infection among heterosexual men and, likely, among men who have sex with men (MSM). There are concerns about risk compensation—increased high risk sexual behaviors from a decrease in perceived risk post-VMMC. We reviewed available evidence on the association between VMMC and condom use and number of sex partners among both heterosexual and homosexual men.

METHODS: We searched PubMed, Embase, and Cochrane Library for studies published before April 25, 2019. Interventional and observational studies were included if they contained original quantitative data describing the association between VMMC and condom use and/or the number of sex partners among men. Studies were excluded if circumcision was ritual/religious. We used Mantel-Haenszel random effects model to calculate pooled odds ratio (OR) and 95% confidence interval (95%CI). We assessed risk of bias using the Cochrane Handbook of Systematic Reviews of Interventions and the Newcastle-Ottawa Scale.

RESULTS: A total of 116,330 men from 33 eligible studies (37 different population samples, including 39,647 MSM and 76,683 heterosexual men) were included in our analysis. Pooled effects showed no association between VMMC and condomless sex (OR 0.98, 95%CI:0.85-1.12; k=33; I^2=87.2%) and no association between VMMC and multiple sex partners (OR 1.07, 95%CI:0.95-1.21; k=28; I^2=87.2%). Post-surgery data did not find evidence of VMMC-associated risk compensation either among heterosexual(condomless sex: OR 0.95, 95%CI:0.81-1.12; k=25; I^2=89.6%; multiple sex partner: OR 1.07, 95%CI:0.92-1.25; k=22; I^2=87.4%) or MSM(condomless sex: OR 1.08, 95%CI:0.96-1.21; k=8; I^2=0%; multiple sex partner: OR 1.04, 95%CI:0.97-1.12; k=5; I^2=0%). VMMC was associated with decreased odds of condomless sex in the last sexual encounter (OR 0.82, 95%CI:0.70-0.97; k=12; I^2=80.2%).

CONCLUSIONS: The promotion of circumcision as an HIV preventive measure does not appear to increase risky sexual behaviors in both heterosexual and homosexual men. Education is of vital importance to the scaling up of VMMC programs.

INTEGRATING STI, SEXUAL AND REPRODUCTIVE HEALTH AND HBV AND HCV SERVICES IN HIV PREVENTION PROGRAMMES

PEC0657

INCIDENCE RATE OF SEXUALLY TRANSMITTED INFECTIONS IN ADOLESCENT YOUNG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN USING PRE-EXPOSURE PROPHYLAXIS IN THAILAND

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BACKGROUND: Scale-up of pre-exposure prophylaxis (PrEP) in Thailand has led to growing concern of a consequential increase in the incidence of sexually transmitted infections (STIs). Our aim was to describe STI incidence rates and their associated factors in adolescent PrEP users in Thailand.

METHODS: Participants were included from a cohort of adolescent men who have sex with men (MSM) and transgender women (TGW) receiving an HIV prevention package including (1) a daily oral TDF/FTC PrEP regimen (2) routine STI screening and (3) HIV risk reduction counseling. Urine and anal swab nucleic acid amplification screening tests for Neisseria gonorrhea (NG) and Chlamydia trachomatis (CT) and syphilis serology were performed at baseline and month 6 following PrEP initiation. PrEP adherence, number of sex partners and self-reported consistent condom use were analyzed for associations with STI incidence using Poisson regression. PrEP adherence was categorized by TFV-DP concentrations in dried blood spot samples (fmol/punch) into poor (<350), moderate (350-700) and good (>700).

RESULTS: Between March 2018 and June 2019, 200 adolescents (147 MSM, 53 TGW) with a median age of 18 years (IQR 17-19) were enrolled. At baseline, 84% reported inconsistent condom use in the past month. Baseline prevalence of any STIs was 23% (95%CI 17, 28). STIs included 30 CT, 15 syphilis, and 9 NG, all but 2 were asymptomatic. All received STI treatment. Self-reported consistent condom use in the past month increased from 16% to >50% at months 3 and 6 follow-up (p<0.001). Of 144 adolescents who received STI screening at month 6, there were 17 new episodes of STIs, all were asymptomatic. STI incidence rate was 25.2 per 100 person-years (95%CI 14.7, 40.3).
Associated factors with STI incidence were self-reported >2 sex partners in the past month (adjusted RR 4.2, 95%CI 1.0-18.1) compared to none, and moderate (adjusted RR 3.5, 95%CI 1.1-11.5) compared to poor PrEP adherence.

CONCLUSIONS: Despite increased rates of condom use during PrEP program participation, incidence rates of STIs among adolescent MSM and TGW remained high. Most STIs were asymptomatic, therefore routine STI screening and treatment should be integrated into HIV prevention packages to maximise sexual health benefit of high-risk adolescents.

PEC0658

UTILITY OF PSA TO ASSESS SELF-REPORTED PROTECTED SEX AMONG HIV DISCORDANT COUPLES

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BACKGROUND: Understanding sexual practices among HIV discordant couples desiring pregnancy is critical for designing effective safer conception programs. Self-reported sexual behavior may be biased, thus use of objective biomarkers of sexual activity, such as prostate specific antigen (PSA), may be beneficial. We measured the utility of, and agreement between self-reported sexual behavior and PSA testing in the context of a safer conception study for HIV discordant couples in Zimbabwe.

METHODS: Discordant couples desiring conception were enrolled in a prospective, non-randomized, safer conception study and offered a choice of one or more HIV prevention strategies (antiretroviral therapy, oral pre-exposure prophylaxis, vaginal insemination, semen washing). Couples were followed for 12 months. At each monthly visit, data were collected on sexual behaviors including condom use during the past 48 hours, and a clinician-collected vaginal swab was used to test for PSA using ABAcard®p30. Monthly visits were carefully timed to occur outside of the female fertile period, when all couples were counselled to use condoms 100% of the time.

RESULTS: Twenty-three HIV discordant couples were followed from April 2017–June 2019; in 12 of the couples the female partner was HIV-positive. Median age was 31 years for females, 34 years for males. Couples completed a total of 216 monthly visits with no loss-to-follow-up. The majority (71.4%) of vaginal swabs tested negative for PSA (n=152/216). However, half of the couples (n=13/23; 57%) had one or more positive PSA test results (median=2, IQR=2-3), for a total of 64 (29.6%) positive PSA tests. Among patient-visits with a positive result, 20.3% occurred when the participant reported no sex during the past 48 hours, and 46.9% when the participant reported 100% condom use.

CONCLUSIONS: PSA testing provided an objective measure of condom use among discordant couples trying to conceive, showing that half of the couples had condomless sex and the majority of these couples misreported condom use. This is of concern given the high HIV transmission risk among discordant couples. Programs designed to measure exposure and transmission risk would be advised to adopt rapid, objective biomarkers such as PSA to improve accuracy of measurement.

PEC0659

INCREASED SYPHILIS TESTING AND TREATMENT UPTAKE AMONG TRANSGENDER WOMEN CLIENTS WITH FREE TESTING AND SAME-DAY TREATMENT AT TANGERINE COMMUNITY HEALTH CLINIC IN BANGKOK, THAILAND

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BACKGROUND: Syphilis could enhance HIV acquisition and syphilis/HIV co-infection are common among key populations, including transgender women (TGW). Thailand's Universal Health Coverage (UHC) provides free HIV testing but not syphilis testing. We explored syphilis testing uptake before and after it was made available free of charge, as well as linkage to syphilis treatment before and after same-day treatment was provided, among TGW at Tangerine Clinic in Bangkok, Thailand.

METHODS: Tangerine Clinic offers gender-affirming care and sexual health services. TGW could access free twice-a-year HIV testing under UHC. Free syphilis testing was provided through the USAID LINKAGES program since October 2017. Same-day benzathine penicillin injection for syphilis became available in January 2018. We examined uptake of syphilis testing, syphilis and HIV prevalence, and linkage to treatment, as well as TGW characteristics who received syphilis-related services from November 2015 to October 2019.

RESULTS: Of 2,926 TGW clients, 1,738 (59.4%) had syphilis testing with prevalence of 9.3%. HIV testing uptake was 94.4% and 9.5% were tested HIV-positive. Syphilis/HIV co-infection was found among 52 TGW (3.0%) out of 1,715.

In the pre-free syphilis testing period (November 2015-September 2017), 64.7% of the clients were tested. In the post-free syphilis testing period (October 2017-October 2019), 57.7% of the clients were tested. Syphilis prevalence among TGW tested when the testing was free was 10.8%, which was significantly higher than 5.1% prevalence among those tested when it was not free (p=<0.001). TGW who tested when syphilis testing was not free were more likely to be employed than those tested when it was free (79.0% vs. 69.7%, p=<0.001), although more than half shared similar age group and education.

In the pre-same-day treatment period (November 2015-December 2017) 47.7% received treatment with unknown timeframe. In the post-same-day-treatment period (January 2018-October 2019) 81.2% were able to get treated, which is significantly higher (p=<0.001) and the majority of them received same-day treatment or within 1 week.

CONCLUSIONS: We found high prevalence of syphilis and syphilis/HIV co-infection among TGW. Treatment rate also increased with same-day linkage. National HIV program should integrate free syphilis testing and same-day treatment as part of comprehensive health service package for TGW.

PEC0660

TEMPORAL TRENDS IN POSTPARTUM LONG-ACTING REVERSIBLE CONTRACEPTION (LARC) UPTAKE AMONG WOMEN LIVING WITH HIV IN ZIMBABWE, 2012-2018

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BACKGROUND: Zimbabwean women living with HIV (WLHIV) experience higher rates of unintended pregnancy and maternal mortality than HIV-negative women. Long-acting reversible contraceptives (LARC) are highly effective at preventing pregnancy, yet demand remains low. Additionally, many clinicians impose unnecessarily restrictive eligibility criteria that prevent WLHIV from accessing LARC. In light of LARC scale-up in Zimbabwe over the past decade, including programs strategically targeting postpartum women, we examined temporal trends in postpartum LARC uptake from 2012-2018, both overall and among WLHIV.

METHODS: We used three serial population-based cross-sectional surveys conducted in 2012, 2014, and 2018 to elucidate changes in postpartum LARC uptake. Women with infants born 9-18 months before each survey were randomly sampled from catchment areas of 157 health facilities offering PMTCT services. We restricted our sample to biological mothers ages 16-49 (n=26,315). Participants self-reported their current (postpartum) contraceptive use; HIV serostatus was directly measured for >90% of participants. We estimated prevalence differences (PD) in LARC use across survey years using generalized linear models and generated stratified estimates by HIV status.

RESULTS: Postpartum LARC use doubled between 2012 and 2014 (4.4% vs. 10.6%). This increase was larger among WLHIV (5.4% in 2012 vs. 14.6% in 2014; PD: 9.2; 95% confidence interval [CI]: 6.4, 11.9) than among women without HIV (4.2% vs. 10.0%; PD: 5.8; CI: 4.3, 7.3). However, the difference in LARC use between WLHIV and women without HIV was attenuated between 2014 and 2018, during which time LARC use modestly decreased among WLHIV (14.6% in 2014 vs. 11.6% in 2018; PD: -3.0; CI: -7.6, 1.6) but remained constant among women without HIV (10.0% vs. 10.0%; PD: 0.0; CI: -2.3, 2.3). The interaction between survey year and HIV status was significant (p<.04).

CONCLUSIONS: After doubling between 2012 and 2014, postpartum LARC uptake stagnated among women without HIV and decreased among WLHIV between 2014 and 2018. Additional research is necessary to understand supply- and demand-side factors underlying overall low uptake of LARC and the recent decrease in postpartum LARC uptake among WLHIV in order to inform strategies to increase access to methods to prevent unintended pregnancy.

PEC0661

INTEGRATION OF HIV AND SYPHILIS SCREENING IN INDIA: CURRENT SCREENING PATTERNS IN STI CLINIC ATTENDEES AND PREGNANT WOMEN (PW)

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BACKGROUND: STI/RTI control is an effective strategy for preventing HIV transmission and would support achievement of the country's AIDS elimination goal. The National AIDS Control Organisation (NACO) and the National Health Mission (NHM) also jointly administer the prevention of vertical transmission of HIV & Syphilis program and universalised screening of PW in 2014. However, Syphilis screening of the estimated ~30 million PW lags behind HIV screening by 33%. Further, no recent estimates of syphilis prevalence for non-ANC populations exist. This paper examines screening patterns for individuals attending Designated STI/RTI Clinics (DSRCs) and PW arriving at public HIV testing facilities (ICTCs), in order to support program intervention design and strengthen integration.

METHODS: Program data from April 2018 to March 2019 across ~1,160 DSRCs and ~31,800 ICTCs was analysed to quantify HIV and Syphilis screening rates and reactivity. Screening gap was defined as difference between HIV and Syphilis screening rates (against estimated PW). General Clients (GCs) were defined as non-ANC individuals who did not self-identify into an HIV high risk-group. PW syphilis reactivity was not reported due to on-going national data-cleaning exercise.

RESULTS: Of the ~4.8 million GCs (Men:34%, Women: 66%) arriving at DSRCs, 63% were screened for syphilis, and 0.54% were found reactive (Men: 0.95%, Women: 0.3%). Only 45% GCs were referred for HIV screening, with 0.3% found reactive (Men: 0.57%, Women: 0.23%). At these rates, up to 7,985 and 9,675 cases of HIV and Syphilis respectively could have been missed due to incomplete screening. At ICTCs, 10.1 million fewer PW were screened for syphilis than HIV. Screening gap varied widely across facilities - 54% at screening ICTCs, 31% at confirmatory ICTCs, and 70% at public-private-partnership ICTCs.

CONCLUSIONS: As the country moves towards HIV/AIDS elimination, it is critical to shift focus from testing to treat, to testing to prevent and ensure integrated health service delivery. 100% HIV and syphilis screening for individuals attending DSRCs and ICTCs, especially for PW will help fast-track this. A few interventions the program can explore are – introducing universal HIV screening at DSRCs and syphilis screening at ICTCs, strengthening coordination between NHM and NACO, and utilising Dual HIV/Syphilis RDTs.

DEVELOPING TAILORED AND COMPREHENSIVE SERVICES FOR SPECIFIC KEY AND VULNERABLE POPULATIONS

PEC0662

THREE YEARS OF A HIV/STI PREVENTION PROGRAM THROUGH GEOLOCATION APPS IN BARCELONA, SPAIN

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BACKGROUND: Men who have sex with men (MSM) are a high risk population to get sexually transmitted infections (STI). New prevention strategies for reaching hidden populations are needed. The aim of this study was to determine the response rate, acceptability and effectiveness of a program who offers rapid STI testing through dating Apps.

METHODS: We offered rapid STI testing (HIV, syphilis and hepatitis C) by sending private messages on gay Apps from December 2015 until September 2019. Main outcomes were: response rate between contacted users; acceptance as proportion of favorable responses between responders; and effectiveness as the proportion of users who attended our centers between contacted users. Sociodemographics, sexual behaviors and App usage variables were collected from the users who attended our centers. A descriptive analysis was carried out. To identify associated variables to the messages's response, multivariate logistic regression was used. Adjusted Odds ratio (ORa) and 95% confidence intervals (CI) were calculated.

RESULTS: 5,221 individual messages were sent. The response rate reached 32.9% (N=1,720), acceptance was 86.2% (N=1,483) and effectiveness 8.3% (N=458). Additionally, 3.2% (N=169) received online counselling about sexual health. Factors significantly associated with the response of the message in multivariate analysis were: displaying a picture in the App without bare chest or abdomen (OR: 1.42; CI:1.16-1.74), connection schedule at the moment of the message or during last hour (OR:1.62; CI:1.21-2.15) and sent message after 5 pm (OR:1.21; CI:1.01-1.45). Among tested users 37.5% (n=446) had not taken a HIV test for over a year, 21.7% (n=97) had any STI diagnosis during previous year, 43.4%(n=194) had reported anal sex without condom with non-steady partners, and 41.8% (n=187) had consumed drugs for having sex. Positive testing for HIV was 1.8% (n=1), syphilis 2.7% (n=9) and hepatitis C 0.3% (n=1).

CONCLUSIONS: The response rate, acceptance and effectiveness observed in this program indicates that this strategy was a useful tool for promoting STI testing among the MSM population. This program was capable of reaching Apps users with high prevalence of STI, who engage in risky sexual behaviours, consume drugs during sex, and do not routinely take the HIV test.

PEC0663

FACTOR ANALYSIS OF HIV PREVENTION INTERVENTIONS FOR HIGH-RISK ADOLESCENT GIRLS AND YOUNG WOMEN IN THE DREAMS (DETERMINED RESILIENT EMPOWERED AIDS-FREE MENTORED AND SAFE) PROGRAM IN UGANDA (2016-2019)

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BACKGROUND: Combined evidence-based HIV prevention interventions targeting adolescent girls and young women (AGYW) have not been evaluated. United States President's Emergency Fund for AIDS Relief -funded DREAMS, provides evidence-based HIV prevention interventions, targeting high-risk AGYW aged 10-24 years in 15 high (>7%) HIV prevalence districts in Uganda. We identified latent factors that may help reduce HIV incidence among AGYW.

DESCRIPTION: We analyzed DREAMS Uganda program data collected January 2016 to September 2019. We included 81,762 AGYW confirmed HIV negative at least 12 weeks after enrolment followed in an open cohort design who were tested for HIV sero-conversion. We conducted exploratory factor analysis leading to theory driven grouping as follows: Group A: Biological prevention (condoms and contraceptive methods); Group B: Social Protection (economic strengthening services, parenting support and communication and relationship skills); Group C-Keep Girls in School (education subsidy, school-based HIV and violence prevention); and Group D, post violence care. We then developed possible variable combinations from groups A, B, C and D and conducted confirmatory factor analysis, with varimax rotation maintaining only items with factors loading alpha >0.6; the analysis produced a 14-item, four factor scale.

LESSONS LEARNED: Table-1: Rotated Factor Pattern for Standardized Loadings Model of Prevention Packages, Uganda DREAMS Program 2016-2019

	Factor 1 Risk Reduction	Factor 2 Girl Empowerment	Factor 3 Resilience	Factor 4 Post Violence Care
A	0.94170			
A+D	0.90122			
A+B	0.83636			
C		0.95257		
C+D		0.84763		
B			0.94720	
B+D			0.86908	
D				0.93840
Variance (% variance)	6.73 (49%)	3.14 (23%)	1.98 (14%)	1.25 (9%)

[Table]

Confirmatory factor analysis yielded four factors explaining approximately 95% of the variance in the data. Factor-1, (Risk Reduction) accounts for 49% of data variance extracting biological and post violence care interventions highest; Factor-2 (Girl Empowerment) explains 23% of data variance extracting social protection and post violence care interventions highest. The overall observed incidence rate was 0.113/100PY (CI 0.09-0.131).

CONCLUSIONS/NEXT STEPS Our results suggest that risk reduction and girl empowerment combination interventions may have the highest impact on HIV incidence reduction among high-risk AGYW. They will be important variables to consider when investigating the overall impact of DREAMS prevention activities in the cohort.

PEC0664

ACCELERATED HIV INCIDENCE REDUCTION AMONG HIGH-RISK ADOLESCENT GIRLS AND YOUNG WOMEN IN DREAMS (DETERMINED RESILIENT EMPOWERED AIDS-FREE MENTORED AND SAFE) IN UGANDA (2017–2019)

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BACKGROUND: HIV prevalence among Ugandan adolescent girls and young women (AGYW; aged 10–24 years) is four times higher than among male counterparts. We enrolled AGYW into DREAMS (Determined Resilient Empowered AIDS-free Mentored and Safe), an evidence-based HIV prevention program that targets high-risk AGYW. We evaluated the AGYW population effect of providing prevention in a layered approach on HIV incidence among AGYW aged 15–24 years.

DESCRIPTION: We collected program data from DREAMS beneficiaries receiving a multi-pronged combination of prevention interventions along with their parents/caregivers, sexual partners, and communities in 15 districts with high (>7%) HIV prevalence and AGYW population in Uganda (January 2016–September 2019). Districts were grouped by homogeneous HIV characteristics in three geographical clusters. Overall, 237,432 AGYW confirmed HIV negative at least 12 weeks after enrollment were followed in an open cohort design. They received prevention interventions by risk profile and risk-based HIV testing. Using the AIDS Impact Model in SPECTRUM version 5.76, we modeled the expected HIV incidence rates (IR) for AGYW population without DREAMS inputs in the three DREAMS clusters. We then compared the expected HIV incidence rates with observed rates in the DREAMS program (January 2017–September 2019).

LESSONS LEARNED: DREAMS program observed 178 new HIV infections over 77,860.45 person years (PY), with median follow-up of 0.729 PY. Across all three clusters, observed IR was lower than modeled IR, with the highest difference in Central 2 cluster (69%) and the lowest difference in the Mid-Northern cluster (25%). The overall observed incidence rate (IR) was 0.23/100 PY (95% confidence interval [CI]: 0.20–0.26), which was 45% lower than overall modeled IR of 0.41/100 PY (95% CI: 0.40–0.43).

	Baseline - SPECTRUM 2016		SPECTRUM 2017-2019 (A)		DREAMS 2017-2019 (B)		% difference (A-B)/A
	Cases/ Denominator	IR/100 PY (95% CI)	Cases/PY	IR/100 PY (95% CI)	Cases/PY	IR/100 PY (95% CI)	
Overall	3262/ 636,900	0.51 (0.50-0.53)	8525/ 2,014,350	0.42 (0.41 - 0.43)	178/77, 860.45	0.23 (0.20 - 0.26)	45
Mid Northern	1015/ 230,500	0.44 (0.41- 0.47)	2653/ 731,700	0.36 (0.35 - 0.38)	97/35, 340.91	0.27 (0.22 - 0.33)	25
Central 1	975/ 149,340	0.65 (0.61- 0.70)	2709/ 464,050	0.58 (0.56 - 0.61)	44/10, 999.70	0.40 (0.29 - 0.54)	31
Central 2	1271/ 257,060	0.49 (0.47- 0.52)	3163/ 818,600	0.39 (0.37 - 0.40)	37/ 31519.85	0.12 (0.08 - 0.16)	69
Abbreviations: IR, incidence rate; PY, person-years; CI, confidence intervals.							

[Table 1: Modeled expected HIV incidence rates compared to observed rates in DREAMS (Determined Resilient Empowered AIDS-free Mentored and Safe), for adolescent girls and young women aged 15–24 years in Uganda (2017–2019)]

CONCLUSIONS/NEXT STEPS DREAMS implementation decreased new HIV infections by 40% among high-risk AGYW in high HIV prevalence districts. Targeting high-risk AGYW with layered HIV prevention interventions not only protects AGYW from HIV but also may decrease population-level incidence and accelerate HIV epidemic control.

PEC0665

REDUCING HIV RISK VIA STRENGTHENING RESILIENCE IN MSM IN CHENNAI AND MUMBAI, INDIA: A RANDOMIZED CLINICAL EFFICACY TRIAL

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BACKGROUND: Men who have sex with men (MSM) in India are a key population at risk for HIV acquisition and transmission. They are also an extremely marginalized and stigmatized population, facing immense psychosocial stressors and socio-cultural challenges. Self-acceptance appears to be key to fostering resilience in this population. Current HIV prevention intervention programs in India have not focused sufficiently on these issues, and are largely driven by condom promotion and HIV testing.
METHODS: 608 MSM (mean age=26.2, SD=6.3; baseline STI prevalence=33%, HIV prevalence=9.5%) with risk for HIV acquisition or transmission from Chennai and Mumbai, India were equally randomized to either standard HIV/STI testing, or standard HIV/STI testing and a self-acceptance based psychosocial HIV prevention intervention, consisting of group (4-session) and individual (6-sesson) counseling. Primary outcomes included self-reported number of past-month condomless anal sex (CAS) acts and STI incidence at 12-months. Hypothesized mediators related to resilience included self-acceptance and self-esteem. $\chi 2$ tests were used to examine group differences in annual STI incidence, and negative binomial and linear mixed effects models were performed to examine group differences in changes in CAS acts and the hypothesized mediators, respectively, over 4 time-points (baseline, 4-, 8- and 12-months).
RESULTS: A significant interaction ($\chi 2$=40.29, 3df, p<.0001) indicated that the intervention group had a 56% larger reduction in CAS acts from baseline to 4 month follow up (95%CI=35%-71%, p<.0001) and 72% larger reduction from baseline to 8 (95%CI=56-82%, p<.0001) and 12 (95%CI=53%-83%, p<.0001) month follow up compared to control group. Additionally, the intervention group had a larger improvement in resilience: the self-acceptance and self-esteem variables, compared to the control group (both p's<.01). Of those HIV-negative at baseline, 12-month incidence (n=470) was 3.8% (post-hoc exploratory analyses=no significant main effect for the intervention).
CONCLUSIONS: An intervention focused on fostering resilience and reducing CAS was efficacious in reducing CAS, and hypothesized mediators self-acceptance self-esteem in high risk Indian MSM. However, annual STI incidence did not differ. HIV prevention intervention programs for this key population should consider addressing mental health needs in this way, potentially also integrating PrEP to augment this effective psychosocial intervention for effective HIV control in India.

PEC0666

DISABLED PERSONS' KNOWLEDGE ABOUT HIV INFECTION AND THEIR ACCESS TO HIV/AIDS INFORMATION AND SERVICES IN AFRICA: A SYSTEMATIC REVIEW

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BACKGROUND: While several studies have explored the disabling consequences of HIV/AIDS and reported a higher risk of HIV transmission among people with disabilities, there has been no consensus evidence on disabled persons' knowledge about HIV infection and their access to HIV/AIDS information and services in Africa. We conducted a systematic review of the literature to also enable the government, funders, and partners to make better evidence-informed decisions on HIV/AIDS interventional programs for disabled persons.
METHODS: An electronic search of 9 databases (PubMed, Google Scholar, SCOPUS, Web of Science, HINARI, Cochrane Library, JURN, CINAHL, and DOAJ) was conducted. We also searched the references of eligible studies and sent emails to six authors for other relevant peer-reviewed studies to include in this systematic review. All studies were screened independently by two reviewers using the eligibility criteria and relevant data was synthesized and analyzed in accordance with the PRISMA guideline.
RESULTS: Eighteen studies (15 qualitative and 3 mixed method) comprising 5,709 people with disabilities (ranging from physical to intellectual disabilities) conducted across Africa met the eligibility criteria. Most studies found low levels of knowledge about HIV among disabled persons, with females tending to have lower levels of knowledge than males. There were huge gaps in the knowledge base of persons with disabilities, including the misconception that HIV infection could occur through mosquito bites. Also, there was poor access to HIV services among disabled persons: most of the deaf respondents reported difficulties in communicating with healthcare staff, print materials were not adapted for the blind and those with physical impairments were often unable to access health centers. These challenges were similar across many African countries except for some favorable experiences in accessing HIV services reported in Uganda and Zambia, where disability-tailored services were offered by some NGOs and government facilities.
CONCLUSIONS: Disabled persons have poor knowledge of HIV/AIDS and have been historically marginalized in their access to HIV information and services in Africa. There is an urgent need for training of healthcare workers and targeted interventions focused on enhancing communication through concrete examples, visual representations, and a gestural system (sign language) for inclusive HIV/AIDS programs.

PEC0667

PACT: A RANDOMIZED CONTROLLED TRIAL TO EVALUATE EFFECTIVENESS OF IMPLEMENTING A COUPLE-BASED HIV/STI PREVENTION INTERVENTION FOR MEN IN COMMUNITY CORRECTIONS IN NEW YORK CITY

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BACKGROUND: Although accumulating research indicates that men in community correction programs (CCPs) and their female partners are at disproportionately high risk of acquiring HIV and other STIs, to date, no couple-based HIV or STI prevention interventions have been implemented for this population. This study evaluated the effectiveness of implementing a 5-session couple-based prevention intervention, compared with a 1-session counseling, testing, and referral (CTR) program, in reducing HIV and STIs as well as condomless intercourse among men in CC and their female sexual partners.

METHODS: A randomized clinical trial was conducted from July 11, 2013 through May 17, 2016. Participants were drug-involved men mandated to community corrections and their female sexual partners (n = 230 couples or 460 individuals). Participants were recruited from various CC sites in New York, New York, and randomized into either the PACT (Protect And ConnecT) intervention condition or the HIV CTR control condition (n = 115 couples or 230 individuals in each arm). Analysis of outcomes used an intent-to-treat approach. Repeated measures on sexual behaviors in the past 90 days were collected to assess behavioral outcomes at baseline and 3, 6, and 12 months. Biological indicators of HIV and STIs were collected at baseline and 12 months.

RESULTS: The mean (SD) age of participants was 35.0 (12.8) years, and most participants (341 [74.1%]) self-identified as African American. Compared with the control participants, PACT participants had 33% fewer acts of condomless vaginal and/or anal intercourse with their main partner (incidence rate ratio [IRR], 0.67; 95% CI, 0.45-0.99; P = .04), 70% fewer acts with other partners (IRR, 0.30; 95% CI, 0.12-0.74; P = .009), and 40% fewer acts with all sexual partners (IRR, 0.60; 95% CI, 0.42-0.85; P = .005) and fewer sexual partners in the past 90 days (IRR, 0.74; 95% CI, 0.61-0.88; P = .001) over the follow-up period. At 12 months, HIV and STI incidence did not differ significantly between the 2 arms.

CONCLUSIONS: The PACT intervention appeared to reduce risky sexual behaviors, such as condomless intercourse; this finding suggests that a couple-based HIV and STI prevention intervention program may curb HIV and STIs among men in CCPs.

PEC0668

ASSOCIATION BETWEEN GENDER, SEXUAL ORIENTATION AND HEALTHCARE ACCESS IN AGEING ADULTS: A CROSS-SECTIONAL STUDY

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BACKGROUND: Health indicators show that Lesbian, Gay, Bisexual, Transgender, and related communities (LGBT+) are subject to significant disparities regarding health services utilization. Few studies have addressed the subject, especially in older LGBT+ adults. Our aim in this study was to examine the association between gender, sexual orientation, and healthcare access in ageing adults.

METHODS: We designed a cross-sectional study including Brazilian participants aged ≥50 years (Aug2019-Dec2019). We circulated an anonymous online health survey to collect the data. The study was approved by the local institutional review board and requested free and informed consent for participation. Our dependent variable was poor healthcare access, measured using the Primary Care Assessment Tool (PCATool-Brasil; score=0-10, 0=worst) and defined as the lowest score quintile. Our independent variables were gender (cisgender man/woman, transgender man/woman, transvestite, non-binary gender, other) and sexual orientation (heterosexual, homosexual, bisexual, pansexual, other). We grouped participants as non-LGBT+ or LGBT+ and investigated their association with poor healthcare access in a multivariable logistic regression model, stratified according to dependency in the public healthcare system and adjusted for possible confounders.

RESULTS: We included 5,838 participants. Overall, the median age was 60 years, 4,020 (69%) were female, and 1,064 (18%) were LGBT+. We found 60 adults (1%) living with HIV in the non-LGBT+ group and 135 (13%) in the LGBT+ group. A total of 259 (24%) LGBT+ adults answered that their primary care physicians were unaware of their gender identity or sexual orientation. The mean PCATool-Brasil score was 5.8 (±2.0) in the non-LGBT+ and 5.2 (±2.1) in the LGBT+ group. PCATool-Brasil scores under 4.0 defined the lowest quintile of healthcare access. Non-LGBT+ and LGBT+ groups had 882 (18%) and 322 (30%) of participants with poor healthcare access, respectively. After multivariable analysis, we verified that being LGBT+ was independently associated with poor healthcare access both in participants not dependent in public healthcare services (prevalence ratio [PR]=1.43; 95% confidence interval [95%CI]=1.21-1.71) and in those dependent (PR=2.60; 95%CI=2.07-3.27).

CONCLUSIONS: Being LGBT+ was independently associated with poor healthcare access in Brazilian ageing adults. Policymakers should be aware of the barriers facing this population and structure more inclusive healthcare systems.

PEC0669

HIV POST-EXPOSURE PROPHYLAXIS FOLLOWING SEXUAL VIOLENCE: WHO ARE THE VICTIMS MISSING THE TIME WINDOW FOR PREVENTION?

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BACKGROUND: Sexual violence (SV) is a widespread and under-reported public health problem. Prophylaxis for sexually transmitted infections is an essential part of care for SV victims. However, post-exposure prophylaxis (PEP) for HIV can only be administered when patient admission occurs within 72 hours of the SV episode.

METHODS: In this cross-sectional study, we compared SV victims who sought care ≤72h or >72h after the SV episode. We analyzed demographic, clinical, and SV-related variables using chi-squared tests, Wilcoxon Rank-Sum tests, and a multivariable logistic regression model.

RESULTS: We included 482 SV victims who visited a specialised unit at a university hospital in Sao Paulo, Brazil, between 2000 and 2018. Overall, 208 victims (43%) sought care >72h after the SV episode; demographic, clinical, and SV-related characteristics are presented in

Table 1. SV victims who missed the time window for HIV PEP were younger, less educated, and more often male, of black/mixed race, and physically or mentally disabled. They also more frequently described suffering chronic/repeated assaults at or near home, perpetrated by known persons. Although victims seeking care ≤72 hours of the SV episode suffered physical intimidation more frequently, verbal intimidation was more common in those seeking care >72h. Only a minority of victims (19%) reported the SV episode to the police. In a multivariable logistic regression including age, sex, race, schooling years and physical/mental disability, male sex (OR=1.79, 95%CI 1.15-2.79; p=0.011), black/mixed race (OR=1.63, 95% CI 1.06-2.52; p=0.026) and education (OR per additional schooling year 0.94, 95%CI 0.89-0.99, p=0.024) remained significantly associated with admission >72h after SV.

Variables	Total, N=482	Admission ≤72h after SV, N=274	Admission >72h after SV, N=208	p-value
Female sex (%)*1	350 (73)	216 (79)	134 (65)	0.001
Age ≤13 years old (%) 14-17 years old (%) ≥18 years old (%)	19 (11-28) 152 (32) 70 (15) 260 (54)	22 (15-29) 60 (22) 34 (12) 180 (66)	15 (9-26) 92 (44) 36 (17) 80 (38)	<0.001 <0.001
Race/skin color*2 White/Asian (%) Black/mixed (%)	 341 (71) 136 (29)	 205 (76) 66 (24)	 136 (66) 70 (34)	 0.021
Schooling years*3	8 (4-11)	10 (6-11)	8 (2-11)	<0.001
Physical/mental disability (%)*4	36 (8)	14 (5)	22 (11)	0.023
Chronic/recurrent violence*5	101 (21)	11 (4)	90 (44)	<0.001
Assault at/near home	165 (34)	55 (20)	110 (53)	<0.001
Known perpetrator*7	200 (45)	74 (29)	126 (67)	<0.001
Type of intimidation Verbal (%) Physical (%) Cold weapon (%) Firearm (%)	 181 (38) 353 (73) 28 (6) 44 (9)	 78 (28) 216 (79) 21 (8) 29 (11)	 103 (50) 137 (66) 7 (3) 15 (7)	 <0.001 0.001 0.046 0.203

Table 1:

CONCLUSIONS: SV victims who missed the time window for HIV PEP were more often male and socially vulnerable individuals. They were also at a higher risk of domestic sexual abuse. Policy makers should prioritise this population in interventions aiming to improve access to timely medical care.

PEC0670

INTEREST IN THE DELIVERY OF HIV PREVENTION SERVICES THROUGH A GEOSOCIAL NETWORKING APP AMONG MEN WHO HAVE SEX WITH MEN IN CHINA

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BACKGROUND: The growing HIV burden among Chinese men who have sex men (MSM) is partially due to the low use of HIV prevention services. Blued, a widely used social networking app for MSM, has approximately 40 million registered users. Alternative service delivery models through such an app may improve the uptake of preventive services among Chinese MSM.

METHODS: We used data from a large, cross-sectional survey of Chinese Blued users, focusing on items that explored willingness to use HIV prevention interventions through the app. Eligible MSM were aged over 18 years and geolocated in survey deployment areas. Four online services were considered: HIV home tests and condoms mailed to an individual's residence, online HIV risk screener, and pre-exposure prophylaxis (PrEP) referral to local providers. We used univariate and multivariate assessments to explore factors associated with the willingness to use each service.

RESULTS: A total of 4,266 participants were in the final analysis. Most participants (89.2%) had an interest in using at least one online HIV prevention service through Blued (67.4% in HIV home test mailing, 59.2% in condom mailing, 57.1% in online risk screener, and 32.8% in PrEP referrals). About 20% of participants who had never tested for HIV and 37% did not test for HIV in the past six months indicated they would order HIV testing kits online. 26.9% of participants who had inconsistent condom use in the past six months said they would use a condom mailing service. MSM who were young, had higher education, used recreational drugs, or had tested for HIV in the past six months were more likely to use online HIV prevention services. Previous PrEP knowledge was strongly associated with willingness to use a PrEP referral service.

CONCLUSIONS: The availability of HIV prevention services in online contexts is of high interest to MSM, especially to those who are not currently accessing those services. This indicates a substantial promise of this strategy, if even a fraction of users that state willingness would eventually uptake such prevention services. Online and geosocial networking platforms have enormous user bases, and it is essential for public health programs to appropriately leverage them.

PEC0671

HEALTH CARE ACCESS AND PROGRAMMATIC GAPS: FACILITATORS AND BARRIERS FOR MEN HAVING SEX WITH MEN (MSM) IN RURAL INDIA

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BACKGROUND: Despite the „Link Worker Scheme" under India's national program, many men having sex with men (MSM) remain unreached, especially in rural India. This study explored issues around health care access among MSM in rural settings of India.

METHODS: Eight FGDs, 20 KIIs and 20 IDIs were conducted in 4 rural (R) sites from Maharashtra (MH), Odisha (OR), Madhya Pradesh (MP) and Uttar Pradesh (UP) of India between 2018 and 2019.

RESULTS: Lack of ambient services was the major reason for not accessing government health setting:*"I go to a government hospital it will get unnecessarily advertised. We don't get good treatment too over there in the government hospital" (*MH-R-ID-01). Fear of stigma transformed into fear of breach of confidentiality was evident. *"...they get fear to go hospital because they know that in hospital will not maintain confidentiality because they are local people. If society will know about them then family life will disturbed"* (OR-R-KI-04). Government targeted intervention services did not seem to be optimally advertised as people showed lack of information about it: *"There is no such center [/HIV testing center/] here, and if so then I do not*

have knowledge about it. This test [/HIV test/] may happens in the government hospital but I do not have much knowledge about it" (MP-R-ID-10). Lack of MSM focused health services emerged as gap: *"For our gay community, there is no health facilities for us. Yes, in our village ASHA and Anganwadi workers are there but they basically work for ladies. If we MSM face some health problem then we cannot tell them. Because in our village we cannot say to ASHA Didi"* (OR-R-ID-01), *"...If Government will give one person from our community, then we can openly tell them about our entire health problem"* (OR-R-ID-01).

CONCLUSIONS: Primary barriers to access were lack of knowledge, program invisibility in rural settings, beliefs, and quality of services, stigma experienced, at government health facilities. There is a need for establishing MSM friendly health clinics to improve health care access in rural MSMs. Stigma reduction activities for acceptance of MSM in the rural health setting requires structural interventions.

PEC0672

REACHING SOUTH AFRICAN MEN AND YOUTH WITH MOBILE HIV COUNSELLING AND TESTING OVER SEVEN YEARS: A RETROSPECTIVE, LONGITUDINAL STUDY

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BACKGROUND: Although HIV testing rates have improved, many South Africans remain unaware of their seropositivity, negatively impacting progress towards universal HIV treatment. Mobile clinics offering HIV counselling and testing (HCT) are cost effective, have high acceptability, and offer timely testing to people who experience barriers to conventional healthcare services, thereby increasing access to HIV care.

This study analysed data from a mobile clinic operating in high HIV disease burdened, limited-resourced settings in Cape Town, South Africa.

METHODS: Patients ³12 years registered with their fingerprint at the mobile clinic which offered a wellness service, including HCT and chronic disease screening with a trained counsellor in Cape Town. Patients who tested HIV positive were referred for physical assessment by a nurse and were referred to HIV care. Trained counsellors contacted HIV-positive patients telephonically and encouraged them to attend HIV care. We used multivariable logistic regression to describe correlates of new HIV diagnoses adjusting for gender, age and year.

RESULTS: Between 2008 and 2016, 43,938 individuals (50% male; 29% <25 years; median age=31 years) tested at the mobile clinic, where 27% of patients (66% of males, 34% of females) reported being debut HIV testers. Overall, 2,743 (6%) people were newly diagnosed HIV-positive and overall HIV prevalence was 12% (10% male, 13% female). Males not previously tested for HIV had higher rates of HIV positivity (11%) than females (7%). Over half (55%, n=1,343) of those previously diagnosed HIV-positive had not initiated ART. Males had lower CD4 counts than females. Being between age 35-44 compared with 12-18 years (aOR = 5.24, 95% CI = 4.13, 6.65), reporting STI symptoms (aOR = 2.40, 95% CI = 1.95, 2.95), and reporting TB symptoms (aOR = 3.98, 95% CI = 3.47, 4.58) were associated with higher odds of a new HIV positive diagnosis.

CONCLUSIONS: Mobile HIV testing services can be used to reach individuals who may not visit conventional clinic facilities, including men living with HIV not previously tested. Differentiated mobile HCT can be used as part of an HIV prevention and treatment toolkit for HIV control among harder to reach populations, such as men and young people.

PEC0673

EFFECTS OF VITAMIN D AND CALCIUM SUPPLEMENTATION ON BONE MINERAL DENSITY AMONG THAI YOUTH USING DAILY HIV PRE-EXPOSURE PROPHYLAXIS

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BACKGROUND: Tenofovir disoproxil fumarate combined with emtricitabine (TDF/FTC) is used for HIV pre-exposure prophylaxis (PrEP). TDF may affect bone mineral density (BMD), particularly in youth whom are a stage of peak bone mass accrual. The objective of this study was to evaluate the effects of vitamin D and calcium supplementation on BMD among Thai adolescents receiving daily PrEP.

METHODS: This open-label randomised trial was conducted in adolescents aged between 15-24 years. Participants were randomised to Arm A who received once daily TDF/FTC plus vitamin D and calcium supplementation with meals twice daily (600 mg of elemental calcium and 200 units of cholecalciferol) while Arm B received once daily TDF/FTC only. PrEP takers were defined as taking at least 2 tablets/week (TFV-DP level of >350 fmol/punch). Adherence to calcium/vitamin D supplementation was defined as taking >50%. Lumbar spine (L2-L4) BMD was evaluated by dual energy X-ray absorptiometry (Hologic Horizon Bone Densitometer) at baseline and at 6 months after PrEP initiation.

RESULTS: From March to September 2019, 100 youth (67 MSM and 33 TGW) with a median (IQR) age of 18 (17-20) years were enrolled. At entry, median (IQR) BMD z-score was -1.6 (-2.5 to -0.9), 36% had low BMD (Z-score<-2). Median amount of calcium intake from nutrition diary was 167 mg/day, 39% of participants had vitamin D deficiency, defined as 25(OH)D level<20 IU/mL.

As of December 2019, 47 participants had completed 6-months follow up. Of these, 30% were PrEP takers and 52% had good adherence to vitamin D supplementation. Median(IQR) change of lumbar spine BMD z-score at 6 months was slightly higher in arm A +0.41(0.08-0.51) compared to arm B +0.28(0.09-0.49) (p=0.33). There was a trend of higher increase in BMD-score among adolescents with vitamin D deficiency who received vitamin supplementation; arm A +0.48 (0.06-0.50) compared to arm B +0.23(0.09-0.52), p=0.81.

CONCLUSIONS: Thai youth who received a daily TDF/FTC PrEP regimen had low intake of calcium. There was an increment of BMD z-scores over 6-months among youth who received vitamin D/calcium supplement vs. controls. There were no immediate adverse effects of concern regarding bone health among adolescent PrEP users.

PEC0674

DEVELOPING A COMMUNITY SITE CATERING FOR KEY POPULATIONS IN BARBADOS

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BACKGROUND: In Barbados, it has been suggested that key populations (KPs) (men who have sex with men (MSM) and transgender persons) do not optimally utilise national HIV services, partially due to the perception that they would encounter stigma and discrimination. In order to increase access and utilisation of HIV services, the lesbian, gay, bisexual and transgender plus (LGBT+) civil society organization (CSO) Equals Inc. opened a community site specifically geared towards KPs.

DESCRIPTION: Equals, with funding with the USAID supported LINKAGES project, and in close collaboration with the Barbados Ministry of Health and Wellness, began offering HIV services in July 2017 at their safe space located in a residential building in a quiet neighbourhood conducive to privacy. Initially only weekly HIV and STI testing by Ministry personnel and psycho-social counselling by a private psychologist was available. This has expanded to free HIV/STI testing by certified peers and psycho-social counselling twice a week, PrEP provision, HIV treatment and care and gender affirming hormone provision. The safe space is also the site Tuesday to Saturday for any persons in the LGBT+ community to utilise, along with available desk top computers and food preparation facilities.

LESSONS LEARNED: Outreach workers and an active online and social media presence has resulted in an average 20 persons accessing HIV and STI services each month. Since opening, over 40 persons have benefited from psycho-social counselling, and outreach workers have interacted with over 400 Individuals, around 45% of whom have gone on to have HIV testing. Approximately 10% of the new national HIV diagnoses are made at Equals. Additionally, the site has also enrolled over 50% of the PrEP patients in the country and has seen rapid uptake of its shared HIV care.

CONCLUSIONS/NEXT STEPS Having a discrete private site specifically geared to meet the needs of KPs can increase their access to essential health services, and this is bolstered by having effective in-person and virtual outreach. Collaboration with the national HIV program is essential to ensuring success, and may be the key to ensuring sustainability in light of dwindling international donor funds.

PEC0675

PATIENT`S PREFERENCE AND PERCEPTION OF EHEALTH SUPPORT OPTIONS: A PILOT STUDY FOR THE VITAL TRIAL (VIRAL LOAD TRIGGERED ART CARE IN LESOTHO)

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BACKGROUND: Differentiated service delivery models (DSDM) aim at personalizing and thereby optimizing care for increasing numbers of people living with HIV taking antiretroviral therapy (ART). The viral load (VL) triggered ART care in Lesotho (VITAL) trial will assess an automated DSDM where patients are followed-up based on their last VL result, their comorbidities and preference. This pilot study serves to inform the VITAL trial by assessing patient's preferences and perception of different eHealth support options.

METHODS: We assessed eHealth preferences of adult patients attending routine ART visits at a rural clinic in Lesotho. Participants choose among the following options of eHealth support: communication of VL result by SMS, phone calls for adherence counselling in case of a VL≥1000/copies/mL and the option to request call-backs by a nurse. Automated calls for symptomatic tuberculosis screening were tested on site. Participants were asked to rank three options of adherence support: counselling by phone, ART-intake reminders by SMS and adherence counselling at the clinic. After six weeks participants were followed-up and their perception of the chosen eHealth support was assessed.

RESULTS: Among 112 participants (74% female), 17 patients came for routine VL blood draw and 13 came with a recent result of a VL≥1000/copies/mL. Everyone due for routine VL measurement requested the result to be communicated by SMS. All participants with a recent unsuppressed VL requested additional adherence counselling by phone call. In case of high VL, adherence support by phone calls was preferred, followed by ART intake reminders and standard counselling at the clinic. 75 participants (67%) received and finished an automated tuberculosis screening call, thereof 71 (95%) appreciated it. Among 56 participants with completed follow-up at submission, 54 (96%) would appreciate to have the nurse call-back option in the future.

CONCLUSIONS: eHealth options offered in this pilot study were perceived very positively. Receiving the VL result directly by SMS was appreciated and in case of an unsuppressed VL getting adherence counselling by phone was the preferred option. The VITAL trial will assess if an automated DSDM providing these options at a large scale will result in better clinical outcomes and cost-effectiveness.

PEC0676

EXPANDING THE REACH OF PRE-EXPOSURE PROPHYLAXIS TO TRANS AND NON-BINARY COMMUNITIES IN THE SAN FRANCISCO BAY AREA: DEVELOPMENT AND EVALUATION OF THE STAY STUDY PREP CAMPAIGN

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BACKGROUND: Trans and non-binary (T&NB) people are a population at high risk for HIV acquisition, yet have been largely ignored in the biomedical prevention response. While PrEP awareness is critical to promote uptake, there are no best practices in developing tailored public health campaigns focused on T&NB people and PrEP.

DESCRIPTION: The STAY Study is one of the first PrEP demonstration projects in the US, aimed at increasing access, uptake and adherence to PrEP for T&NB people in the San Francisco Bay Area. The STAY Study developed a social marketing campaign involving 12 diverse Bay Area T&NB social influencers (see figure). The STAY campaign harnessed the power of PrEP to show the diversity, beauty, vibrancy, and resilience of T&NB communities, rather than to employ messaging that sensationalizes HIV and the promise of prevention. For example, "Adding PrEP to your daily routine will not lead to huge

changes in your life, but it will help you STAY magical." Social influencers developed and incorporated their own personal messages about PrEP with engaging hashtags. The campaign was featured on our website (www.staystudy.org), posters/palmcards, and distributed via social media.

[Figure]

LESSONS LEARNED: We evaluated campaign acceptability via computer-assisted survey among 153 T&NB participants enrolled in STAY. Almost all participants were aware of PrEP (98.1%), and 38.9% had seen the campaign. Among all participants, most found the campaign to be attractive, informative, and appropriate for T&NB people (83%, 88%, and 83%, respectively). Eighty-three percent reported they could see themselves in the STAY campaign, giving credence to how important community engagement is and prioritizing diversity in developing PrEP campaigns.

CONCLUSIONS/NEXT STEPS Tailored campaigns to increase PrEP awareness are critical to engaging people underserved in the HIV response. Future campaigns with T&NB communities may do well to reflect diversity in the community and acknowledge the limitations along with the promise of biomedical HIV prevention.

PEC0677

HOTSPOT LISTING, VALIDATION AND SIZE ESTIMATION OF KEY POPULATION IN NIGERIA: PROGRAMMATIC MAPPING APPROACH IN 10 STATES

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BACKGROUND: The United Nations World meter algorithm estimates that Nigeria has a population of 203,732,121,(updated as at January 13th, 2020). In a country this size, determining the size and locations of members of Key Populations (Female Sex workers (FSWs), Men who have Sex with Men(MSM), People who Inject Drugs(PWIDs)), are critical steps in HIV epidemic control. There are many different approaches in determining the size of key population. CGPH adopted the programmatic mapping method.

DESCRIPTION: Programmatic mapping involves a two sequential data collection steps known as level one (L1) and level 2(L2). During L1, information on geographic locations where Key populations congregate (listing), characteristics of spots, estimate number of KPs found, their risk behaviors, networking patterns, HIV prevention service access, etc. were collected from key informants. During L2, key informants' interviews were conducted at identified spots across the 10 study States. In L2, primary key informants who are members of key population group operating in spot validated information collected during L1.

LESSONS LEARNED: 32,566 KI interviews were conducted in Level One (L1).16,563 active spots (8877 FSW spots, 4349 MSM spots, 3837 PWIDs) were identified. Kaduna State had the highest number of FSW spots (1,629) while Taraba state has the least (346). Highest MSM spots were in Kano State (2,012) and Imo State has the least (56). Kaduna State has the highest PWID spots (857) while Edo state has the least (45). 80% of FSW spots in Kaduna are non-brothel based, 91% of MSM spots in Kano are streets and homes while 65% of PWID spots in Kaduna are streets.

Total number of FSWs estimated across the 10 states stood at 118,171. Anambra state had the highest number of FSWs with 36,607 and Enugu state had the least estimated FSWs with 3,824. Total number of MSM estimated at physical locations was 44,355 across the 10 states. Kano state had the highest number of MSM with 20,144.Total number of PWID estimated at 49,876.

CONCLUSIONS/NEXT STEPS Programmatic Mapping helps to determine the size of Key population groups and their locations in areas where program could reach them.Result from this study will inform the review of the national prevention strategy.

PEC0678

6-MONTH OUTCOMES OF A SOCCER INTERVENTION FOR HIV PREVENTION FOR YOUNG SOUTH AFRICAN MEN AGED 18-29 YEARS

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BACKGROUND: Current HIV prevention strategies often exclude men, are located in health settings underutilized by men, and use formats that are not appealing to men. In South Africa, the country with the highest HIV rate globally, men are additionally challenged by drug abuse, unemployment and a culture of alcohol and violence. Soccer is utilized as a community-level intervention for young, South African men.

METHODS: All men aged 18-29 years old in 30 township neighborhoods in Cape Town, South Africa were randomized by neighborhood to either a soccer league (SL, n=788) or a control condition (CG, n=423) and more than 82% were followed-up 6 months later. Weekly soccer practices and games were used to teach young men skills to reduce the risk of HIV transmission, substance use and to refrain from interpersonal violence. On the soccer field, random, weekly, rapid drug/alcohol tests were collected. Longitudinal mixed models were used to evaluate the intervention's effectiveness over 6 months.

RESULTS: Mean age of men was 23.4 (SD 4.8) years old, with an average of a 10th grade education completed. Within 6 months, the SL group reported less violence towards women than the CG (OR=0.37, 95% CI 0.28-0.49), yet the CG reported a higher income than the

SL (OR=2.59, 95% CI 1.87-3.59). Though the number of concurrent sexual partners, times arrested, and depressed mood significantly decreased from baseline to six months over time, there was no significant difference by intervention effect. For the SL group only, SL increased HIV testing from baseline to 6 months (40.5% at baseline, 47.9% at 6 months), tested less positive for alcohol (34.3% at baseline, 28.2% at 6 months), and had a 50% lower rate of mandrax use (20% vs 31%) over time.

CONCLUSIONS: For the first 6 months of the intervention, we found modest findings in the SL group compared to CG. These effects we found over time, yet not by intervention, may be due to the brief amount of time. The following 6 months will be focused on vocational training that we anticipate will increase the likelihood of employment in the intervention group.

PEC0679

SECONDARY DISTRIBUTION OF HIV SELF-TESTING KITS IN DIFFERENT CLINICAL SETTING: A COHORT STUDY IN ZAMBIA

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BACKGROUND: In sub-Saharan Africa, knowledge of positive HIV status remains lower for men than women. Secondary distribution of HIV self-test (HIVST) kits can reach previously untested adults. We describe uptake, and linkage to confirmatory testing and post-test HIV care and prevention services following partner-delivered HIVST from antiretroviral (ART) and antenatal (ANC) clinic services.

METHODS: All clients attending ART (regardless of ART duration) and ANC (regardless of HIV status) clinics were offered HIVST kits for secondary distribution. Consenting ART/ANC clients were interviewed at recruitment and one-month. Partners reported to have been given HIVST kits were traced at 3 months and, following consent, interviewed about kit usage and linkage to prevention and treatment.

RESULTS: From November 2018 to July 2019, 516 ANC clients and 122 ART clients were recruited. Of ANC clients 509/516 (98.6%) took a HIVST kit for secondary distribution, 452 were re-interviewed after 1 month (88.8%) with 399/452 (88.3%) reporting having given the HIVST kit to their partner. Of ART clients 118/122(96.7%) took a HIVST kit for secondary distribution, 83 were re-interviewed after 1 month (70.3%) with 73/83 (88.0%) reporting having given the HIVST kit to their partner. On partner tracing 268 partners of ANC clients were interviewed (268/399; 67.2%) of whom 235 (87.7%) reported self-testing; 64/73 (87.7%) partners of ART clients were traced of whom 57 (89.1%) reported self-testing. A higher percentage of partners in the ART cohort (7.8%) reported a confirmed positive HIV test than ANC cohort partners (1.9%), and all had started ART at the time of follow-up. Among male HIV-negative partners, 51/196 (26.0%) in the ANC arm and 12/35 (34.3%) in the ART arm had previously undergone voluntary medical male and circumcision (VMMC). No additional HIV-negative men were linked to VMMC following HIVST.

CONCLUSIONS: Secondary distribution of the HIVST kits was highly acceptable to partners of those recruited through ANC and ART clinics. Although our conclusions are limited by cohort follow-up, untreated HIV-positive partners were identified and started on ART, but our data suggest the need to optimize referral routes for HIV prevention services to maximise the benefits of secondary distribution of HIVST.

PEC0680

LESSONS LEARNED FROM IMPLEMENTATION OF DETERMINED, RESILIENT, EMPOWERED, AIDS-FREE, MENTORED, AND SAFE (DREAMS) IN OSHIKOTO REGION OF NAMIBIA

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BACKGROUND: Adolescent girls and young women (AGYW) aged 15-24 years remain at high risk for HIV infection compared to their male counterparts, particularly in sub-Saharan Africa (Gourlay et al 2019). To address this urgent need, PEPFAR and partners launched DREAMS, a public-private partnership designed to reduce the rate of HIV among AGYW in 15 countries through a package of layered evidence-based interventions (Saul J. et al. 2018).

In June 2018, a consortium led by Project HOPE Namibia began to implement the PEPFAR-funded DREAMS project in Namibia's Oshikoto region.

DESCRIPTION: The DREAMS project delivered core package of age appropriate 'primary' interventions for all AGYW and 'secondary' interventions that are based on need to vulnerable AGYW 10 – 24 years old as per the PEPFAR Namibia guidance. Moreover, interventions to strengthen families and reduce risk among sexual partners of AGYW were provided. The core package is delivered in 448 safe spaces and youth-friendly clinics of 19 health facilities. AGYW vulnerability to HIV are determined based on established criteria.

LESSONS LEARNED: Client booklet and service registers were used to document the core package of interventions provided to DREAMS beneficiaries. Each beneficiary has unique identifier and individual level data was collected and layering of interventions was monitored using the REDCap database. Descriptive statistics are used to explore results.

From October 2018 through September 2019, 20,922 AGYW 10-24 years old were screened for enrolment into DREAMS and 14,886 (71%) were eligible based on the DREAMS HIV vulnerability criteria. There was no significant difference in vulnerability across age groups or districts. Of those eligible, 11,308 (10 – 14; 4,447; 15 – 19: 5,623; 20 – 24: 1,118) received at least one primary DREAMS interventions, including 73.3% who participated in the DREAMS project for ≤ 6 months. The proportion of AGYW who received less than full primary-package, full primary-package and full primary-package plus at least one secondary-package of interventions was 29.7%, 30.2%, and 40.1% respectively.

CONCLUSIONS/NEXT STEPS A significant proportion of AGYW were vulnerable to HIV which requires a relook at the vulnerability criteria. Moreover, layering with the full-range of intended interventions takes time; and efforts should be made to reach out-of-school AGYW 20-24 years old.

PEC0681

HIGH LEVELS OF BISEXUAL BEHAVIOURS AND ITS CORRELATES AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN MALAWI

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BACKGROUND: Globally, men who have sex with men (MSM) have high HIV prevalence. Some MSM practice sexual intercourse with both men and women (bisexual behaviour). There is limited data on proportions of bisexual MSM and factors associated with such bisexual behaviour in order to inform Malawi's HIV prevention messages and programming.

METHODS: We enrolled MSM through respondent-driven sampling in a cross-sectional study in Lilongwe between May and November 2016. We collected data using interviewer-administered questionnaires and calculated RDS-adjusted population estimates for both descriptive and inferential statistics

RESULTS: Of the 462 men enrolled, 63.2% self-reported sexual debut with a male partner, 63% ever had sex with a female and 30% were currently in a male-female sexual relationship. Fifty-nine percent had unprotected vaginal sex during last intercourse and 31% had multiple female sexual partners. Forty eight percent had multiple male sexual partners and 20% had unprotected anal sex in the last intercourse. In bivariate analyses, bisexual behaviours were associated with being of age category 35 and above [(Odds Ratio (OR) 3.5 (95% CI:1.5 - 8.5)], divorced marital status [OR 5.9 (95% CI:1.4 - 30.4)], self-reported bisexual and transgender identity [OR 23.1 (95% CI:10.6 - 50.1)] and [OR 6.3 (95% CI:1.1 - 38.6)] respectively), preference for insertive partner [OR 2.4 (95% CI:1.4 - 4.3)], ever testing for HIV [OR 2.9 (95% CI:1.7 - 4.7)] and sexual debut with a female [OR 30.1 (95% CI:10.9 - 83.0)]. In multivariate analysis, being divorced [Adjusted Odds Ratio (AOR 13.0 95% CI: 1.3 -134.4)], self-reported bisexual identity [AOR 27.6 (95% CI: 9.9 – 76.6)], ever testing for HIV [AOR 2.3 (95% CI: 1.1- 5.1)] and sexual debut with a female [AOR 32.1 (95% CI: 8.2 - 126.2)] remained significant.

CONCLUSIONS: High levels of bisexual behaviours, multiple sexual partnerships and unprotected sex exist among Malawian MSM. Men who self-reported bisexual identity, divorced, ever tested for HIV and sexual debut with a female were more likely to report bisexual partnerships. While promotion of healthcare access for MSM focused HIV prevention programs is needed, current MSM interventions must include information on safe-sex with both male and female sex partners.

PEC0682

LABORATORY TESTING FOR SEXUALLY TRANSMITTED INFECTIONS AMONG SEX WORKERS IN SOUTHERN AFRICA – WHY WE NEED A STATUS NEUTRAL APPROACH

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BACKGROUND: As pre-exposure prophylaxis (PrEP) is scaled up, there have been calls to strengthen the management of bacterial sexually transmitted infections (STIs). Here we investigate the potential benefits of making laboratory screening a routine component of PrEP delivery among Zimbabwean female sex workers (FSW), where STIs are currently managed syndromically.

In addition we examine the implications of restricting laboratory testing to FSW who are HIV negative when >50% of FSW are already HIV infected.

METHODS: Data were collected in March-April 2017 from FSW from 3 sites in Zimbabwe using respondent driven sampling. All FSW had HIV / syphilis serology performed, and a random 1/3 had STI symptoms and signs recorded and were tested for bacterial STIs using GenXpert. Free treatment was provided for FSW with symptoms/signs or STI diagnosis. Analysis was conducted using the "RDS-II" approach and diagnostics did not suggest biased recruitment.

RESULTS: Overall 2507 FSW were recruited from Harare (n=1497), Bulawayo (n=808) and Shamva (n=202). HIV prevalence was 54.4%, 52.2% and 54.8% respectively. Between 10.9-19.7% had positive syphilis serology. Across settings, STI prevalence was high, irrespective of HIV status (see table).

	HIV negative FSW	HIV positive FSW VL <1000c/UL	HIV positive FSW VL ≥1000c/UL	All FSW regardless of status	Sensitivity	Specificity
	n/N, % (95%CI)	n/N, % (95%CI)	n/N, % (95%CI)	n/N, % (95%CI)	[n/N] %	[n/N] %
TPHA/RPR (n=2507)	136/1104, 13.7 (11.1-16.8)	243/871, 27.8 (23.9-32.0)	127/419, 32.7 (26.8-39.1)	506/2394, 21.8 (19.6-24.2)	N/A	N/A
Neiserria Gonorrhoea (n=715)	31/272, 11.9 (7.8-17.6)	29/260, 8.4 (5.2-13.4)	14/104, 11.4 (5.7-21.4)	74/636, 10.4 (7.8-13.7)	[8/31] 25.8	[230/249] 92.4
Chlamydia trachomatis (n=715)	38/271, 15.0 (10.2-21.5)	12/260, 3.1 (1.5-6.0)	10/104, 9.1 (4.0-19.2)	60/635, 9.2 (6.7-12.5)	[7/38] 18.4	[222/242] 91.7
Trichomonas vaginalis (n=715)	65/280, 23.7 (17.7-30.8)	80/266, 30.2 (22.8-38.7)	41/101, 34.8 (23.7-47.8)	186/647, 28.1 (23.6-33.0)	[6/65] 9.2	[210/215] 97.9

[Table]

Prevalence of Neisseria gonorrhoea among all FSW was 10.4% (95%CI:7.8-13.7%); of Chlamydia trachomatis was 9.2% (95%CI:6.7-12.5%); of Trichomonas vaginalis was 28.1% (95%CI:23.6-33.0%). STI prevalence was similar among HIV negative FSW (ie those eligible for PrEP) and HIV positive FSW including those with unsuppressed viral load. Symptoms and signs of all three infections were poorly predictive of laboratory diagnosed infection in both HIV negative and positive women.

CONCLUSIONS: STI rates were high among Zimbabwean FSW, independent of HIV status. Syndromic management had poor sensitivity and specificity for infection leading to under treatment of STI infected FSW and over treatment of uninfected FSW likely resulting in both poor STI control and increased likelihood of antimicrobial re-

sistance. Laboratory diagnosis would substantially improve STI management for all FSW and should not be restricted to PrEP recipients but be incorporated into routine status neutral care.

PEC0683

CORRELATES OF SELF-REPORTED SCREENING FOR SEXUALLY TRANSMITTED INFECTIONS AMONG MEN WHO HAVE SEX WITH MEN PARTICIPATING IN A CROSS-SECTIONAL STUDY IN, MALAWI

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BACKGROUND: Men who have sex with men (MSM) are at an increased risk for sexually transmitted infections (STIs) worldwide. Vulnerability to STIs increases with risky sexual practices. This study estimated the prevalence of self-reported STIs and identified correlates associated with screening for STIs among MSM in Malawi.

METHODS: We conducted a cross-sectional study between May and November 2016. We enrolled MSM 18 years and above using respondent driven sampling (RDS) and collected data through interviewer-administered questionnaires. We computed RDS adjusted population weights and proportion estimates, and used Odds Ratios obtained through logistic regression to identify correlates between self-reported screening for STIs and independent variables.

RESULTS: Out of 462 MSM, 130 self-reported to have screened for STIs 12 months preceding this study and 10.8% (14/130) were diagnosed with STIs through syndromic management approach. Twenty-seven MSM self-reported to have experienced STI symptoms and the majority (73%) sought treatment from health facilities. The remaining 27% either consulted herbalist, a friend, self-medicated or stayed without treatment.

In bivariate analysis screening for STIs was associated with ever testing for HIV [Odds Ratio (OR) 8.0, 95% Confidence Interval (CI) 4.0 – 17.1)], experiencing STI symptoms [OR 5.5 (95% CI: 2.1 – 14.6)], being diagnosed with an STI [OR 112.0 (95% CI: 14.0 – 895.9)] and ever having sex with a female [OR 3.7 (95% CI: 2.1 – 6.6)]. Participants cohabiting with a female had lower Odds of screening for STIs [OR 0.2 (95% CI: 0.07 – 0.59)] compared to those married. In the multivariable model, correlates of STIs screening included ever testing for HIV [adjusted Odds Ratio (aOR 7.7: 95% CI: 3.3 – 17.5)] and ever having sex with a female (aOR) 3.4, 95% CI: 1.6 - 6.9). Participants in a cohabitation relationship with a female were less likely to screen for STIs (aOR 0.14, 95% CI: 0.04 – 0.43) compared to those married to a female.

CONCLUSIONS: Men who ever tested for HIV, ever had sex with a female were more likely to screen for STIs. On the contrary, MSM cohabiting with a female were less likely to screen for STIs. Our study identified a need for effective interventions to control future STIs among MSM population.

PEC0684

FROM PREJUDICE TO PRIDE: STRENGTHENING COMMUNITY-LED RESPONSES TO MITIGATE VIOLENCE AND SUPPORT EMPOWERMENT AS A STRATEGY TO ENHANCE ACCESS TO SEXUAL HEALTH AMONG TGH POPULATION IN INDIA

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BACKGROUND: Supported by Amplify Change, Indian HIV/AIDS Alliance is implementing the programme 'Wajood' (meaning pride) which empowers Transgender and Hijras to access Sexual Health services. Documenting and addressing gender based violence, challenging stigma and discrimination and increased access to sexual health services are main thematic areas of Wajood.

DESCRIPTION: During last five years, 683 clients accessed violence mitigation services. Data on nature of violence, perpetrators, implication and redressal was collected from these clients through structured tool. In addition, focused group discussions were conducted with these clients, to carry out an in-depth analysis of the nature and implications of violence. While quantitative data was analyzed using univariate and bivariate analysis, qualitative data was analyzed after synthesizing themes emerging from the discussions.

LESSONS LEARNED: 53.4% clients reported Physical assault/harassment, 49.6% reported being subject to verbal abuse and 11% discrimination and/or denial of services. Of the almost 200 cases reported violence by their family members, majority (82%) reported the perpetrators to be father and brothers. Almost 15% reported physical injuries whereas only 33.7% reported seeking medical assistance. 12% (N=85) clients said that they were victims of forced sexual acts majority (36%) of which was committed by a local goon, intimate partner (16.7%) and family member (12.8%). Out of the 85 cases reported rape and sexual assault, only 35 taken any legal assistance and only 12 have filed an FIR. Lack of faith in the legal/judicial system due to gender identity was most common reason (82.2%) for not seeking legal assistance. TGH accessing violence mitigation services were twice more likely to return for follow-up of sexual health services including HIV, STI, TB and gender specific hygiene practices. Out of these clients more than 32% also accessed social welfare and social entitlement services which was accessed by only 18.2% clients registered in overall program.

CONCLUSIONS/NEXT STEPS It is important to remove structural barriers and stigma in various settings in order to TGH population to access HIV and other sexual health services. There is a need to collect data on psycho-social impact of violence on TGH population as well as a robust data collection and intervention mechanism needs to be introduced.

PEC0685

REACHING THE UNDERSERVED: DEVELOPING TOOLKITS TO SUPPORT EFFECTIVE COMMUNITY-BASED HIV TESTING IN ENGLAND

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BACKGROUND: UK national guidelines recommend that HIV testing is offered in community-based settings to reach those not engaged by traditional health services. However, there is no guidance on good practice or standardised methods of evaluation. This makes is hard for providers to design services, demonstrate impact and for funders to commission effective services.

DESCRIPTION: NAT conducted desk-based research on community testing policy and practice. We established an Expert Advisory Group compromising of community providers and funders, Public Health England, HIV Prevention England and clinicians. 13 providers and 4 funders were interviewed. Analysis of these interviews and wider evidence enabled the development of two toolkits:

- A 'Community Testing: Intervention Design Toolkit' which highlights policy, evidence and good practice, and includes a range of case studies. Critically this toolkit looks at outreach settings and marketing and recruitment options relevant to the UK.
- A 'Community Testing: Evaluation Toolkit' proposing indicators that can be used to monitor success, support national data collection, and improve cross-sector learning.

Each resource was reviewed by the Expert Advisory Group and a wider group of current and prospective providers.

LESSONS LEARNED: There was not a clear definition of community testing in England or a consistent understanding of its value. Provision is patchy and dependent on the buy-in of local funders and clinicians. The toolkits position community testing as part of an HIV testing strategy, and their development has already helped to break down barriers and improve attitudes, with early versions supporting a workshop and action planning to improve community testing provision in Greater Manchester.

Though the toolkits will support better process and outcome evaluation, questions around value for money are more complex and could not be addressed easily. As the group of people living with undiagnosed HIV becomes smaller but more marginalised, returns on investment may be lower but will be vital.

CONCLUSIONS/NEXT STEPS Community testing has an important role to play in finding the 8% of people living with HIV in England who are still undiagnosed. These toolkits will help to ensure that interventions are effective in reaching people at increased risk of HIV and are both accessible and high quality.

PEC0686

PERCEIVED RISK OF HIV TRANSMISSION AMONG HIV SERODISCORDANT COUPLES USING PREP IN KENYA

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BACKGROUND: HIV-negative individuals in serodiscordant couples have better adherence to pre-exposure prophylaxis (PrEP) for HIV prevention than individuals at HIV risk not in serodiscordant relationships. PrEP is nearly 100% effective at preventing HIV infection when used regularly. Perceptions of HIV risk transmission among individuals living with HIV in these couples may play an important role in decision making around sexual behaviors.

METHODS: 292 individuals (162 women, 130 men) living with HIV in Kenya were enrolled from May 2018 to December 2019. Eligible participants were ≥18 years of age, living with HIV (confirmed with rapid testing), and had a partner using PrEP for ≥1 month. Participants answered questions on sexual behaviors and perceived risk of HIV transmission within their relationship. We summarized survey responses using descriptive statistics.

RESULTS:

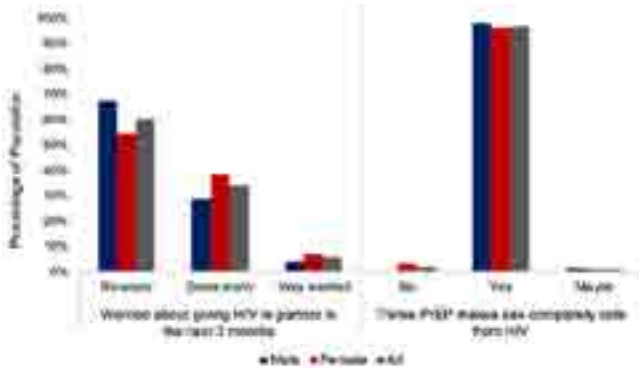

Figure 1. Perceptions of HIV risk transmission among individuals living with HIV.

The median age of participants and number of years in school were 33 (IQR 27-40) and 10 years (IQR 8-12), respectively. Participants reported a median of 8 sex acts (IQR 5-12) with their primary partner in the past month. Among all participants, 35% (n=103) reported any condomless sex in the past month; condomless sex was higher among men (40% , n=52) versus women (31%, n=51). Only 6% (n=16) of participants (7% [n=11] of men, 4% [n=5] of women) were very worried about transmitting HIV to their partners in the near term, Figure 1. The majority (97%, n=277) of participants were confident that PrEP use makes sex completely safe from HIV transmission.

CONCLUSIONS: Perceived risk of HIV transmission among individuals living with HIV in serodiscordant couples using PrEP was low (despite the common practice of condomless sex) and confidence in PrEP for HIV prevention was high. HIV prevention programs could leverage high confidence in PrEP among HIV serodiscordant couples to improve PrEP adherence among HIV-negative partners.

SEXUALITY, GENDER AND PREVENTION TECHNOLOGIES (INCLUDING CONDOMS, TREATMENT AS PREVENTION, MALE CIRCUMCISION, PRE-EXPOSURE PROPHYLAXIS)

PEC0687

PERSISTING BARRIERS FOR U=U IN FAMILY PLANNING AND ASSISTED REPRODUCTION OF PLHIV

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BACKGROUND: Despite its robust scientific evidence, the concept of U=U is inconsistently disseminated among healthcare providers, including specialists practicing in the context of family planning and assisted reproduction.

METHODS: A self-completion questionnaire was applied for participants of an assisted reproduction seminar in Sao Paulo, Brazil, on May-2019. The survey included demographics, training characteristics, and attitudes on family planning and assisted reproduction for people living with HIV (PLHIV). A case vignette describing a serodiscordant couple planning to conceive (a man living with HIV under antiretroviral treatment with good adherence and undetectable viral load for ≥1 year; an HIV-uninfected healthy female partner), was presented for illustration. We explored if age, time since graduation and care for serodiscordant couples in routine practice were associated with survey responses.

RESULTS: 110 participants were included in the study. Most (87%) were female, with a median age of 35 years (range 20-60), and median time since graduation of 11 years (IQR 7-15). Overall, 82% were obstetrician-gynecologists and 53% reported to routinely care for serodiscordant couples. Most participants (96%) declared to strongly agree/agree that they would encourage the vignette couple to attempt pregnancy. However, only 38% declared to strongly agree/agree they would recommend conceiving naturally. Seventy participants (64%) reported to strongly agree/agree they would refer the couple for assisted reproduction even without evidence of infertility. Finally, 56% of the participants declared to strongly agree/agree that, in case assisted reproduction is used, sperm-washing techniques would always be indicated (Table 1). We found no statistically significant associations between age, time since graduation and routine care for serodiscordant couples and recommendations for conceiving naturally or referral for assisted reproduction despite lack of infertility.

A serodiscordant couple is planning to have a baby. The man lives with HIV, is under antiretroviral treatment with good adherence; he has undetectable plasma HIV viral load for ≥1 year. His partner is an HIV-uninfected woman without any comorbidities.					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Would you encourage the couple to conceive? (%)	46 (42)	60 (55)	2 (2)	2 (2	0 (0)
Would you recommend conceiving naturally? (%)	12 (11)	30 (27)	18 (16)	36 (33)	14 (13)
Would you refer the couple for assisted reproduction even without evidence of infertility? (%)	24 (22)	46 (42)	10 (9)	28 (25)	2 (2)
In case assisted reproduction, is sperm-washing always be indicated? (%)	22 (20)	40 (36)	40 (36)	6 (5)	2 (2)

[Table 1.]

CONCLUSIONS: Our findings show a critical gap between existing evidence for U=U and attitudes among specialists working with family planning and assisted reproduction. Additional training and education approaches on U=U should be implemented for these providers in order to improve care for serodiscordant couples planning to conceive.

PEC0688

ACCEPTABILITY AND PREFERENCE FOR 3-MONTH VERSUS 1-MONTH VAGINAL RINGS FOR HIV-1 RISK REDUCTION AMONG PARTICIPANTS IN A PHASE 1 TRIAL: A MIXED METHODS ANALYSIS

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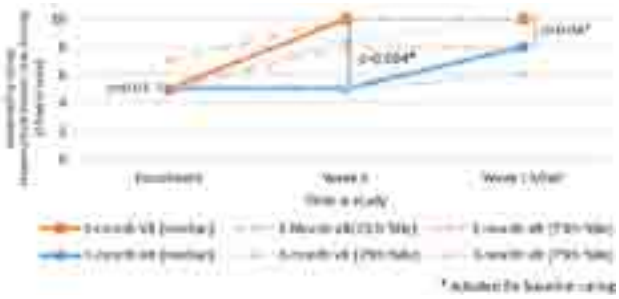
BACKGROUND: We examined acceptability and preference for 3-month versus 1-month vaginal rings (VRs) for HIV-1 risk reduction in a phase 1 clinical trial. A longer duration VR may reduce user burden and improve adherence.

METHODS: MTN-036 enrolled 49 participants from San Francisco, CA and Birmingham, AL who were healthy, HIV-negative, aged 18-45, and assigned female sex at birth. Participants were randomized to one of two 3-month VRs (100mg or 200mg dapivirine) or the 1-month VR (25mg dapivirine). Quantitative acceptability ratings were collected at enrollment, week 4, and study exit (week 13). At exit, preference for the 3-month VR (vs. 1-month or no preference) was assessed quantitatively among all participants and via in-depth interviews (IDIs) with 24 randomly selected participants. We compared acceptability by assigned duration and explored preferred duration using mixed methods.

RESULTS: Acceptability of each VR was initially moderate but increased during the trial (Figure).



[Figure. VR acceptability over time]

Ratings were lower in the 3-month VR arms than the 1-month arm throughout the trial, including at baseline. Nevertheless, 72% (34/47) of all participants reported preferring a 3-month VR at exit (95% CI 58%-83%). Participants from San Francisco and college graduates were more likely to prefer a 3-month VR, whereas those who were African American, disliked wearing the VR during menses, or never thought about the VR inside their body were less likely (all p<0.05). IDIs revealed reservations about hygiene, safety, or forget-

ting to replace the 3-month VR, but these were usually outweighed by its increased convenience, especially as participants using the 3-month VRs gained experience.

CONCLUSIONS: Both VR durations were highly acceptable at study exit. Although most participants preferred a 3-month VR, preference was more divided in certain subgroups, highlighting the benefit of offering different duration options. Providing additional support to address concerns about hygiene, safety, and replacement may improve acceptability of a 3-month VR.

PEC0689

ACCEPTABILITY OF A PEER-TO-PEER DELIVERY OF HIV SELF-TESTING AND SEXUAL HEALTH INFORMATION TO SUPPORT HIV PREVENTION AMONG YOUNG WOMEN IN RURAL KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Suboptimal uptake of HIV testing and linkage to post-test services contribute to HIV transmission. We conducted a cluster randomised controlled trial to investigate whether different HIV self-testing (HIVST) peer-to-peer (PTP) distribution models, including social networks, could create demand for HIV treatment and Pre-Exposure Prophylaxis (PrEP) amongst adolescent girls and young women (AGYW) in rural KwaZulu-Natal (#NCT03751826). Here, we describe the acceptability of these PTP approaches.

METHODS: Between March and September 2019, 24 pairs of geographically separated peer-navigators were randomised to: (1) incentivised-peer-networks: Peer-navigators recruited AGYW (peer distributers) to distribute five HIVST packs (kit + HIV prevention information) to peer-age friends within their social network. Peer-distributers received US$1.5 per pack-recipient transitioning into peer-distribution by collecting 5 HIVST packs themselves; (2) direct distribution: Peer-navigators distributed HIVST packs directly; (3) standard-of-care: Peer-navigators distributed information. All arms distributed clinic referral slips. We conducted a process evaluation, by combining routine programme data and semi-structured interviews with purposively sampled peer-navigators (n=30) and beneficiaries aged 18-29 years (n=30) from each arm. Programme data were analysed descriptively. Qualitative data were transcribed, translated and thematically analysed using an interpretivist approach.

RESULTS: Peer-navigators approached 6,871 of the 16,473 resident 15-30-year-olds of whom 6,141 (89%) accepted health promotion; condoms (41,620) and HIVST kits (5,898). Of 4,162 referrals, 438 (11%) attended clinics. Overall, PTP approaches were acceptable. Peer-navigators and beneficiaries reported that AGYW were comfortable sharing sexual health issues they would not have shared with adults. Peer- distributers felt they were 'making a change' and appreciated the incentive. However, some AGYW were wary of receiving health information from friends perceived as non-professionals. Although HIVST motivated AGYW and their partners to test, it distracted them from other health and PrEP information provided. Referral slips, adolescent-friendly clinics with non-judgemental staff were facilitators to PrEP uptake. Social disapproval, daily pills and unpredictable nature of risk were barriers.

CONCLUSIONS: Both professional (peer-navigators) and social network PTP approaches were acceptable methods to receive HIVST and information with wide reach. Social and structural factors remain barriers which need to be addressed for HIVST to increase uptake of PrEP among AGYW.

PEC0690

PREP ELIGIBILITY, HIV RISK PERCEPTION, AND WILLINGNESS TO USE PREP AMONG MSM IN INDIA

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BACKGROUND: In India, men who have sex with men (MSM) are at elevated risk for HIV. As pre-exposure prophylaxis (PrEP) has emerged as an important HIV prevention tool globally, and with PrEP demonstration projects underway in India, we assessed the associations between guideline-informed PrEP eligibility, HIV risk perception (a Health Belief Model construct), perceived benefits and costs (Rational Choice Theory constructs), and stated willingness to use PrEP (WTUP).

METHODS: From December 2016 to March 2017, MSM were recruited at „cruising" sites ('hotspots') by peer outreach workers from community-based organizations (CBOs) in Mumbai and Chennai. Interviewer-administered Tablet-Assisted Survey Interviews were conducted in private CBO offices. We used logistic regression to examine associations between PrEP eligibility, HIV risk perception, perceived benefits and costs of PrEP and WTUP (outcome) among HIV-negative MSM. PrEP eligibility criteria were adapted from CDC/WHO/European guidelines:

1) condomless anal sex (past-month),
2) STI diagnosis (past-year),
3) sex work (past-month), and
4) >1 male partner (past-month).

Perceived benefits and costs were assessed with Likert-type scales (Cronbach's alphas >.85). Additionally, we conducted logistic regression to identify factors associated with unwillingness to use PrEP among PrEP-eligible MSM.

RESULTS: Participants' (n=197) mean age was 26.6 (SD 6.6); one-third (34%) completed college-degree education, and half (49%) engaged in sex work; 93% met at least one PrEP-eligibility criterion. Three-fourths (77%) reported they would 'definitely use' PrEP; however, one-fifth (19%; 38/197) met PrEP-eligibility criteria but reported unwillingness to use PrEP. PrEP eligibility (aOR=3.89, p=.04), higher HIV risk perception (aOR=1.48, p=.01), and higher perceived benefits scores (aOR=1.12, p<.01) were associated with higher odds of WTUP. Among the 183 PrEP-eligible MSM, unwillingness to use PrEP was associated with lower HIV risk perception (aOR=.67, p=.02) and lower perceived benefits score (aOR=.87, p<.01).

CONCLUSIONS: MSM in India reported high willingness to use PrEP, with PrEP-eligibility criteria significantly predicting WTUP. However, a subgroup of PrEP-eligible MSM reported unwillingness to take PrEP due to low HIV risk perception and low perceived PrEP benefits. Interventions to facilitate accurate self-perceived HIV risk, and to promote awareness of PrEP benefits and eligibility criteria, may increase PrEP uptake among MSM in India who would most benefit.

PEC0691

LEARNING FROM THE ROLLOUT OF CURRENT HIV PREVENTION METHODS TO IMPROVE ACCESS TO AND UPTAKE OF NEW PREVENTION PRODUCTS FOR WOMEN AND ADOLESCENT GIRLS

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BACKGROUND: The monthly dapivirine (DPV) vaginal ring has been developed as a long-acting, female-initiated HIV prevention method. Pending regulatory approval, the International Partnership for Microbicides (IPM), the ring's developer, sought to understand the lessons from the introduction and rollout of oral pre-exposure prophylaxis (PrEP) and the female condom that could inform the prospective launch of the DPV ring.
METHODS: This qualitative study was conducted in Kenya, Malawi, Rwanda, South Africa, Tanzania, Uganda and Zimbabwe where the first regulatory submissions in Africa are planned. We conducted 12 key informant interviews (KIIs) with policymakers, 101 KIIs with healthcare providers (HCPs) (doctors, pharmacists and nurses) and 20 focus group discussions with community health workers (CHWs) (n=127). Data were analysed using thematic content analysis.
RESULTS: Several key themes emerged when participants reflected on the introduction of PrEP (available in five of the seven countries) and the female condom (available in all seven countries). These were: usability of the ring by end-users, HCP training, and health systems readiness.
Participants emphasised highlighting the usability of the ring to end users, as the female condom had low uptake due to low knowledge on its functional use and the discomfort experienced when using it. HCP training was insufficient prior to the introduction of PrEP and often extended to a few staff members and excluded CHWs. As a result, knowledge of PrEP was low and HCPs lacked the confidence to prescribe it. At the health system level, the importance of wide distribution and consistent availability of the ring was emphasised. In some countries, stock-outs of female condoms have made HCPs and CHWs reluctant to promote them.
CONCLUSIONS: If approved, ring introduction programs can build from the experiences of other female-oriented prevention methods. To do so, IPM and its partners should prioritise raising awareness among policymakers and HCPs through the use of clear communication and behavioural strategies such as framing and overcoming biases. Prior to ring implementation, a broad range of HCP cadres and CHWs should be trained to develop confidence to prescribe the ring and relay its usability to end-users. In addition, country-specific health system barriers should be addressed.

PEC0692

EARLY ENGAGEMENT ON PREP AMONG TRANSGENDER WOMEN IN LATIN AMERICA: THE IMPREP EXPERIENCE

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BACKGROUND: Transgender Women (TGW) are a key population in the worldwide HIV epidemic. While Pre-exposure prophylaxis (PrEP) is recommended by the WHO to prevent HIV acquisition among individuals at substantial risk, including TGW, PrEP uptake among TGW globally has been low. ImPrEP is a PrEP demonstration study to assess the feasibility providing daily oral PrEP to MSM and TGW at risk for HIV in Brazil, Mexico and Peru. We explore baseline characteristics associated with early engagement of enrolled TGW
METHODS: This analysis includes all individuals who self-define as TGW enrolled in ImPrEP. Early engagement was defined as returning for the first follow-up visit within 15-60 days of enrollment. Data were collected on socio-demographics, factors associated with HIV acquisition (i.e. condomless anal sex), and past use of Pre or Post-exposure prophylaxis. Enrollees were tested for syphilis and anal STIs (Neisseria Gonorrhea and Chlamydia Trachomatis). In bivariate analysis, the effect of each covariate was estimated controlling by country, covariates significant at 10% were selected for the multivariate analysis.

		N (% with early engagement)	OR* (95% CI) adjusted by country	p-value	aOR (95% CI)	p-value
Country	Brazil Mexico Peru	183 (77.6) 23 (88.5) 137 (63.4)	Ref. 2.21 (0.63-7.74) 0.50 (0.32-0.78)	- 0.210 0.002	Ref. 2.27 (0.63-8.18) 0.61 (0.34-1.08)	- 0.210 0.009
Age (years)	18-24 25-34 35+	115 (68.7) 181 (69.1) 129 (76.0)	0.59 (0.33-1.06) 0.58 (0.34-0.98) Ref.	0.080 0.040 -	0.67 (0.37-1.24) 0.60 (0.34-1.03) Ref.	0.200 0.060 -
Educational level	≤Secondary Post-secondary	308 (65.9) 116 (84.5)	Ref. 2.63 (1.50-4.62)	- 0.001	Ref. 2.42 (1.37-4.29)	- 0.020
Reason to visit ImPrEP site	Looking for PrEP Others	272 (77.2) 153 (60.1)	1.70 (1.00-2.91) Ref.	0.050 -	1.66 (0.96-2.88) Ref.	0.070 -
Number of male sex partners, last 3 months (divided at the median)	≤20 >20	213 (71.8) 212 (70.3)	Ref. 0.87 (0.57-1.34)	- 0.52		
Sex workers	Yes No	300 (69.7) 125 (74.4)	0.78 (0.48-1.26) Ref.	0.32 -		
Condomless sexual intercourse with HIV+ partner(s)	Yes No Don´t know	20 (85.0) 138 (74.6) 267 (68.2)	1.39 (0.37-5.20) Ref. 0.68 (0.43-1.10)	0.620 - 0.110		
Marijuana	Yes No	112 (67.0) 313 (72.5)	0.68 (0.43-1.10) Ref.	0.080 -	0.70 (0.42-1.17) -	0.180 -
Cocaine	Yes No	74 (64.9) 351 (72.4)	0.62 (0.36-1.07) Ref.	0.090 -	0.82 (0.46-1.47) -	0.510 -

[Table]

RESULTS: Until December 1st, 2019, ImPrEP enrolled 480 TGW (235, 49.0% from Peru; 184, 38.3% from Brazil; and 61, 12.7% from Mexico), who were on average 29 years-old (IQR:24-37). The majority completed only secondary education (71.0%). In the past 6 months, their median number of sex partners was 20 (IQR: 5-100); 89.6% reported condomless anal sex; 4.6% reported sex with an HIV positive partner; and 68.5% reported sex work.

Baseline prevalence for syphilis, anal NG and anal CT were 18.1%(95%CI:14.4%-22.2%), 14.7%(95%CI:11.2%-18.9%) and 17.8%(95%CI:13.9%-22.2%), respectively. Early engagement was achieved by 71.1% of TGW. Having greater than secondary education was independently associated with a higher chance of early engagement among TGW (aOR2.42, 95%CI1.37-4.29).

CONCLUSIONS: Greater efforts to improve early retention to PrEP among TGW should be undertaken to improve their PrEP continuation, especially among TGW with lower education.

PEC0693

MEN'S SEXUAL EXPERIENCES WITH THE DAPIVIRINE VAGINAL RING IN MALAWI, SOUTH AFRICA, UGANDA AND ZIMBABWE

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BACKGROUND: The dapivirine vaginal ring has been well-tolerated and shown to prevent HIV in clinical trials. The ring is female-initiated yet endorsement for use is often sought from male partners (MPs). In clinical studies, participants have expressed worries about men detecting rings during sex, which introduces concerns about disclosure, sexual pleasure, penile harm, inter-partner dynamics, and ring removals. This study reports men's firsthand sexual experiences with the ring.

METHODS: Eleven focus group discussions with 53 random- and purposively-selected MPs of ring-users at six sites in Malawi, South Africa, Uganda and Zimbabwe were conducted. Following a semi-structured guide, and using demonstration rings, vulva and penis models, men were asked about the ring's impact on sex and views on male engagement and ring use. Interviews were facilitated by local, male, social scientists; audio-recorded, translated into English, and analyzed thematically.

RESULTS: MP's average age was 37.5 (range 21-61); 61.1% had not completed secondary school. Forty percent of MPs reported feeling the ring during sex, often attributed to perceived incorrect insertion. Many men described the ring as "scratching" the tip of their penises, and sensations of "prodding" something that "blocked" the vagina and prohibited "full entry". In most cases, physical feelings dissipated with ring experience or increased lubrication. Some men felt the vaginal texture, wetness and size was different, which increased pleasure for several, and decreased for others. Three-fifths never noticed the ring; some attempting and failing to feel it during intercourse. The majority of men reported that the ring did not change the positions, feelings, frequency or experience of sex, although some were initially afraid that the ring was a "magic snake" or "potion". MPs expressed strong opinions that ring use was a shared prevention responsibility and their engagement was important to relationship trust and open communication.

CONCLUSIONS: The ring was noticed by many MPs, particularly at study initiation, although this led to few sexual problems or changes. Nevertheless, results suggest that risk of ring discovery should be discussed with women to mitigate any potential negative reactions or social harm. Strategies to increase MP engagement will enhance support of this prevention method for women.

PEC0694

THE RELATION OF INTERNALIZED HOMONEGATIVITY WITH HIV PREVENTION STRATEGIES: RESULTS FROM LATIN-AMERICA MSM INTERNET SURVEY (LAMIS) IN BRAZIL

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BACKGROUND: Internalized homonegativity (IH) could be defined as negative thoughts towards homosexuality and its features in oneself. In Brazil, MSM are a key population for HIV care and policy making. Combination HIV prevention (condoms, PEP, PrEP, testing, treatment as prevention) is the most complete and effective way to approach HIV epidemic. This study aimed to analyze the relation of IH with adherence to different HIV prevention strategies.

METHODS: LAMIS was an online cross-sectional survey conducted between January-April 2018. The survey was promoted through dating apps, social network groups and websites with gay content. For this analysis, we considered 13.205 participants from Brazil (those who reported living with HIV and/or had discrepant answers were excluded). IH was categorized as "Low" (0-0.43); "Medium" (0.431-2.99); "High" (3-6) according to quartiles distribution using the Short Internalized Homonegativity Scale. Multiple logistic regression models were used to assess the relation between IH and HIV-prevention outcomes, adjusted by age, settlement size and education level. The reference category are always those who scored "Low IH".

RESULTS: Having high IH was associated with lower odds (aOR=0.75; CI95%0.68-0.83) of receiving free condoms in the last 12 months. Medium (aOR=0.79; CI95%0.70-0.89) and high IH (OR=0.52; CI95%0.46-0.59) were negatively associated with ever having an HIV test. Those with high IH had lower odds of being aware of PrEP (aOR=0.42; CI95% 0.38-0.47) and to be currently using daily PrEP (aOR=0.36; CI95%0.24-0.55). Having high IH was also negatively associated with PEP awareness (aOR=0.37; CI95%0.33-0.42) and PEP use (aOR=0.66; CI95%0.57-0.78). Those who had high internalized homonegativity also had lower odds of knowing about U=U (aOR=0.42; CI95%0.38-0.47).

CONCLUSIONS: These results suggest that negative attitudes and thoughts towards homosexuality (high internalized homonegativity) reduces access to several HIV-prevention strategies such as condoms, testing, PrEP, PEP and even knowledge about U=U. Determinants such as prejudice and stigma, especially those directed towards oneself, might be an important risk factor for HIV-infection.

In the context of combination prevention, addressing IH in health services, HIV counseling and even advancing in gay rights agenda might be important structural interventions to improve HIV prevention.

ACCESS TO HARM REDUCTION INTERVENTIONS

PEC0695

SHARED SYRINGE USE AND HIV PREVALENCE AMONG HIGH FREQUENCY DRUG USERS IN TAJIKISTAN IS ASSOCIATED WITH INADEQUATE PROVISION OF PREVENTION SERVICES AND LOW INCOME

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BACKGROUND: Sharing of needles, syringes and injecting equipment by people who inject drugs (PWID) primarily drives HIV transmission in Tajikistan. To inform improvement of the needle-syringe exchange programs (NSPs), the national HIV program conducted a bio-behavioral survey among PWID in eight districts in 2018 to estimate HIV prevalence, risk-behaviors, and program coverage.
METHODS: We used respondent-driven sampling to recruit adults who injected drugs at least once in the 6 months preceding enrollment. The sample size range was 250-500 across the sites. Participants completed an interview and provided blood samples for HIV, viral load, and syphilis testing. Data were analyzed for injection frequency, sharing of contaminated injection equipment, participation in NSP in the last 3 months, and monthly income. People injecting drugs more than once daily in the last 6 months were classified as high frequency injectors (HFI); those injecting once daily or less were considered low frequency injectors (LFI). Descriptive analysis and chi-square test of the crude estimates were conducted using Stata/SE.
RESULTS: 2,350 participants were recruited. Among NSP clients (n=1,067), 13.6% of HFI and 2.8% of LFI (p<0.0001) reported sharing of contaminated injecting equipment. HIV prevalence was higher among equipment sharing HFI (31%) than among non-sharing HFI (10.3%, p=0.0004), and was higher than among equipment sharing LFI (9.7%, p<0.0001). Median monthly income was lower for equipment sharing HFI versus non-sharing HFI (US$45.00 vs. US$78.00USD, p = 0.0071). HFI who did not receive free sterile equipment from NSPs and did not share injecting equipment had a much higher median monthly income (US$136.00) than HFI NSP clients who shared equipment (US$45.00USD, p < 0.0001).
CONCLUSIONS: Currently, the Global Fund HIV grant provides only one syringe per client per day. If provided an adequate supply of sterile needles and syringes through NSPs, low-income HFI are less likely to share needles and become HIV-positive. Harm reduction programs should consider targeting low-income HFI. A screening tool that assesses for median monthly income and frequency of drug use could help ensure that the highest risk PWID have access to adequate supplies of sterile needles, syringes and injecting equipment.

PEC0696

INCREASING ACCESS TO MEDICATION-ASSISTED TREATMENT (MAT) FOR HARD-TO-REACH PEOPLE WHO INJECT DRUGS (PWID) THROUGH SATELLITE SITES IN NORTH-EAST INDIA

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BACKGROUND: HIV prevalence among PWID in North-East states is higher than the national PWID average of 6.2% (Mizoram 19.8%, Tripura 8.5%, Manipur 7.6%). To address the rising HIV infections, National AIDS Control Organization (NACO) has scaled up harm reduction services including MAT in facility and community settings. The distance and hilly terrain are barriers for PWID to access MAT in Northeast states. With funding from PEPFAR/CDC, Project Sunrise implemented by FHI 360 introduced Satellite sites to bring MAT to PWID in remote areas in Northeast India.
DESCRIPTION: Staff conducted a feasibility assessment related to location of satellite sites along with community consultation. The sites identified included a primary health centre, drop-in-centre, faith and community-based organization with no additional infrastructure cost. Each site was linked with the closest parent MAT centre approved by NACO. All clients who were on stable doses accessed their medication at the satellite site on a monthly basis. The sites also provided linkage to HIV screening, index testing, ART and psychosocial support.
LESSONS LEARNED: A total of 1,948 hard-to-reach PWID accessed MAT from 32 satellite sites through August 2019. Around 1,480 (75%) clients were retained on MAT in the last six months; 1,535 (78%) clients were tested for HIV of which 306 (20%) tested positive and 276 PWID were initiated on ART (90%). Needle/syringe exchange, abscess management and linkage to social protection schemes were also provided. MAT uptake increased by 40% in one year (7,022 to 9,883 clients). MAT coverage increased from 15% to 22% among active PWID. Capacity building of existing staff, travel compensation for doctor for MAT induction, and proper supply chain management contributed to improved access to MAT. A policy change to permit 'Take Home' dosing for stable clients will further increase OST adherence.
CONCLUSIONS/NEXT STEPS Hard-to-reach PWID who are not accessing MAT and other HIV services were efficiently reached through satellite sites. NACO has included satellite MAT as a new innovative approach within the revised national targeted intervention strategy for key populations and scale up this approach across the country. This is a cost-effective model that can be replicated in low resource settings.

PEC0697

MYANMAR-INDIA CROSS BORDER HARM REDUCTION A GOLDEN RECIPE TO REDUCE DRUG USE RELATED HARM

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BACKGROUND: According to 2014 national statistics there were 1641 people who inject drugs (PWID) in Tamu Township located at the Myanmar-India border; with 20% HIV prevalence rate amongst cross border PWID. No harm reduction, HIV prevention and treatment services were available and only 140 PWID were on Methadone Maintenance Therapy. Tamu, border township of Myanmar and India is

located in the north-west of Myanmar. The border region shows historically opium fields, heroin production and, drug and supplies and is a trafficking 'corridor' between India and Myanmar. People from both sides frequently cross the border (unofficially) for trading and drug consumption in this heroin and opium rich border area.

DESCRIPTION: With funding support of 3MDG, the Asian Harm Reduction Network opened comprehensive harm reduction services in February 2015 in Tamu. Recognizing the mobile and cross border realities, AHRN initiated cross-border outreach for PWID/PWUD from both India and Myanmar, providing NS, Condoms, foil paper, HE, HTS and HIV referral. Cross-border linkage and coordination was established with other NGOs in India such as DPU and MSF.

LESSONS LEARNED: Both PWID/PWUD from Myanmar and India received HIV prevention services and 1,800 received Harm Reduction services annually. From February 2015 to December 2017, 870,724 Low Dead Space Syringes were distributed (majority in India side); 150 HE sessions were conducted, 528 PWID received the HTS services; 689 PWID/PWUD received Hepatitis B vaccination. 34 HIV positive PWID received ART treatment from National AIDS Program and 9 HIV Positive PWID received ART from MSF in India. 216 PWID/PWUD were screened for TB and 8 received TB treatment, providing cross border harm reduction services significantly reduced drug use related harm among PWID/PWUD in said area.

CONCLUSIONS/NEXT STEPS It was found that HIV syndemic can be tackled more effectively when communities came together from the neighboring countries as HIV among drug users is never a problem of a single country. Thus, cross border coordination should be strengthening further in the region.

PEC0698

BREAKING BARRIER TO INCREASE SERVICE ACCESSIBILITY BY INTEGRATING COMMUNITY LED PREVENTION PROGRAM IN HARM REDUCTION AND HIV PREVENTION PROGRAM

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BACKGROUND: Myanmar is struggling with a concentrated HIV, viral hepatitis and drug use syndemic. Vicarious discrimination of People Who Inject Drug (PWID) is witnessed, hampering access to vital lifesaving services. Organizations providing harm reduction services face strong community opposition and believe that NSP and drop-in-centers increase numbers of PWID.Community also implemented the anit drug use campaign by targeting the PWID. This opposition and anti drug use campaign limits PWID to access HIV prevention and health care service.

DESCRIPTION: AHRN transforms its approach from working in community to working with community to overcome this resistance by integrating a community prevention program at Waimaw Township in January 2018 with focused advocacy and providing training workshops to local community members. With their community ownership, these community prevention workers, receiving a small stipend to cover expenses, conduct prevention training in the community and conduct health education sessions for PWID/PWUD, provide the referral (cards) to access the HTS in AHRN clinic or DIC and mobile team. They participate in neighborhood NS cleaning-up campaigns and advocate others to take part in this campaign. Within the two years, 9 ToTs training for community were conducted and trained community also conducted the 22 training for their fellow community member as well as 30 HE session also conducted for PWID. 9 NS cleaning-up campaigns were done

LESSONS LEARNED: After integration of community led prevention program, the perception of community on Harm reduction services has change positively and the significant increased of accessing Harm Reduction and HIV prevention services by PWID. During 2017 from 2019, NSP was increased from 700,000 to 1574800 (125%). PWID reach from 2269 to 3231(42%). Condom distribution from 38304 to 58912 (54%). HTS accessed from 355 to 656(85%). Overdose management from 7 to 18.(157%) MMT accessed from 313 to 679(117%).

CONCLUSIONS/NEXT STEPS Integration of the community led prevention program is a good advocacy which significantly create the sense of ownership on the public health intervention by community themselves, AHRN will further expand its integration of community led prevention program in existing Harm Reduction Service.

PEC0699

RESISTANCE AND RESILIENCE: ACCESS TO CLEAN NEEDLES AND SYRINGES IN REMOTE-RURAL AREAS IN MYANMAR

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BACKGROUND: In Myanmar, HIV prevalence among PWID vary between 34.9% up to 64.1% mainly related to needles and syringes (NS) scarcity and unsafe injecting practice. Injecting is a rural phenomenon in hard to reach concentrated hotspots of Northern Myanmar. Illegal possession of hypodermic NS may face legal challenges and prosecution. AHRN initiated community-based NS Automatic Taking Machines (NSATMs) at grocery-shops to increase easy access to clean NS in remote areas. Nevertheless, it remains subject to community resistance by anti-drug faith-based groups and public criticism for low return rates and scattered NS is perceived as a public health risk.

DESCRIPTION: In 2017, AHRN scaled-up community-based NSATMs at grocery-shops and pharmacies across its projects in Northern Myanmar. NSATM owners are trained in harm reduction, HIV prevention and assist and navigate PWIDs in the whole HIV treatment and care cascade. Local communities are trained and empowered to have more understanding on complex nature of drug problems. Outreach, needle patrolling by peers and NSATM shops collect used NS. Peers and community members participate in neighborhood NS cleaning-up campaigns and advocate others to have better understanding on Needles Syringe Program (NSP). Hotlines for needle stick injuries, used needle collection and post-exposure-prophylaxis are provided.

LESSONS LEARNED: Routine data and FGDs analysis of this innovation conclude: NS distribution increased from 9,227,769 in 2016 to 12,619,444 in 2017 and 15,486,275 in 2018 and the return rates were 73%, 63% and 68% respectively. PWID can access clean NS at all times from NSATM without worry. FGDs with community health workers, peers and users confirm: no widespread disposal of used NS in public; various methods of used NS destruction practiced (burning, discarding in bio-bin/latrines...); no significant difference of discarded NS & needle-stick injuries in those projects.

CONCLUSIONS/NEXT STEPS NSP is a proven HIV prevention strategy among PWID; empower community to enhance community advocacy leads to acceptance; lower return rates do not automatically mean widespread NS disposal in the community; zero transmission

from NS injuries occurred. Increased access to NS has a proven to significantly lower HIV risks amongst PWID and community at large. Further qualitative study and analysis on low return rates is warranted.

PEC0700

NEEDLE SHARING PRACTICES AND ACCESS TO HARM REDUCTION SERVICES AMONG PEOPLE WHO INJECT DRUGS IN NIGERIA: FINDINGS FROM A 2018 PROGRAMMATIC MAPPING EXERCISE ACROSS 10 STATES

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BACKGROUND: Information on needle sharing, and harm reduction services such as needle syringe programs and opioid substitution therapy are currently not readily available in Nigeria. This study provides recent information on the needle sharing practices and access to harm reduction services among PWIDs in 10 states in Nigeria.

METHODS: This study was conducted in 10 states (Abia, Anambra, Enugu, Gombe, Kano, Kaduna, Taraba, Oyo, Imo and Edo) in Nigeria in 2018, using a programmatic mapping approach. It involved a two-level (L1, L2) process: L1- systematic information gathering regarding the geographic locations and description of their hotspots through secondary key informants' interview and L2- Spots validation and in-depth profiling of spots identified in Level 1. Information regarding needle sharing practices and access to harm reduction services six months prior to this exercise were collected.

RESULTS: Total number of PWIDs estimated across the 10 states was 49,874, about 22% (11,031) were females. Approximately 40% (19,918) of the total estimated PWIDs share needles across the 10 states, with Oyo state having the highest estimate 41% (8,252). Rate of needle sharing per state was also highest in Oyo, about 56% of the total estimated PWIDs in the state share needles. High rates were also seen in Abia, Gombe, Kaduna and Anambra states. Across the 10 states, access to all types of HIV prevention services six months prior to the exercise was highest in Gombe state. HIV testing service was available in 30% of spots in Gombe. Needle replacement services and opioid substitution therapy were provided in less than 10% of spots in Gombe state while safe needle disposal services were not available across the 10 states.

CONCLUSIONS: A large proportion of PWIDs share needles and this varied in proportion across states. Access to harm reduction services was extremely poor across all 10 states. There is an urgent need to address this gap as PWIDs are at a very high risk of contracting and spreading HIV among themselves and to the general population. Information from this study can be used as a policy advocacy tool for the effective implementation of harm reduction services in Nigeria.

OPTIMIZING VERTICAL TRANSMISSION PREVENTION PROGRAMMES

PEC0701

RISK FACTORS ASSOCIATED WITH VIROLOGIC FAILURE AMONG HIV-POSITIVE PREGNANT AND POSTPARTUM WOMEN RECEIVING ANTIRETROVIRAL THERAPY: A CASE-CONTROL STUDY IN KISUMU, KENYA

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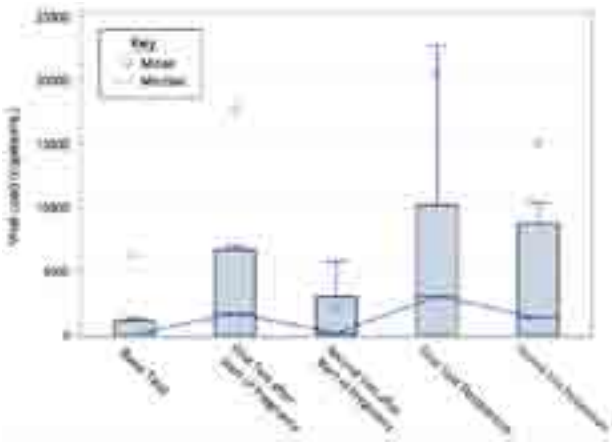
BACKGROUND: Viral suppression is critical for pregnant and breastfeeding women living with HIV (PWHIV). This study aimed to identify risk factors for virologic failure [>1000 copies per mL (cpm)) among PWHIV on antiretroviral treatment (ART).

METHODS: We conducted a case-control study among 159 women on ART who were pregnant or <1-year postpartum January 2016–January 2018. Cases included women with at least one viral load >1000 cpm during pregnancy or postpartum (n=53). Women with viral loads <1000 cpm throughout pregnancy and postpartum were randomly selected as controls (n=106). Data on demographic characteristics and medical history were abstracted from medical charts at a large volume, urban facility in Kisumu, Kenya. Multiple logistic regression was used to test the significance of association between extracted variables and virologic failure. The final model was adjusted for age and time since HIV diagnosis (p>0.10).

RESULTS: Overall, mean age was 29 years (SD 5.2) and mean duration on ART was 46 months (SD 36). The majority of women were on first line ART (N=140; 88.1%) and were diagnosed with HIV prior to pregnancy (N=117; 74.0%). Logistic regression revealed that women who did not know their male partner's HIV status were significantly more likely to experience virologic failure during pregnancy or postpartum than those who did [adjusted odds ratio (aOR) 3.53, 95% Confidence Interval (CI) 1.08-11.48, p=0.04]. Women who started pregnancy on a second line ART regimen were significantly more likely to have virologic failure than those who were on first line ART [aOR 65.06, CI 7.65-553.01, p=0.0001]. Median viral load among cases appeared to peak in the early postpartum period (Figure 1).



[Figure 1. Mean and median viral load among women with virologic failure throughout pregnancy and postpartum]

CONCLUSIONS: This study identified important risk factors for viremia in pregnant and postpartum women with HIV. Efforts to address virologic failure in PWHIV should consider improving male partner engagement and disclosure, and management of pregnant patients on second-line ART.

PEC0702

ENGAGING COMMUNITY WOMEN AS PEER HEALTH EDUCATORS IN PROMOTING BETTER HEALTHCARE FOR TRIBAL PREGNANT WOMEN IN MYSORE DISTRICT, KARNATAKA, INDIA

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BACKGROUND: Involving women from the target community to promote health of indigenous tribal pregnant women is important in a country like India where there is an acute shortage of qualified health professionals and a large burden of maternal mortality and HIV transmission. These women can act as "change agents" and assist healthcare providers by providing education, and motivating women to seek prenatal care including HIV/STD testing.

METHODS: In May 2016, Public Health Research Institute of India(PHRII) a community-based organization working for Women's Health identified and trained 11 active tribal women from 22 tribal areas to serve as peer health advocates from Mysore District, Karnataka as part of a larger effort to empower local women to improve women's health in their community. Training was conducted in *Kannada* using didactic presentations, debate, role-play and panel discussions. Topics included maternal health, childcare, HIV and reproductive health. Knowledge was assessed before and after the training with pre- and post-tests. An equal emphasis was given in empowerment and leadership building among women in addition to focus on increasing the uptake of integrated prenatal care and HIV testing among tribal pregnant women with limited access to health care through the use of a mobile medical clinics.

RESULTS: The median age of community women was 28 and most of them had completed 11th grade education. The training program proved to be successful as 290 (97.6%) out of 297 pregnant women in the community were referred by community women to the mobile clinics conducted by PHRII. Of these women, 286 (98.6%) received prenatal care and all 290(100%) underwent HIV testing and counseling. Over the program period 2016-17, only one pregnant woman was diagnosed with HIV infection (0.35%) and was referred to the ART center for further treatment.

CONCLUSIONS: Empowering local community women through training can be effective in improving women's health in hard to reach communities in the context of providing prenatal care and HIV testing. This can be an important strategy for promoting and sustaining community health programs in under served communities.

PEC0703

HIV STIGMA LIMITS THE EFFECTIVENESS OF PMTCT IN GUINEA, THE ANRS 12344 DIAVINA TRIAL

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BACKGROUND: Nearly half of HIV-infected children worldwide are born in West and Central Africa, where access to PMTCT programme is still limited. The 2016 WHO guidelines recommend reinforced ARV prophylaxis for infants at high risk of MTCT that needs to be further investigated in the field.

METHODS: The prospective ANRS 12344-DIAVINA trial evaluates at Ignace Deen Hospital, Conakry, Guinea, the feasibility of a strategy combining early infant diagnosis (EID) and reinforced ARV prophylaxis (AZT-3TC-NVP 12 weeks) in high-risk infants.

RESULTS: From Feb 2017 to Feb 2018, 6,493 women were admitted for delivery, 6,141 (96%) accepted HIV testing, 114 women were HIV-infected (1.9%). Among them, 51 high-risk women (newly diagnosed with HIV (n=38) or treated for <4 weeks (n=13)) and their 56 infants were included. At birth, blood sample for EID was collected and reinforced ARV prophylaxis was initiated in 48/56 children (86%, $IC_{95\%}$ 77-95%). No clinical adverse events was attributed to the prophylaxis. Iron supplementation was given to 35% of children for non-severe anaemia. Most (91%) infants were exclusively breastfed.

Retrospective measure of maternal HIV-RNA at delivery revealed than 49% of children were misclassified as high-risk infants (maternal HIV-RNA <400 cp/mL) due to undisclosed ARV use by mothers. Self-stigmatization was more frequent in falsely classified women than in others (85% vs. 44%, p=0.02). Compared to low-risk infants (maternal HIV-RNA <400 cp/mL), high-risk children (median maternal VL 4.9 log10cp/mL) were more frequently lost to follow-up (44% vs 8%, p<0.01), which was associated to the mother's self-stigmatization (69% vs 31%, p<0.01). HIV infection was documented in 4 high-risk children, 3 of whom at birth.

CONCLUSIONS: HIV testing in delivery room and EID at birth are widely acceptable, as well as reinforced ARV prophylaxis, whose safety profile was good. However HIV stigma seems to be a major obstacle to the effectiveness of PMTCT strategies in Guinea. Because the risk of MTCT could not been appropriately evaluated by interview of mothers, implementation of measurement of maternal VL near delivery seems crucial. More, the improvement of PMTCT requires, beyond medical strategies, a consideration of the social issues of stigmatization in order to limit loss of follow-up of high-risk infants.

PEC0704

VIRAL LOAD TESTING COVERAGE AMONG PREGNANT WOMEN IN PEPFAR-SUPPORTED COUNTRIES, OCTOBER 2018 – SEPTEMBER 2019

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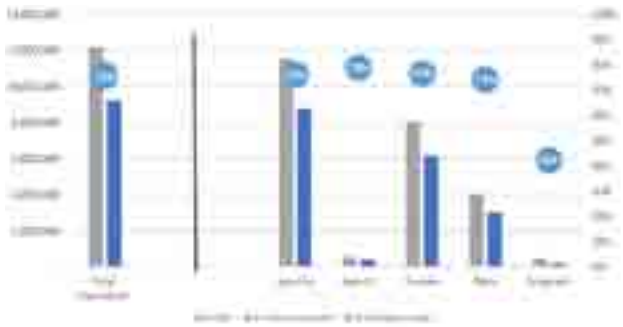
BACKGROUND: Sustained HIV viral suppression reduces the risk of vertical transmission and eliminates the risk of sexual transmission. Viral load (VL) suppression is the most reliable measure of the effectiveness of antiretroviral therapy (ART). We evaluated the President's Emergency Plan for AIDS Relief (PEPFAR) VL program data to assess how well VL testing reached children, women, and pregnant women.

METHODS: We analyzed VL testing coverage among ART patients in 19 high-burden HIV countries. VL testing coverage proxy estimates were calculated as the number of patients with a VL test divided by the number on ART 6 months earlier. VL testing coverage for pregnant women was estimated as those with a VL test among those already on ART at their first antenatal visit.

RESULTS:



[Figure 1. Number of patients on ART at PEPFAR sites in 19 high-burden HIV countries with a viral load test result, October 2018 - September 2019*

Botswana, Burundi, Cameroon, Cote d'Ivoire, Democratic Republic of the Congo, Eswatini, Ethiopia, Haiti, Kenya, Lesotho, Mozambique, Nigeria, Rwanda, South Africa, South Sudan, Tanzania, Uganda, Zambia, Zimbabwe]

Between October 2018 and September 2019, over 9 million patients had a VL test documented in their medical or laboratory records (76%). (Figure 1) The majority of tests were conducted in ≥15 year old (95%) and female (67%) sub-populations; 2% of tests were in pregnant women. The majority of patients <15 years and women on ART had a VL test (77% and 79%, respectively), but VL testing coverage among pregnant women was low overall (42%), and <50% in all but 6 countries (median 25%, range 7%-86%).

CONCLUSIONS: Suboptimal VL testing coverage of pregnant women in PEPFAR-supported facilities limits the ability of programs to effectively intervene to lower HIV transmission risk and protect the health of pregnant women and their families. Given the wide gap between the high VL testing coverage for all women on ART and the very low coverage for pregnant women, programs must critically review both data quality and program implementation gaps among pregnant women, to enable a reliable assessment of progress towards the UNAIDS goal that 90% of people on ART are virally suppressed by 2020.

PEC0705

THE IMPACT OF CASE CARE WORKERS HOME VISITS ON ADHERENCE TO ART AMONG CAREGIVERS AND THEIR CHILDREN

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BACKGROUND: The PMTCT has been a success in controlling HIV/AIDS in children and caregivers but evidence indicates an increase in the risk of vertical transmission during breastfeeding period due to lower adherence to ART in the postpartum period, and this urges to extend support of adherence to ART and retention in care among caregivers and infants. Therefore, we assessed the impact of Case Care Workers (CCW) home visits on adherence to ART among HIV exposed or infected children below 2 years of age and their HIV positive caregivers in rural Zimbabwe.

METHODS: This was a secondary data analysis of a multicomponent intervention cluster trial in 1:1 allocation. The sample size was randomly selected using PMTCT registries in 30 clinics in two districts in Zimbabwe. The standard arm received national HIV guidelines standard of care and the intervention arm on top to standard care received three interventions including CCW home visits to support adherence to ART and retention in care. Study outcomes; adherence to ART that was measured using Medication Adherence Rating Scale, and infant HIV testing were both measured after 12 months from enrolment. The study was analysed per protocol and logics regression was used to measure the effect and to adjust for predictors.

RESULTS: In total 574 caregiver-child dyads were enrolled and about 89.5% (514) completed 12 months of follow-up. There was no evidence of intervention effect on adherence to ART among caregivers (98.0% of adherence in intervention arm vs 98.3% in control arm; (OR=0.81, 95%CI:0.21 – 3.18, p=0.768) or infant HIV testing (98.1% ever tested for HIV in intervention arm vs 98.8% in control arm; OR=1.03, 95%CI:0.06 – 16.58, p=0.982). Adherence to ART among children was not explored due to the small number (6 children in treatment arm vs 6 in control arm) who were HIV positive.

CONCLUSIONS: CCW home visits did not have an impact on adherence to ART compared to Option B+ as standard care among caregivers of children between 0-24 months old with 12 months follow-up in Zimbabwe. Further research is needed to understand other specific factors in Zimbabwe that may hinder achieving the new global HIV target of 95-95-95.

PEC0706

FACILITATING HIV RETESTING AMONG PREGNANT AND BREASTFEEDING WOMEN: A MULTI-COUNTRY ANALYSIS FROM 2016 TO 2018

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BACKGROUND: Regular testing cascades to early treatment initiation, achieving timely viral suppression and preventing mother to child transmission. HIV programs often prioritize HIV positive women over HIV negative women, negating the value of primary prevention. This study investigated the impact of using lay health workers to promote the uptake of HIV retesting services amongst HIV negative women receiving antenatal and postnatal care.

METHODS: We conducted a secondary analysis of data collected from Eswatini, Lesotho and South Africa. The data included services provided by mothers2mothers' Mentor Mothers which was collected using a mobile health application between 2016 and 2018. We cross-linked this data with population level data from the national Demographic and Health Surveys. The sample consisted of HIV negative antenatal and postnatal women registered into mothers2mothers' Mentor Mothers program at health facility level. A total of 7,604 clients who had been enrolled for a minimum of 6 months and a maximum of 12 months were included in the analysis. A multilevel mixed-effects Poisson regression analysis was performed to identify factors associated with the frequency of retesting amongst HIV negative women in the program.

RESULTS: The median duration of participants in the program from enrollment was 8 months (IQR: 7-10 months) with the median number of HIV retests done being 2 (IQR: 1-2). The median number of contact sessions with a Mentor Mother was 5 (IQR: 3-5). Every additional Mentor Mother contact session increased retesting by 4% (p<0.001). An increase in the median number of contacts with HIV negative women at the health facility increased HIV retesting by 7% (p=0.009). With an additional month spent between contact sessions with a Mentor Mother, HIV retesting decreased by 11% (p<0.001). An increase in new pediatric HIV infections that occur during birth or an increase in the proportion of male-headed households in a community linked to a heath facility reduced HIV retesting by 1% (p<0.001).

CONCLUSIONS: The results showed how routine engagement with Mentor Mothers increased retesting in antenatal and postpartum women. This information could help in extending PMTCT service packages to HIV negative women in high HIV prevalence areas.

COMBINATION PREVENTION STRATEGIES

PEC0707

AN INTEGRATED INTERVENTION TO ENGAGE HIV+ PEOPLE WHO INJECT DRUGS IN ANTIRETROVIRAL TREATMENT AND MEDICATION-ASSISTED TREATMENT: EXTENDED FOLLOW-UP OF HPTN 074

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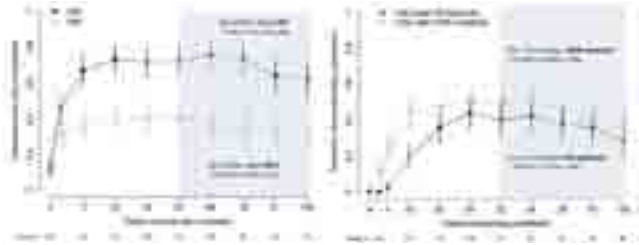
BACKGROUND: HIV+ people who inject drugs (PWID) experience inadequate access to antiretroviral treatment (ART) and medication-assisted treatment (MAT) and insufficient viral suppression (VS). HPTN 074 demonstrated that an integrated, systems navigation and psychosocial counseling intervention reduced mortality and increased ART and VS over 52 weeks. We present results from an additional 52 weeks of follow-up.

METHODS: HPTN 074 was conducted in Ukraine, Indonesia and Vietnam. Participants were randomly assigned 3:1 to standard-of-care (SOC) versus intervention. Eligibility criteria included: HIV positive; active injection drug use; 18-60 years of age; ≥1 HIV-uninfected injection partner; and viral load ≥1,000 copies/mL. Re-enrollment to extended follow-up was offered to all available participants. Outcome durability in the intervention arm was estimated over weeks 52 to 104 using longitudinal linear-binomial models. During the extension under-treated (off-ART or off-MAT) SOC arm participants were offered the integrated intervention and uptake was assessed.

RESULTS: Overall, 502 HIV+ PWID were enrolled: 85% were men, median age was 35 years (Q1-Q3: 31-38). In the extension, 327 participants re-enrolled (71% of the intervention arm, 63% of the SOC arm). Death, incarceration, and compulsory rehabilitation accounted for 74% (129/175) of those who did not re-enroll. In the intervention arm at weeks 52 to 104, respectively, 72% and 62% were on ART, 41% and 31% were on MAT, and 50% and 39% had VS <1000 copies/mL. From week 52 to 104, probability of ART decreased at an estimated rate of 7.1% (95% CI: -15.2%, +1.1%), MAT decreased 3.6% (-10.9%, +3.7%), and VS decreased 11.2% (-20.0%, -2.3%) per year (Figure). In the under-treated SOC group, only 49% (82/168) started the integrated intervention.



[Figure. ART, MAT, and viral suppression in the intervention arm]

CONCLUSIONS: Over 104 weeks of follow-up, many participants in the intervention arm reported continued ART and MAT. However, the decline in viral suppression suggests a need for maintenance support. Additional programs are needed for under-treated PWID.

PEC0708

CHARACTERIZING NEW HIV INFECTIONS WITHIN SEARCH, A UNIVERSAL TEST AND TREAT TRIAL IN RURAL EAST AFRICA

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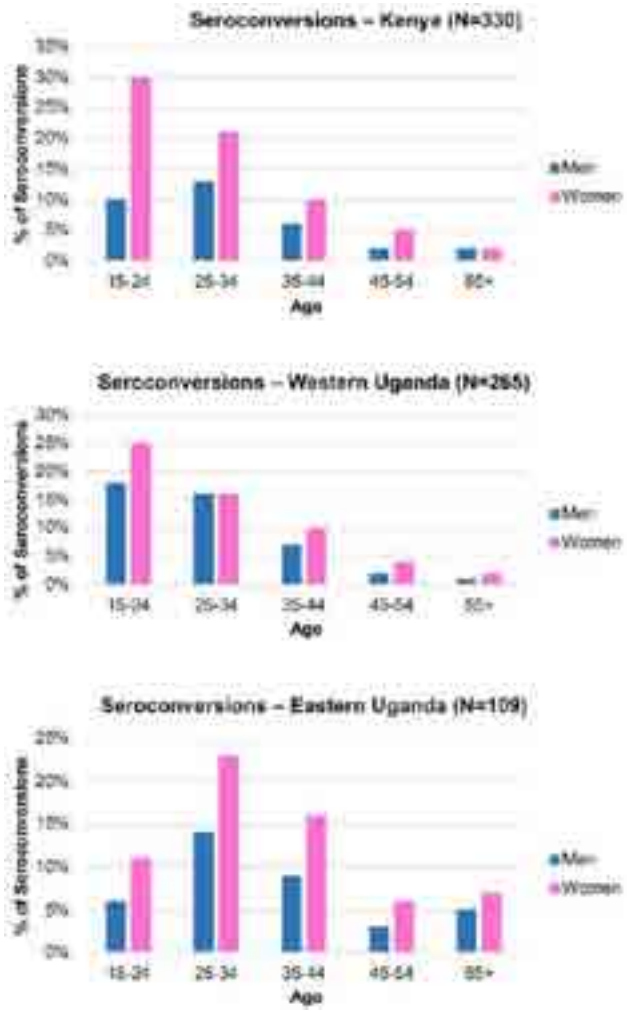
BACKGROUND: Additional progress towards HIV epidemic control requires understanding who remains at risk of HIV infection in the context of high uptake of universal testing and treatment (UTT). We characterized seroconverters in the SEARCH UTT Trial conducted in rural Uganda and Kenya.

METHODS: We evaluated seroconverter characteristics, potential infection sources, and risk factors with multi-variable adjustment using targeted maximum likelihood. As previously reported, at baseline

and in both study arms, HIV testing (health fairs and home-based testing) achieved 90% coverage in 32 communities of ~5000 adults (≥15 years) each. Viral suppression increased rapidly from 42% to 68% (control) and 79% (intervention) ; HIV incidence reduced by 32%; no difference between arms (0.25% intervention, 0.27% control). After 3 years, HIV retesting was done; seroconverters were surveyed about potential infection sources.

RESULTS:



[Figure.]

Of 704 seroconverters (no differences in characteristics by arm), 63% were women. Men aged ≤24 years made up a larger proportion of seroconverters (18%) in West-Uganda than East-Uganda (6%) or Kenya (10%)(Figure). After adjustment for other risk factors, men who were mobile [>1 month of prior year outside community] (aRR:1.68, 95%CI:1.09,2.60) and who HIV tested at home vs. health fair (aRR:2.50,95%CI:1.89,3.20) were more likely to seroconvert. Women aged ≤24 years (aRR:1.91; 95%CI:1.27,2.90), mobile (aRR:1.49;95%CI:1.04,2.11), and who reported a prior HIV test (aRR:1.34; 95%CI:1.06,1.70), or alcohol use (aRR:2.07; 95%CI:1.34,3.22) were more likely to seroconvert. Among survey responders (N=607, 86%), the suspected infection source was more likely for women than men to be >10 years older (22% vs 6%) or a spouse (44% vs. 26%) and less likely to be transactional sex (8% vs 14%).

CONCLUSIONS: In addition to universal testing and treatment, strategies that protect young women, alcohol users, mobile populations and those engaged in transactional sex from HIV infection, tailored to regional variability, may be necessary to further reduce HIV incidence rates.

INNOVATIVE BEHAVIOURAL INTERVENTIONS

PEC0709

FEASIBILITY AND ACCEPTABILITY OF "WE ARE FAMILY," AN HIV-RELATED HEALTH PROMOTION INTERVENTION FOR SAN FRANCISCO BAY AREA HOUSE BALL AND GAY FAMILY COMMUNITIES

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BACKGROUND: African American gay, bisexual, and transgender youth are disproportionately impacted by HIV in the United States (US) where incidence is high and continues to increase for these key populations. The House Ball and gay family communities, made up of gay, bisexual, and transgender youth of color who form chosen families, are ubiquitous across the US. Both communities are associated with protective HIV-related health behaviors, and are ripe for inclusion in HIV prevention efforts. The We Are Family intervention leverages these existing supportive social relationships to change community-level social norms.

METHODS: From September 2018-September 2019, we enrolled N=118 members of the House Ball and gay family communities and followed them for 6 months, conducting baseline and follow-up behavioral assessments. Eligible participants were 18 years or older, San Francisco Bay Area residents, members of a house or gay family or attendees at a ball in the past year, smart phone users, and sexually active. We Are Family intervention components included one 2-hour in-person group session, community-level events, a mobile health app, and a dedicated service provider at a local community-based organization.

RESULTS: Mean age was 31, 97% self-identified as being of color, 32% self-identified as transgender. We retained 94% of participants through follow-up with 73% attending a group session, 100% using the mobile health app, and 56% attending a community-level event sponsored by We Are Family. Modest changes in the expected direction were observed in HIV-related behavior from baseline to follow-up: among all participants any condomless anal intercourse past 3 months (74.6% to 66.7%, p=0.064); among HIV-negative participants (N=82) HIV testing past 6 months (80.7% to 87.2%, p=0.166); among HIV-positive participants (N=34) receiving HIV primary care past 6 months (64.5% to 78.8%, p=0.139) and adherent to ART past 30 days (22.6% to 28.1%, p=0.712). When asked if they would be willing to refer a friend to the We Are Family mobile health app 86% agreed, and 65% found the app relevant to them.

CONCLUSIONS: We Are Family, a culturally tailored multi-level HIV-related health intervention, reaches and retains its target population. We Are Family is feasible, acceptable and has promising trends to improve HIV-related health behavior.

PEC0710

BEHAVIORAL INTERVENTIONS ALONG THE PREP CARE CONTINUUM: A SYSTEMATIC REVIEW

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BACKGROUND: HIV pre-exposure prophylaxis (PrEP) remains underused in populations at highest risk for HIV infection. The PrEP care continuum provides a framework for evaluating critical outcomes towards effective PrEP use. This systematic review summarizes evidence on behavioral interventions to improve PrEP care continuum outcomes.

METHODS: We performed searches of six online databases for articles published between 1/1/10 and 4/15/19. Two conference archives underwent manual searches for presentations occurring between 1/1/14 and 4/15/19. We limited analysis to studies testing PrEP behavioral interventions in randomized controlled trials (RCTs), quasi-experimental studies, observational cohorts, and pilot studies and published protocols when consistent with the included study designs.

RESULTS: Our searches recovered 763 citations, and of these we retained 43 for analysis. Most interventions included education, counseling, navigation services, or eHealth support, and targeted individual, patient-level behavior change (n=30, 70%). PrEP adherence and PrEP prescription were the most frequently reported outcomes, followed by PrEP awareness/willingness (Table 1).

There were nine completed RCTs and of these four were pilot studies. RCTs tested only patient-level interventions (n=8) and system-level interventions (n=1). Of these, one study (11%) reported awareness/willingness to use PrEP outcomes, five (56%) reported access outcomes, three (33%) reported prescription outcomes, and four (50%) reported adherence outcomes. As measured, access consistently improved in trials for e-Health support, home-based PrEP, a home-based counseling intervention, and combined navigation/counseling services. Two RCTs of counseling and combined counseling/navigation interventions reported mixed PrEP prescription results. Mixed results were also observed in RCTs targeting adherence. Adherence interventions consisted of eHealth interventions (n=2) and combined counseling/education interventions (n=2).

Published protocols (n=11) suggest widening interests in multilevel interventions and diversified PrEP care continuum targets.

	Care Continuum Outcomes, No.(%)				
Level of Intervention (No. Studies)	Risk Recognition	Awareness/ Willingness	Access	Prescription	Adherence
Individual/Patient (n=30)	5(17)	10(33)	9(30)	11(37)	17(57)
Provider (n=5)	1(20)	3(60)	1(20)	2(40)	0(0)
System (n=5)	1(20)	1(20)	2(40)	3(60)	1(20)
Community (n=3)	0(0)	2(67)	1(33)	2(67)	0(0)
Total (n=43)	**7(16)**	**16(37)**	**12(30)**	**18(42)**	**18(42)**

[Table 1. Reported PrEP Care Continuum Outcomes by Level of Intervention]

CONCLUSIONS: Patient-level interventions predominated in the first generation of PrEP behavioral research. However, additional studies are needed to establish the efficacy of existing and new Prep behavior change techniques across the PrEP care continuum.

PEC0711

PRELIMINARY RESULTS FROM THE BET: A PEER-BASED DIGITAL SYSTEMS NAVIGATION INTERVENTION TO INCREASE HIV PREVENTION AND CARE BEHAVIORS OF YOUNG TRANSWOMEN IN RIO DE JANEIRO, BRAZIL

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BACKGROUND: Recent data show that almost one quarter of young transwomen aged less than 24 years old are living with HIV in Rio de Janeiro (RJ)-Brazil. HIV testing, care access, and PrEP use remain low despite availability in the public health system. We present early results from a peer-based Health intervention to increase HIV prevention and care behaviors among young transwomen in Brazil.

METHODS: We tailored an evidence-based systems navigation intervention for use with digital methods and peer-based delivery and a status neutral focus to increase HIV prevention and care behaviors among young transwomen in RJ-Brazil. Trans peers led the tailoring and pilot implementation. Inclusion criteria were: 1) self-identification as transwomen, 2) aged 18-24 years, and 3) living in RJ-Brazil. HIV prevention and care behaviors were assessed at 3-months after intervention initiation.

RESULTS: Twenty transwomen were enrolled (14 HIV-negative, 6 living with HIV). At enrollment, median age was 20.5 years old (IQR:18.8-23.0). Most were black/mixed race (15, 85%), 9 (45%) had less than 8 years of schooling, all earned less than US$1.00/day. All HIV-negative participants were PrEP naive and eligible for PrEP, of which 13 (92.9%) reported high willingness to use PrEP and 8 (57.1%) had a high-risk behavior score. Among participants living with HIV, 3 were not engaged in HIV care or on antiretroviral therapy (ART), 1 reported a missed visit in the last 6 months, and 5 had detectable viral load (VL). After the intervention, all HIV-negative participants were regularly tested for HIV, and 13 (92.9%) engaged in PrEP. All participants living with HIV were engaged in HIV care, on ART and achieved an undetectable VL.

CONCLUSIONS: Early results show increased HIV testing, PrEP uptake, and improvements in HIV care cascade indicators among young transwomen in Brazil after the digital intervention. Peer-based digital systems navigation may be an effective approach to mitigating barriers that hinder engagement in HIV prevention and care among young transwomen in a highly discriminatory setting such as Brazil.

STRUCTURAL INTERVENTIONS

PEC0712

ASSESSING HIV RISKS FOR PEOPLE WHO INJECT DRUGS (PWID) EXPOSED TO COMPULSORY DRUG ABSTINENCE PROGRAMS (CDAPS): A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND: Compulsory drug abstinence programs (CDAP) are increasing in number and scope to address addiction in the US and many global settings. For people with opioid use disorder, CDAPs are often deployed in lieu of opioid agonist therapy (OAT), despite growing evidence of individual and community-level iatrogenic harms. We conducted a systematic review and meta-analysis to evaluate associations between CDAP exposure and HIV-related risk behaviors among people who inject drugs (PWID).

METHODS: From June-September 2019, we systematically searched PubMed, EBSCOhost and Sociological Abstracts bibliographic databases, with terms related to HIV-risk factors (e.g. injection equipment sharing, antiretroviral therapy access), without geographic, language, or date restrictions. Articles that reported associations between exposure to CDAP (defined as coerced or involuntary, abstinence-based treatment programs, either extrajudicial or state-mandated) and related HIV among PWUD and PWID were included in the systematic review. Meta-analytic methods were used to quantify the association between CDAP exposure and HIV-related outcomes. We conducted random-effects modeling for studies that reported the same timeframe for CDAP exposure and outcomes.

RESULTS: From a total of 863 abstracts screened, 46 studies were identified for full-text reviews. We included final results from six studies reporting on HIV risk factors, two conducted in China, two in Thailand, and one each in Malaysia and Mexico. Current or previous exposure to CDAP was associated with a 46% increase in HIV seroprevalence at time of survey, though with substantial uncertainty (95% CI: 0.1-21.14, n=3 studies) and heterogeneity (tau^2 =0.9). Five out of six studies indicated a positive association between CDAP exposure and injection risk behavior, with a borderline-significant 14% increased in the odds of receptive syringe sharing, ever or in the last 6 months (95% CI 0.9-1.6,n=3 studies,tau^2=0.0054).

CONCLUSIONS: While data are limited and results are heterogeneous due to differences in CDAP across settings, exposure to such programs was associated with increased risk of syringe sharing and a weak increase in HIV seroprevalence amongst PWID. This study adds to the body of evidence linking CDAP to overdose and other negative health outcomes. Programmatic and policy measures should favor evidence-based harm reduction and treatment services for PWID, including voluntary OAT, while minimizing CDAP exposure.

PEC0713

DREAMS INTERVENTIONS REDUCE HIV POSITIVITY AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN WESTERN KENYA

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BACKGROUND: In 2017, five counties contributed 43 percent of all new HIV infections in Kenya with women aged 15-24 accounting for one third of new infections and five counties recording more than 1,000 infections each. PATH's PEPFAR-funded USAID DREAMS program for adolescent girls and young women (AGYW) focuses on three of these counties–Homa Bay, Kisumu, and Migori.

DESCRIPTION: The DREAMS core package of interventions addresses structural drivers that increase HIV vulnerability and aims to reduce HIV infections among AGYW (ages 9-24). The interventions target AGYW at highest risk of HIV, their male sexual partners, families, and communities. DREAMS provides services at girl-only safe spaces, each linked to a health facility. Enrolled AGYW receive a package of age-based primary interventions and an individualized package of secondary interventions.

Between 2017-2019, 98,937 AGYW were enrolled in DREAMS services. Of those enrolled, 91,589 were reached with evidence-based interventions (EBIs), 90,018 attended financial capability training, 56,054 were given education support, 12,725 were provided with economic strengthening services, 11,280 were supported with school fees, and 10,989 received cash transfers. By September 2019, 95 percent of active AGYW were fully layered, which requires completing the total DREAMS primary package of EBIs and at least one secondary service. HIV testing services are provided as a primary intervention for AGYW ages 15-24, they are encouraged to know their HIV status at enrollment and to be voluntarily retested annually. Between 2017-2019, 81,906 AGYW knew their HIV status.

LESSONS LEARNED: HIV testing data for AGYW during DREAMS enrollment in 2017 showed 0.93 percent HIV positivity, with the highest positivity among ages 20-24 at 1.43 percent. Repeat testing among seronegative girls enrolled in DREAMS showed lower positivity. Of enrolled AGYW with known HIV status, 133 (0.16 percent) tested HIV-positive. From 2017 to 2019, the positivity dropped from 0.19 percent to 0.05 percent. In 2019, the highest prevalence was among ages 9-14 with 0.08 percent, an improvement from initial enrollment.

CONCLUSIONS/NEXT STEPS A multi-pronged approach is necessary to address the multiple drivers of the HIV epidemic that is disproportionately affecting AGYW.

OTHER NEW PREVENTION TOOLS

PEC0714

HIV POST-EXPOSURE PROPHYLAXIS-IN-POCKET ("PIP"): A NOVEL APPROACH FOR INDIVIDUALS WITH A LOW-FREQUENCY OF HIGH-RISK HIV EXPOSURES

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BACKGROUND: PEP-in-Pocket ("*PIP*") is a novel HIV prevention strategy where individuals who have 1-4 HIV exposures per year are *proactively* identified and provided with a full 28-day course of antiretroviral (ARV) medications for Post-Exposure Prophylaxis (PEP). Individuals may self-initiate PIP following an exposure, without having to first present to an emergency department or clinic. Those who initiate PIP are followed-up in a clinic within a week on a non-urgent bases.

METHODS: We report on prospective and retrospective cohorts of patients using a PIP strategy from two HIV-prevention clinics in Toronto, Canada. HIV-negative individuals at risk of infection were counseled on HIV prevention options (e.g. PrEP, PEP, or PIP) and initiated on a PIP strategy based on shared decision making between patients and healthcare providers, taking into account current and future HIV risk. Demographic and clinical data was recorded with standardized tools.

RESULTS: In the prospective cohort of 44 individuals using PIP, 42 (95%) identified as gay or bisexual men who have sex with men (gbMSM). ARVs were initiated 25 times by 8 (18%) individuals in 34 cumulative patient-years. During this study, 6 (14%) individuals were diagnosed with 10 bacterial sexually transmitted infections (STIs), and there are no HIV seroconversions documented to date. In the retrospective cohort of 79 patients, 74 (94%) identified as gbMSM. We recorded 137 cumulative patient-years of PIP with individual average PIP use of 17 months. PIP was initiated 40 times by 25 (32%) individuals. In this cohort, 23 (29%) individuals transitioned from PrEP to PIP, and 25 (32%) of the cohort transitioned from PIP to PrEP. Participants who initiated PIP more than once per year were significantly more likely to switch their HIV prevention modality from PIP to daily PrEP (P.0.02). No HIV seroconversions were recorded.

CONCLUSIONS: PIP may be a valuable HIV prevention modality for individuals with a low frequency of high-risk HIV exposures by facilitating timely access to HIV prevention care. Patients may transition between PIP and PrEP based on evolving HIV risk. PIP may be included with PEP and PrEP as a biomedical HIV prevention option for HIV-negative individuals at risk for infection.

PEC0715

MSM AT HIGH HIV RISK IN LATIN AMERICA PREFER LONG-ACTING PREP

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BACKGROUND: In Latin America, HIV incidence continues to grow, while some countries are slowly scaling-up daily oral PrEP (d-PrEP); event-driven PrEP (ED-PrEP) is not being promoted yet; and other PrEP modalities such as long-acting injectable PrEP (inj-PrEP) remain under development. This study aimed to assess preferences across those three PrEP modalities and associated factors among MSM from Brazil, Mexico and Peru.

METHODS: During March-May/2018, MSM were recruited to complete a web-based survey through advertisements on dating apps (Grindr and Hornet) and Facebook. Subjects were: cisgender MSM, ≥18 years, and HIV-negative (self-report). Preferences for PrEP modalities were assessed through the question: "If all these forms of PrEP were available, please rank from 1 (most preferred) to 3 (least preferred)" (i.e. d-PrEP, ED-PrEP and inj-PrEP)." Multivariable logistic regression models assessed factors associated with each modality.

RESULTS: A total of 19,457 MSM completed the questionnaire (58%, 31% and 11% from Brazil, Mexico and Peru; respectively); median age was 28 years (IQR:24-34) (Table).

		d-PrEP 6771 (34.8%)	ED-PrEP 4538 (23.3%)	Inj-PrEP 8148 (41.9%)	Total 19457	p-value
Age (years)	<25 ≥25	2310 (39.3) 4460 (32.8)	1385 (23.6) 3153 (23.2)	2182 (37.1) 5966 (43.9)	5877 (100) 13579 (100)	< 0.001
Family montly income	Low (<250 USD) Middle or High	2801 (37.9) 3691 (32.8)	1765 (23.9) 2559 (22.7)	2824 (38.2) 5020 (44.5)	7390 (100) 11270 (100)	< 0.001
Education	≤secondary school >secondary school	2367 (38) 4353 (33.3)	1455 (23.3) 3053 (23.3)	2412 (38.7) 5684 (43.4)	6234 (100) 13090 (100)	< 0.001
Ever tested for HIV (lifetime)	No Yes	1544 (40.1) 5178 (33.5)	1025 (26.6) 3470 (22.4)	1281 (33.3) 6817 (44.1)	3850 (100) 15465 (100)	< 0.001
Condomless receptive anal sex (past 6 months)	No Yes	4024 (34.8) 2700 (34.8)	2763 (23.9) 1740 (22.4)	4784 (41.3) 3315 (42.7)	11571 (100) 7755 (100)	0.042
Number of male sexual partners (past 6 months)	≤5 >5	4447 (35.1) 2296 (34.2	3124 (24.7) 1387 (20.7)	5101 (40.3) 3021 (45.1)	12672 (100) 6704 (100)	< 0.001
Binge drinking (past 6 months)	No Yes	2172 (36.2) 4574 (34.2)	1486 (24.8) 3035 (22.7)	2346 (39.1) 5777 (43.2)	6004 (100) 13386 (100)	< 0.001
PrEP awareness	No Yes	2504 (36.8) 4243 (33.7)	1814 (26.7) 2703 (21.5)	2486 (36.5) 5646 (44.8)	6804 (100) 12592 (100)	< 0.001

[Table]

Overall, inj-PrEP was the first option for 42% [95%CI:41-43] of the respondents, followed by d-PrEP (35%, 95%CI:34-35), and ED-PrEP (23%, 95%CI:23-24). In multivariable logistic regression, preference for d-PrEP was associated with age ≤25 years (aOR 1.18, 95%CI1.09-1.27), lower income (aOR1.18,95%CI:1.10-1.26), lower education (aOR1.10,95%CI:1.02-1.19) and never testing for HIV (aOR1.18,95%CI:1.08-1.29). Preference for inj-PrEP was associated with age >25 (aOR 1.12,95%CI:1.04-1.21), higher income (aOR1.21,95%CI:1.13-1.29), HIV ever testing (aOR 1.32,95%CI:1.22-1.44), PrEP awareness (aOR1.23,95%CI:1.15-1.32), having >5 male sexual partners (aOR1.05,95%CI:0.99-1.12) and binge drinking (aOR1.15,95%CI:1.07-1.23).

Preference for ED-PrEP was associated with lower sexual risk behavior (≤5 male sexual partners: aOR1.15,95%CI:1.06-1.24; binge drinking: aOR1.10,95%CI:1.02-1.19) and being unaware of PrEP (aOR1.25,95%CI:1.15-1.34).

CONCLUSIONS: Long-acting injectable PrEP was preferred by MSM at high HIV risk in Latin America, while individuals with fewer sexual partners and unaware of PrEP preferred ED-PrEP. Interventions to increase literacy about PrEP modalities in the region are necessary especially among young, lower income and less educated MSM.

PEC0716

USING A JUST-IN-TIME ADAPTIVE INTERVENTION (JITAI) TO PROMOTE HIV RISK REDUCTION BEHAVIORS AMONG YOUTH EXPERIENCING HOMELESSNESS (YEH)

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BACKGROUND: US studies show that YEH may be up to 6-12 times more likely to get HIV than their housed peers. Yet, HIV prevention interventions in this population have been only marginally effective. Ecological Momentary Assessment (EMA) is the most accurate way to measure real-time risk factors in natural settings allowing for risk detection that would facilitate a tailored intervention. The purpose of this study was to pilot test a JITAI that reacts to daily, modifiable predictors of HIV risk behaviors to drive delivery of HIV risk-reduction messages among YEH (18-25).

METHODS: YEH aged 18 and 25 years old were recruited in Houston, Texas in June 2019. We conducted an attention control trial of 6 week duration on youth randomized to control and JITAI groups (N=50 per group). All participants received a study-issued smartphone and daily EMAs, one random EMA every day, and could self-initiate EMAs. EMA items assessed sexual behaviors, cognitions, stress, affect, drug use, and environmental factors and circumstances. The JITAI group received tailored intervention messages based on reported HIV risk factors. The control group received general health messages. Generalized linear mixed effects models (GLMM) were used to test the intervention effect on sexual activity and substance use. The intervention effect was represented by the interaction term of group and time effects.

RESULTS: Participants (N=100) were predominantly male (59%), black (71%), and heterosexual (54%) with a mean age of 21 years. The median participation time was 5 weeks, while the response rate decreased substantially during the first week of the study and more steadily thereafter. Sharp declines were seen over 6 weeks for sexual activity (OR=0.10, p<.001), drug use (OR=0.12, p<.001), and alcohol use (OR=0.21, p=.004). Furthermore, the JITAI was effective in reducing drug use (OR=0.06, p<.001) compared to the control group.

CONCLUSIONS: JITAI is a feasible method to promote HIV risk reduction behaviors among YEH. Drug use, an HIV risk factor, decreased in the JITAI group, while sexual activity and alcohol use decreased in both groups. Future research should explore ways to improve EMA completion rates and test this JITAI in a larger sample.

PEC0717

THE EFFICACY OF INSTI IN EXPANDING HIV SCREENING IN COMMUNITY-BASED SETTINGS IN SOUTH AFRICA

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BACKGROUND: South Africa has an estimated 7.7 million PLHIV. Significant strides have been made in identifying PLHIV and linking them to ART, however barriers to large-scale opt-in for testing remains at both facility and patient-level. These barriers comprise congestion at facilities, inconvenient operating times, stigma and patient-level barriers such as time taken for the test, especially for repeat testers. A documented impediment for repeat testers is that they have to undertake the entire pre-test counselling session and wait 10-15 minutes for the test result, when they have tested before and understand the pre-test counselling messages. Furthermore, current 1st line rapid testing require dedicated spaces for testing and the rate of HIV screening coverage is determined by the number of counselors/testers, not demand for testing. We assessed the ability of the HIV rapid test, INSTI that provides a rapid result within 60 seconds, in addressing these structural and patient-level barriers in community settings, as part of a rapid HIV screening campaign. We further compared result concordance between INSTI and the 1st line rapid test, Abon.

METHODS: Between October 2019 and December 2019, CHAPS conducted INSTI within our HTS programme in the Ekurhuleni District, South Africa. We compared the increase in reach between 2 teams (comprising 10 counselors each) by number of clients screened using INSTI compared to Abon. The team using INSTI collected an extra blood sample from the patient for use on Abon, as a measure of concordance.

RESULTS: The INSTI Team tested on average 52 clients per day, compared to the average reach of 15 clients per day for the Abon Team. This signified a 247% increase in productivity. The INSTI Team managed to conduct 10 326 tests compared to the total 5 607 tested by the Abon Team. Concordance was 100% between INSTI in Abon, demonstrating reliability of INSTI compared to the accepted 1st line rapid test, Abon.

CONCLUSIONS: INSTI has demonstrated potential to reach more clients and significantly enhance HIV screening coverage. Its ability in expanding coverage through addressing known barriers to current HIV uptake can substantially improve reaching the 1st 95 (People knowing their HIV status) of the 95-95-95 goals.

PEC0718

HIV PREVENTION PRODUCT PREFERENCES AMONG PARTICIPANTS WHO COMPLETED THE AMP HVTN 704/HPTN 085 CLINICAL TRIAL

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is an efficacious biomedical HIV prevention approach, but barriers to its effective use remain, including maintaining adherence, inaccurate self-perceived risk, and stigma. New long-acting prevention methods may reduce these barriers. HVTN 704/HPTN 085 (Antibody Mediated Prevention or AMP study) is one of the first efficacy trials of a monoclonal broadly neutralizing antibody (bnAb) for HIV prevention. The aim of this analysis was to assess preferences and acceptability of current and potential HIV prevention methods among a subset of American AMP participants.

METHODS: Recruitment for this mixed methods substudy took place at 6 U.S. sites from February 2018 through December 2019, and included interested, consenting AMP participants. Study enrollment targeted persons at-risk for HIV acquisition, specifically HIV-uninfected cisgender men and transgender persons who have sex with men, aged 18-50 years. HIV prevention product preferences were collected via quantitative surveys and in-depth individual interviews from participants who completed all scheduled AMP study visits.

RESULTS: Participants (n=131) had a median age of 33 years (IQR = 9), 53% were White, 27% were Latinx, and 18% were Black, and 94% had some college education or higher. Most (79%) reported current or previous experience with use of daily oral PrEP. When asked about their ideal HIV prevention method, 43.5% preferred an HIV vaccine, 18.3% preferred the U.S. FDA-approved regimen of daily oral Truvada for PrEP and 11.5% preferred an injectable form of PrEP every 2 months. A subset of other endorsed methods included the bnAb infusion studied in AMP (3.8%), on demand PrEP (3.8%), and a rectal microbicide gel/lubricant (0.8%). The main factors that participants considered when evaluating their top preference were convenience, ease, and familiarity.

CONCLUSIONS: An HIV vaccine was most frequently stated as the ideal HIV prevention method among this subset of AMP participants. Findings also support acceptability and feasibility for uptake of new methods and formulations for PrEP in at-risk individuals. Given the participants' experience with oral PrEP and a clinical trial assessing the HIV prevention efficacy of bnAbs, the range in the sample's opinions emphasizes a need to continue diversifying prevention options and offer more convenient and efficient prevention methods.

PEC0719

EXPANDING THE HIV PREVENTION WORKFORCE WITH HIV PREVENTION CERTIFIED PROVIDERS™

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BACKGROUND: Despite an overall increase in pre-exposure prophylaxis (PrEP) uptake from 2014-2017, it is estimated that 1.1 million Americans could benefit from PrEP.1 In addition, in 2016, nearly six times as many white men and women (68.7%) were prescribed PrEP as were black men and women (11.2%).4 Primary care providers, in particular, are underutilized as members of the HIV prevention workforce. Barriers such as discomfort prescribing HIV medications and identifying candidates for PrEP preclude the provision of PrEP.3
In response to these disparities and service gaps, HealthHIV launched the HIV Prevention Certified Provider™ (HIV PCPTM) program, a free online CME curriculum, in October 2019 to prepare clinicians to deliver effective HIV prevention interventions, and expand the HIV prevention workforce beyond infectious disease specialists.

DESCRIPTION: The five modules of HIV PCP review the epidemiology and policy of HIV in the United States, HIV risk assessment and testing, U=U, PrEP, cultural humility and methods to address barriers to care. Clinicians who complete the curriculum receive the HIV Prevention Certified Provider national designation and certificate and are added to the HIV PCP National Directory for consumers to locate HIV prevention providers.

LESSONS LEARNED: As of January 2020, the HIV PCP has engaged more than 1800 providers nationwide and designated over 450 as HIV Prevention Certified Providers. Medical doctors and nurses value being able to bring HIV prevention services to their community and take part in efforts to end the epidemic.
The steady and vast engagement of primary care providers in this program demonstrate the continued need for HIV prevention education outside of the existing HIV prevention workforce. Additional tools have been added to help providers translate education to practice, including PrEP eligibility guidelines and fact sheets. Social workers, case managers, and others have also requested inclusion in the program via CE.

CONCLUSIONS/NEXT STEPS The HIV PCPTM expands the HIV prevention workforce to engage primary care physicians, nurses, and pharmacists in comprehensive HIV prevention activities, including PrEP. As the program expands it will include training on implementing a comprehensive PrEP program and counseling clients on PrEP adherence. The credit types will be expanded to include social workers and case managers.

MEASURING AND ENHANCING RETENTION AND ADHERENCE IN HIV PREVENTION PROGRAMMES

PEC0720

ROUTINE HIV CLINIC APPOINTMENT ADHERENCE IN THE AFRICAN COHORT STUDY

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BACKGROUND: Routine engagement in care is important for all people living with HIV (PLWH), whether feeling unwell or thriving with HIV managed as a chronic disease. Evidence suggests that missed clinic appointments contribute to poor outcomes including lower CD4 counts, virologic failure, and overlooked opportunistic and other coinfections. We identified factors associated with missed clinic follow-up appointments in the African Cohort Study (AFRICOS).

METHODS: Since 2013, AFRICOS has prospectively enrolled adults at risk for HIV and PLWH at 12 PEPFAR-supported clinics in Tanzania, Uganda, Kenya, and Nigeria. At each study visit, occurring twice per year, questionnaires are administered, and clinical outcomes assessed. For this analysis, missed clinic visits were defined as the self-reported number of clinic follow-up appointments missed in the past six months and dichotomized into 1) no missed visits; 2) one or more missed visits. Generalized estimating equations were used to estimate odds ratios (ORs) and 95% confidence intervals (95% CIs) for associations between potential risk factors and missed clinic visits among PLWH.

RESULTS: As of September 1, 2019, 2892 PLWH were enrolled, with 94.5% (n=2732) reporting no missed visits in the prior six months. Factors associated with increased odds of missed visits included age 18-29 years as compared to 50 years and older (OR: 2.82; 95% CI: 2.07-3.84), dissatisfaction with clinic waiting time (OR: 1.28; 95% CI: 1.00-1.63) and moderate or severe depression based on CESD score (OR: 1.40; 95% CI: 1.06-1.86 and OR: 2.76; 95% CI: 2.01-3.79). As compared to participants in Uganda, higher odds of missed visits were observed in Nigeria (OR: 1.81; 95% CI 1.38-2.37) with lower odds in Kericho and Kisumu, Kenya (OR: 0.67; 95% CI: 0.54-0.85 and OR: 0.57; 95% CI: 0.44-0.75) and Tanzania (OR: 0.34; 95% CI: 0.25-0.46).

CONCLUSIONS: Strategies are needed to improve engagement of young people and those with depression, and to reduce HIV clinic waiting times. Further research is needed to identify site-specific factors that may mitigate missed clinic visits.

PEC0721

A RANDOMIZED TRIAL TO ASSESS A COLLABORATIVE DATA-TO-CARE-MODEL: DID IT IMPROVE HIV CARE CONTINUUM OUTCOMES?

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BACKGROUND: The Cooperative Re-Engagement Controlled Trial (CoRECT) implemented a collaborative data-to-care (D2C) model using health departments and clinics to identify out-of-care (OOC) persons living with HIV with the objective of increasing the number of persons re-engaged, retained in medical care, and achieving viral suppression.

METHODS: OOC was determined by surveillance and clinic data from three jurisdictions: Connecticut (CT), Massachusetts (MA) and Philadelphia (PHL). Patients were included if they had no evidence of care > 6 months after being in care during a 12-month eligibility period. All patients were randomized to receive standard of care (SOC) clinic engagement services or SOC plus an intervention utilizing disease intervention specialists/field epidemiologists. Re-engagement in care was defined as linking to a clinic within 90 days of randomization. Retention was defined as two clinic visits > three months apart within 12 months of randomization. Viral load suppression was defined as a viral load <200 copies/ml ever within 12 months of randomization.

RESULTS:

Retention (YES)	Intervention	Standard of Care	p value
CT	176 (53.0%)	167 (51.9%)	0.769
MA	139 (43.9%)	144 (46.0%)	0.586
PHL	177 (57.3%)	129 (43.0%)	0.0004
Viral Suppression (YES)	Intervention	Standard of Care	p value
CT	225(68.0%)	198(61.5%)	0.093
MA	197(62.0%)	204(65.0%)	0.429
PHL	193(62.5%)	173(58.0%)	0.227

[Table]

Between August 2016 and July 2018, a total of 654 (CT), 630 (MA), and 609 (PHL) OOC patients were randomized. Among all sites 40%-66% were non-Hispanic black and 30%-45% identified as MSM. The intervention improved re-engagement in all three jurisdictions and improved retention in PHL (p=0.0004). The intervention did not improve viral suppression (VS) but among patients who achieved VS, median time (days) to VS was reduced in two jurisdictions; Massachusetts 76 (intervention) vs 95 (SOC), p=.02; Philadelphia 64 (intervention) vs 102 (SOC), p<.0001.

CONCLUSIONS: This trial showed that a collaborative D2C model and active field services intervention increased the proportion of persons re-engaged in HIV care within 90 days but had varying effects on retention and viral suppression over one year. Health department interventions that utilize a collaborative approach can improve re-engagement in care among HIV-infected persons and may decrease time to achieve viral suppression.

PEC0722

PREDICTORS OF MISSED APPOINTMENT AMONG HIV-INFECTED PATIENTS ON LIFELONG ANTIRETROVIRAL THERAPY IN TANZANIA

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BACKGROUND: Data from most ART programmes indicate high rates of missed treatment management appointments among HIV-positive patients following ART initiation. Individuals who miss appointments are more likely to have poorer HIV health status. This study examined the predictors of missed appointments among HIV-infected patients in northern and central Tanzania.

METHODS: Data describing demographic and clinical characteristics (age, sex, region, duration on ART, number of days dispensed, viral load status) were extracted from electronic care and treatment clinic (CTC2) databases (n=416 health facilities; six regions). Patients classified as currently on ART by September 2019 were included in the analysis. A missed visit was defined as a 14+ day delay in returning to the clinic for treatment management, determined by the next appointment date or the number of ARV doses dispensed. Missed visits were classified from October 2016 to September 2019. Multivariate logistic regression models were fit to examine predictors of missed appointments.

RESULTS: Of 160,618 current ART patients (68% female; 32% male), the median (IQR) age of the participants was 41.8 (32.2-50.7) years; 9,530 (6%) were under age 15 years. The majority 120,969 (75%) had been on treatment for more than 12 months. In the past 3 years, 114,557 (71%) clients had at least one missed visit by 14+ days. Females (adjusted odds ratio [AOR] = 1.06; 95% CI [1.03-1.09]), patients <15 years (AOR = 1.53; 95% CI [1.45 -1.62]) and patients on treatment ≥12 months (AOR = 9.39; 95% CI [9.14-9.64]) had higher odds of missed appointments. Patients on multi-month dispensing (MMD) for ≥2 months had lower odds of missed appointments (AOR = 0.55; 95% CI [0.52-0.58]).

CONCLUSIONS: This analysis showed that a high proportion of clients who are classified as current on ART experience missed visits. Implementation of MMD is promising in improving retention on ART, although it is also possible that MMD-retention association is confounded by the fact that patients who are not adherent to ART or visit schedules are not MMD-eligible. Developing effective interventions that target groups of HIV clients who are at high-risk of missed appointments may help reduce long-term loss to follow-up from HIV care and improve treatment outcomes.

PEC0723

MORTALITY UNDER EARLY ACCESS TO ANTIRETROVIRAL THERAPY VERSUS ESWATINI'S NATIONAL STANDARD OF CARE: THE MAXART CLUSTERED RANDOMIZED STEPPED WEDGE TRIAL

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BACKGROUND: Current WHO guidelines recommend "Early Access to ART for All" (EAAA) for HIV treatment because it has been shown that early ART initiation contributes to better survival and lower infectiousness. The MaxART trial investigated the impact of EAAA on retention in care and viral suppression compared to the then-national standard of care (SoC) in Eswatini, and found significant improvements for both endpoints. This secondary analysis examines the impact of EAAA on mortality, as a potential additional indicator of EAAA's benefits.

METHODS: The MaxART trial was conducted in 14 Eswatinian health clinics through a clinic-based stepped-wedge design, by transitioning clinics from SoC to EAAA intervention. All-cause, disease-related, and HIV-related mortality were analyzed using the Cox proportional hazard model, censoring SoC participants at clinic transition. Cumulative incidence rates were estimated by the Breslow estimator.

RESULTS: Between September 2014 and August 2017, 3405 participants were enrolled. In SoC and EAAA respectively, the multivariable-adjusted 12-month all-cause mortality rates were 1.42% (95% CI: 0.66-2.17) and 1.60% (95% CI: 0.78-2.40), disease-related mortality rates were 1.02% (95% CI: 0.40-1.64) and 1.10% (95% CI: 0.46-1.73), and HIV-related mortality rates were 1.03% (95% CI: 0.40-1.65) and 0.99% (95% CI: 0.40-1.58). EAAA had no significant impact on all-cause (HR: 1.12, 95% CI: 0.58-2.18, p=0.73), disease-related mortality (HR: 1.04, 95% CI: 0.52-2.11, p=0.90), or HIV-related mortality (HR: 0.93, 95% CI: 0.46-1.87, p=0.83).

CONCLUSIONS: There was no immediate beneficial effect of EAAA on mortality, and there may have been an initial adverse effect that crosses over to a longer term benefit among the survivors. Since a major purpose of EAAA is to decrease infectiousness to prevent new cases, it is important that there is no evidence of harm to the recipients of EAAA. Further follow-up of these participants is needed to better understand the long-term consequences of EAAA on recipients and the communities that surround them.

PEC0724

TENOFOVIR HAIR CONCENTRATIONS AFTER DIRECTLY OBSERVED DOSING OF F/TAF: A PROMISING METRIC FOR PREP ADHERENCE MONITORING

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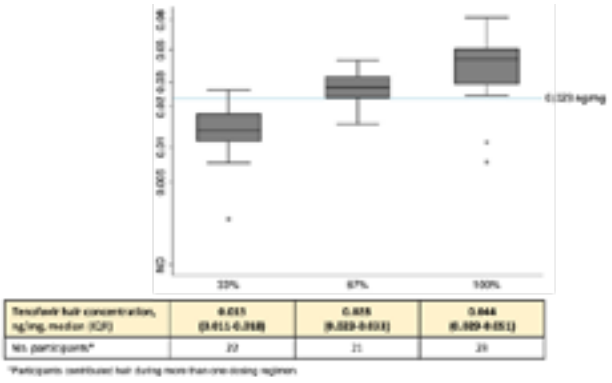
BACKGROUND: Daily emtricitabine/tenofovir alafenamide (F/TAF) is approved for PrEP for non-vaginal exposures and is used in HIV treatment. Antiretroviral hair concentrations reflect cumulative drug exposure and predict treatment and prevention outcomes. Hair is easy to collect, store, and ship without cold-chain or biohazardous precautions. We sought to measure tenofovir hair concentrations to inform F/TAF adherence monitoring.

METHODS: The TAF-DBS study (NCT02962739) enrolled healthy volunteers without HIV in Denver, USA. Participants were assigned to two of three F/TAF regimens (33% [1 day on/2 off], 67% [2 days on/1 off], or 100% of daily dosing) with directly-observed dosing of each regimen for 12 weeks, separated by a 12-week washout. Tenofovir concentrations were measured in the proximal 1-centimeter of small hair samples collected at dosing weeks 12 and 36, reflecting ~30 days of drug exposure following drug accumulation. Hair concentrations were measured using validated liquid chromatography/tandem mass spectrometry (LC-MS/MS)-based methods at the UCSF Hair Analytical Laboratory (HAL).

RESULTS: Thirty-five participants (median age 29 years [IQR 23-32]; 49% female; 83% white, 14% black/African American; 17% Hispanic; median baseline weight 72 kg [IQR 62-81]) contributed 69 hair samples for this analysis. Median (IQR) tenofovir hair concentrations were 0.013 ng/mg (0.011-0.018), 0.028 (0.023-0.033), 0.044 (0.029-0.051) for 33%, 67%, and 100% of daily dosing, respectively (Figure).



[Figure. Tenofovir hair concentration by percentage of daily dosing]

Hair concentrations were similar by sex (women vs. men -7%;95%CI -28%,+18%, p=0.53). Of observations with tenofovir hair concentrations ≤0.023 ng/mg, 94% had taken F/TAF less than daily in the last 30 days (specificity 91%).

CONCLUSIONS: Tenofovir concentrations were quantifiable in hair following directly-observed F/TAF dosing, increased linearly with dose, and did not differ substantially by sex. A tenofovir hair level of ≤0.023 ng/mg excluded daily dosing with high specificity. As F/TAF is increasingly used for prevention and is investigated for PrEP among ciswomen, tenofovir hair concentrations are a promising tool for monitoring and supporting adherence.

PEC0725

FACTORS ASSOCIATED WITH HIV AND STI TESTING PRACTICE NOT COMPLIANT WITH GUIDELINES AMONG USERS OF HIV PRE-EXPOSURE PROPHYLAXIS (PREP) IN A SETTING OF SELF-PAID PREP

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BACKGROUND: Testing for HIV (every 3 months) and sexually transmitted infections (STI) (every 3-6 months) is recommended by the German PrEP guidelines during use of HIV pre-exposure prophylaxis (PrEP). While PrEP and the tests are covered by statutory health insurances in Germany since September 2019, both had to be self-paid before. We investigated the testing behavior among PrEP users in routine medical care in the setting of self-paid PrEP.

METHODS: Between July - November 2018 and April – June 2019, we recruited PrEP users in Germany on MSM geolocation dating apps, community-based HIV testing sites and a community website for an anonymous online survey. The outcome was a testing interval incompliance with guidelines, defined as >3 months for HIV and >6 months for STI. Associated factors were assessed with multivariable logistic regression adjusting for age and gender.

RESULTS: We recruited 4,848 unique PrEP users; 52.4% used PrEP for >6 months. The median age was 37 years (IQR 30-45) and 88.8% identified as male (missing 9.9%). Testing frequencies were reported by 3,892 participants for HIV and 3,735 for STI. Of those, 26.3% and 20.9% reported incompliant testing frequencies for HIV and STI, respectively.

Common factors associated with incompliant testing frequencies were on-demand/intermittent PrEP use (HIV: OR = 7.3, 95% CI 6.2 – 8.6; STI: OR = 5.1, 95% CI 4.3 – 6.0), no tests prior to PrEP start (HIV: OR = 16.5, 95% CI = 10.5 – 26.1, STI: OR = 24.2, 95% CI 15.2 – 38.6), ≤10 anal sex partners within the last 6 months (HIV: OR = 2.0, 95% CI 1.7 – 2.3, STI: OR = 1.6, 95% CI 1.4 – 1.9), and use of PrEP from informal sources (HIV: OR = 5.4, 95% CI = 4.5 – 6.5, STI: OR = 4.0, 95% CI 3.4 – 4.9). Self-payment for tests was only associated with incompliant STI testing (OR = 1.4, 95% CI = 1.1 – 1.7).

CONCLUSIONS: Incompliant testing frequency was common in PrEP users in a setting of self-payment for PrEP and testing. Health insurance coverage will probably reduce barriers for accessing testing and improve safe PrEP use. Future changes in testing behavior will be monitored.

PEC0726

FACTORS ASSOCIATED WITH RETENTION AT FIVE YEAR AMONG PEOPLE LIVING WITH HIV ON TREATMENT IN NATIONAL HIV PROGRAM, NIGERIA

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BACKGROUND: The 2nd 90 of the UNAIDS target aims to ensure that 90% of identified persons living with HIV (PLHIV) are on treatment and retained to ensure viral suppression and thus reduce risk of transmission of HIV infection thus preventing new infection. We evaluated factors associated with retention in treatment at 5-year (RiT 5-year) in Nigeria.

METHODS: A retrospective cohort study was conducted to assess retention at five-years among PLHIV initiated on ART between January and December 2013 across all the states in Nigeria. RiT 5-year was assessed by estimating the proportion of clients who were active on treatment five year after initiating treatment. Chi-Square test was used to assess differences between categorical variables. Multiple logistic regression was used to determine factors associated with RiT at 5-year and Kaplan-Meier was used to estimate survival at 5-year.

RESULTS: Of the 4,083 folders abstracted, retention was highest at 1 year (77.1%) after initiating treatment and consistently dropped over the 5-year period; 75.1%, 73.8%, 73.2% and 58.1% at 2, 3, 4 and 5-year respectively. RiT at 5-year was higher among females (59%) than males (55.7%) (p<0.05) and among those with secondary school education as compared to those with none (p<0.05). When controlled for predictor variables, those who were single (AOR 0.73; 95% CI:0.59 – 0.92), those resident in North-East (AOR 0.63; CI:0.46 – 0.87) and North-West (AOR 0.52; CI:0.46 – 0.83) were less likely to be RiT 5-year while those with no history of tuberculosis were more likely to be retrained (AOR 1.29; CI:1.04 – 1.60). The five-year survival for clients on treatment showed that the probability of being on treatment at the end of 5-years was 0.86, 0.79, 0.74, 0.69 and 0.64 at 12, 24, 36,48 at 60 months respectively.

CONCLUSIONS: There is a sustained decline in the proportion of clients retained in treatment over time. This calls for evidenced based interventions to urgently reverse this trend to improve viral suppression and thus mitigate propagation of transmission. Furthermore, efforts should be made to increase adolescent participation in HIV program to promote the design of effective strategies for them.

PEC0727

PRE-EXPOSURE PROPHYLAXIS PERSISTENCE AMONG GREEK MEN WHO HAVE SEX WITH MEN: RESULTS FROM THE PREP FOR GREECE (P4G) STUDY

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BACKGROUND: Nearly half the new HIV infections in Greece occur in men who have sex with men (MSM), yet pre-exposure prophylaxis (PrEP) is currently unavailable for public use. No data therefore exist on PrEP care in Greece. In advance of national access to PrEP, we examined baseline factors associated with PrEP persistence among MSM in PrEP for Greece (P4G), the first Greek PrEP study.

METHODS: P4G participants were recruited between 2016-2018 from the SOPHOCLES study, a representative sample of MSM in Athens, Greece generated by respondent-driven sampling (RDS). Candidates for PrEP were identified based on HIV-negative serostatus, HIV risk factors, and network connection to people who inject drugs (PWID) or people living with HIV/AIDS (PLWHA) (n=100). Participants received daily PrEP at regular visits over one year, and PrEP persistence was defined as attendance at all visits. Models examined associations between PrEP persistence and baseline data collected on demographics, sex practices, substance use and HIV stigma.

RESULTS: 100 Greek MSM participated: mean age was 33.6, 72% were employed and 85% had health insurance. PrEP persistence among Greek MSM was 74%. Higher alcohol risk scores (OR, 1.27; p=0.004) and adherence to HIV testing guidelines (OR, 1.23; p=0.05) were associated with PrEP persistence. PrEP discontinuation was associated with housing instability (OR, 0.14; p=0.002) and serostatus disclosure concerns, a measure of HIV stigma (OR, 0.77; p=0.03). We found no relationship between PrEP persistence and age or condomless anal intercourse.

CONCLUSIONS: PrEP persistence among Greek MSM is high, and may speak to a desire for access to a known prevention resource currently unavailable outside the context of research. However, were PrEP to be implemented in Greece, socioeconomic factors and societal attitudes may challenge prevention efforts. More research will be needed to determine and intervene on drivers of PrEP discontinuation to promote success.

PEC0728

ANTIRETROVIRAL MEDICATION COVERAGE ALONG THE PMTCT CASCADE OF CARE IN THE ERA OF TREATMENT FOR ALL IN KENYA: RESULTS FROM A PRAGMATIC, CLUSTER RANDOMIZED TRIAL (THE EMMA STUDY)

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BACKGROUND: Initiation of antiretroviral therapy (ART) during (or before) pregnancy, and adherence to ART throughout the antenatal and postnatal periods, is crucial for the prevention of mother-to-child transmission (PMTCT) of HIV and is also associated with lower

mortality among HIV-exposed but uninfected infants. Measuring adherence along the PMTCT cascade of care in sub-Saharan Africa, however, has relied on unvalidated, self-reporting measures of adherence. As part of an evaluation of a PMTCT service delivery study in Kenya (the EMMA Study), we estimated the proportion of days covered (PDC) with ART, a standard for measuring adherence to chronic medications.

This analysis reports on two primary outcomes for the EMMA study, PDC during the final 24 weeks of pregnancy (PO1) and the first 24 weeks after delivery (PO2), among two cohorts of HIV-infected mothers enrolled in study in western Kenya.

METHODS: The EMMA study was a pragmatic cluster-randomized trial to examine the effect of targeting health worker efforts (specifically Mentor Mothers) on retention along the PMTCT cascade. Study subjects were adult, HIV-infected pregnant women presenting for antenatal care (ANC) at the 12 study clinics (6 per arm, target 30 per clinic). PDC of at least 85% during each period is considered an 'uninterrupted supply'. Risk differences (RD) in these primary outcomes between study groups are estimated with 95% confidence intervals (CIs) adjusted for the small number of clusters.

RESULTS: 363 subjects were enrolled (181/182: comparison/intervention arm) during 2017/2018. After excluding known transfers and subjects with incomplete data collection due to the unplanned, early stoppage of study funding, data were analyzed for 309 subjects (151/158 by arm), with the majority on ART when presenting for ANC. For PO1, 39%/32% respectively achieved 85% coverage (RD: -7%; 95% CI: -20%, 5%). For PO2, 44%/39% achieved 85% coverage (RD: -5%; 95% CI: -24%, 13%).

CONCLUSIONS: The proportion of days covered with ART during two key periods in PMTCT cascade of care were low for both study groups, with some important variation across the 12 study sites. Future, clinic-specific, qualitative research may serve to identify key service-delivery factors that support higher rates of coverage for treatment experienced patients.

PEC0729

TARGETED CQI IMPROVES EARLY RETENTION OF HIV+ CLIENTS NEWLY INITIATED ON ANTIRETROVIRAL THERAPY: LESSONS FROM THE PAEDIATRIC INFECTIOUS DISEASES CLINIC-MULAGO, UGANDA

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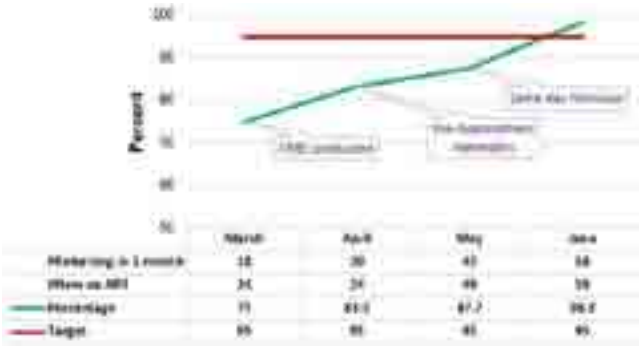
BACKGROUND: The UNAIDS goals of achieving 90-90-90 targets by 2020 requires retention of clients in care and on treatment for HIV epidemic control to be possible. In March 2019 at the Paediatric Infectious Diseases Clinic (PIDC)-Mulago, only 75% of PLHIV returned within one month of initiating ART against MOH target of at least 95%. This presented a risk of increased HIV transmission, drug resistance, drug adverse events, and a failed ART program. We set out to improve early retention (proportion of HIV+ clients returning for their second visit within 1 month of initiation on ART) to 95% by June 2019.

DESCRIPTION: A Work Improvement Team (WIT) comprising clinic staff and community volunteers conducted brainstorming sessions using affinity diagrams and Fishbone techniques to identify barriers to early retention. We used an Interventions Prioritization Matrix to address inadequate counsellor skills, work load, forgetting appointments and lack of monitoring system for newly initiated clients. Interventions included conducting a Continues Medical Education (CME) on the Early Retention Care Bundle, registering and updating all new client appointments, designating a focal person for newly enrolled clients, using peers to fast-track new clients, phone call and SMS pre-appointment reminders, same-day follow-up of missed appointments and immediate referral of clients who are unable to return. Progress was monitored using a Quality Improvement Journal and weekly performance review meetings.

LESSONS LEARNED: 156 patients were rapidly initiated on ART between March and June 2019. 17% of the patients came from upcountry and 93% were women. Early retention increased from 75% in March 2019 to 98% by June 2019 which was above the targets. See figure 1.



[Figure 1. Showing pecentage of clients returning within one month after ART initiation]

CONCLUSIONS/NEXT STEPS A combined quality improvement initiative has shown to improve early retention and some of them can be used on patients who are already in care.

PEC0730

EXPERIENCES OF INTIMATE PARTNER VIOLENCE AMONG HIV-POSITIVE PREGNANT WOMEN IN A RANDOMIZED TRIAL IN KENYA: ANALYSIS OF THEIR EFFECTS ON ATTRITION FROM HIV CARE

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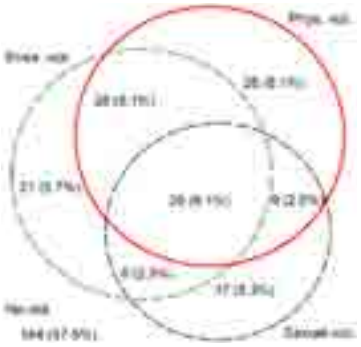
BACKGROUND: Intimate partner violence (IPV) among HIV-positive pregnant women may be associated with attrition from the prevention of mother-to-child transmission of HIV (PMTCT) services, however, there is limited data to support this hypothesis. We evaluated the prevalence of IPV and its effect on attrition among HIV-positive pregnant women in PMTCT care.

METHODS: From September 2013 through June 2014, HIV-positive pregnant women initiating PMTCT services in 10 health facilities in western Kenya were randomized to receive standard of care (SOC) or an intervention provided by lay counselors (health education, appointment reminders, tracking of missed visits, adherence and retention support). A 13-item WHO Violence Against Women questionnaire was administered during antenatal care (ANC) visits. We assessed relationships between emotional, physical, and sexual violence; individually, in dual and triple combinations, with attrition by 6 months postpartum to estimate prevalence ratios (PR) using modified Poisson regression with robust variance, adjusting for confounders.

RESULTS:



[Figure 1. Proportionate Venn diagram with number (%) of women expoeriencing IPV types and overlaps]

Overall, 43% (n= 136) of the 320 women initiating ANC had experienced some act of IPV in the past 12 months. The proportions of physical, emotional and sexual violence were 28% (n= 90), 26% (n= 84) and 20% (n= 63), respectively (Figure 1).

In the intervention group, experiencing emotional violence only was significantly associated with higher attrition compared to women with no violence (PR 2.00, 95% CI: 1.07-3.72); this association remained after adjusting for age, level of education, marital status and partner disclosure of HIV+ status (aPR 1.88, 95% CI: 1.04-3.39). The prevalence of attrition in the SOC group was lower among women experiencing only emotional violence (PR 0.39, 95% CI: 0.15-1.02). This association was not significant in either the bivariate or multivariable analyses.

CONCLUSIONS: The high prevalence of IPV and increased risk of attrition among women experiencing emotional violence highlights the importance of screening and treating IPV in routine PMTCT services.

PEC0731

REENGAGING PATIENTS LOST TO FOLLOW-UP THROUGH COMMUNITY LIAISONS IN UNSECURE LOW-BURDEN SETTINGS: EXPERIENCE FROM EL SALVADORD

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BACKGROUND: El Salvador is considered one of the most insecure countries in the Americas because of gang- and drug-related violence. El Salvador has relatively low HIV burden and has consistently improved its HIV continuum of care. However, key gaps persist that prevent the country from reaching the UN 90-90-90 goals. One of the main gaps is retention of patients on ART.

DESCRIPTION: To address retention, the national health information system, SUMEVE, provides alerts to HIV clinics about patients lost to follow-up. Contact by phone is attempted to try to reschedule appointments. If patients cannot be contacted, a home or near-home visit is scheduled. Through support from the USAID-funded HIV care and treatment program led by IntraHealth International, HIV clinics provide a list of lost to follow-up patients to community liaisons weekly. When patients live in gang-controlled zones, community liaisons coordinate with municipal authorities to ensure their safety. Reengaged patients receive rapid re-initiation of ART and clinical examination to screen for and diagnose comorbidities.

LESSONS LEARNED: We implemented the community liaison strategy in 7 ART clinics from November 2018-November 2019, in pursuit of 1,277 lost to follow-up patients. Of those, 646 (50.5%) were reengaged to ART, 161(12.6%) were found to be deceased, and 66 (5.2%) had been transferred to other ART clinics. Median age of reengaged patients was 39; 58.8% were male and 24.7% self-identify as men who have sex with men. The main reasons for loss to follow-up were personal or family reasons (32%) and job-related issues such as lack of time off to attend appointments (29.9%). Reengagement increased from 29% in November 2018 to 76.3% in November 2019 due to strong supervision of community liaisons, effective communication between HIV clinics and liaisons, and goal-setting with patients.

CONCLUSIONS/NEXT STEPS Strong supervision and close coordination between community and facility health workers can provide a good basis for improving reengagement to care. Differentiated care models, especially for patients reengaged to care, are needed to increase retention. This model shows promise for expansion to countries with similar security and HIV epidemic characteristics.

PEC0732

PRE-EXPOSURE PROPHYLAXIS (PREP) ADHERENCE AMONG HIGH RISK WOMEN BY MEASURING INTRACELLULAR TENOFOVIR-DIPHOSPHATE (TFV-DP) CONCENTRATION IN A PILOT STUDY IN ESWATINI

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BACKGROUND: Pre-exposure Prophylaxis (PrEP) has proven effective in HIV prevention, but variable medication adherence may lead to suboptimal response. Tenofovir disoproxil fumarate (TDF) is an active component of a drug used in PrEP together with lamivudine (3TC). By quantifying intracellular tenofovir-diphosphate (TFV-DP) concentration in blood, we identified adherence level of PrEP users in the public sector of Eswatini (formerly Swaziland).

METHODS: From September 2017 to January 2019, PrEP (TDF+3TC) was offered to young (16-25 years) and pregnant/ lactating women who were at risk of HIV acquisition in the Shiselweni region. Venous blood was drawn to prepare dried blood spot (DBS) cards at 3 and 6 months after PrEP initiation, and every 6 months thereafter. The DBS samples were stored at –20°C. At the end of the study, 10% of these participants were randomly selected to perform blood TFV-DP testing. The TFV-DP levels were classified into <132, 132–384, and >384 fmol/punch, representing low (<2 doses/week), moderate (2-4 doses/week) and good adherence (>4 doses/week). A level of >504 fmol/punch suggested perfect adherence (7 doses/week).

RESULTS: Of 283 PrEP users, 131 (46%) were pregnant, 64 (23%) lactating and 88 (31%) were young women. Half of them (n=141) perceived themselves at high and very high risk of HIV acquisition. Of 34 participants with blood TDF level results, the median TFV-DP level was 516 fmol/punch (IQR 346 – 725) at 3 months after PrEP. Half of them (n=17) had perfect adherence (>504 fmol/punch). Five (15%) had TFV-DP concentration <132 fmol/punch, 7 (20%) between 132–384, and 22 (65%) >384 fmol/punch suggesting low, moderate and good adherence. Of 15 patients with available TFV-DP level at 6 months, the

median concentration was 532 fmol/punch (IQR 409 – 767), and of 5 patients with 12 months TFV-DP level, the median concentration was 753 fmol/punch (IQR 675 – 807).

CONCLUSIONS: The average adherence of PrEP users remained high throughout the study, although a few PrEP users had very low and moderate drug level. While there is no practical way to measure adherence, this indicates the need to enforce adherence for better drug efficacy.

PEC0733

SUBOPTIMAL RATES OF PREP RETENTION AND ADHERENCE AMONG PWID WITH OUD RECEIVING HCV TREATMENT

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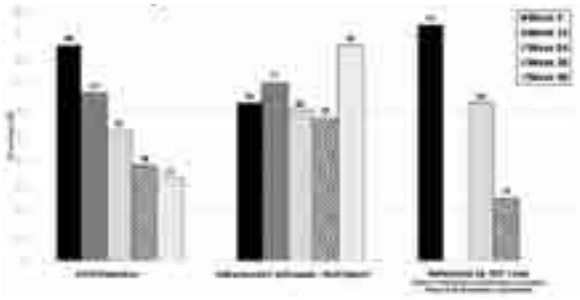
BACKGROUND: Pre-Exposure Prophylaxis(PrEP) with tenofovir(TDF) is an evidence-based method to prevent HIV among those at risk, including people who inject drugs(PWID). Despite outbreaks of HIV among PWID, uptake remains low, with limited research on adherence and retention in this key population.

METHODS: ANCHOR is a single-center study in Washington, D.C. evaluating a model of care collocating hepatitis C(HCV) treatment, buprenorphine, and PrEP in PWID with chronic HCV, opioid use disorder(OUD), and IDU within 3 months. PrEP was offered at each study visit from Day 0 through Week 24 of HCV treatment. Patients who initiated PrEP were followed for 48 weeks and assessed for adherence by self-report and by dried blood spot analysis of plasma TDF-levels.

RESULTS: The 100 enrolled patients were predominantly black (93,93%), male (76,76%), and median age 58 (IQR 53, 62). Of 97 HIV-negative individuals, 21 (22%) initiated PrEP. Median time on medication was 127.5 days (IQR 24, 269). Seven patients (33%) were retained on PrEP until Week 48 (figure 1). The most common reason for discontinuation was side effects, experienced by 5 patients (36%) of the 14 who discontinued.

While adherence to ≥ 4 pills/week was reported by the majority of patients (figure 1), perfect adherence ranged from 12%-64% by self-report, and 25%-45% by TDF-level. In addition, no detectable TDF-level was found in 6% of Week 4, 18% of Week 24, and 38% of Week 36 patients. No seroconversions occurred on the study.



[Figure 1. PrEP retention and adherence]

CONCLUSIONS: In this cohort of PWID with OUD and HCV, 22% of patients initiated PrEP with high rates of discontinuation. Medication adherence was variable, and per TDF-level data, declined over the course of treatment. These findings highlight the challenges of a daily pill-based HIV-prevention strategy in PWID, and emphasize the need for interventions that promote adherence and retention in order to effectively implement PrEP in this vulnerable population.

PEC0734

INTERRUPTION PATTERNS IN HIV CLINIC VISITS AND TREATMENT FAILURE AMONG PREGNANT AND POSTPARTUM WOMEN IN THE KABEHO STUDY IN KIGALI, RWANDA

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BACKGROUND: ART for HIV-positive pregnant women is recommended for life, yet most studies describe retention as a binary outcome rather than patterns of intermittent attendance – a more likely description of the true nature of lifelong engagement in care and treatment. The absence of ART is strongly associated with high viral load, an indicator of treatment failure and an increased likelihood of vertical transmission of HIV. Pregnancy and postpartum are challenging periods where interruptions are common.

METHODS: The Kigali Antiretroviral and Breastfeeding Assessment for the Elimination of HIV (Kabeho) study was an observational prospective cohort of 608 HIV-positive women enrolled in their third trimester of pregnancy or within two weeks post-delivery, between April 2013 and May 2014. Interviews conducted at enrollment included questions focused on demographics, history of HIV and ART, and health and nutrition behaviors. Maternal viral load was assessed at the 24-month visit. Attendance at clinic visits were used to construct an interruption variable defined as a missed visit followed by a return to care. We examined the number and length of interruptions as predictors of treatment failure in multivariate analyses adjusting for age, months on ART, CD4 count, and ART regimen.

RESULTS: 80% of the study population had at least one interruption, and the mean number of interruptions was 1.8 per woman (SD=1.5). For women who had an interruption, the length ranged from 1-16 months with a mean of 2 months (SD=1.9). As compared to women with no interruptions, the odds of treatment failure (>1000 copies/ml) were 7 times higher among women who had an interruption of >2 months (OR=7.05, 95%CI=2.13, 23.29), and nearly 5 times higher among women with >3 interruptions throughout the study period (OR=4.95, 95%CI=1.40, 17.49). Even just one interruption (and each additional interruption) increased the odds of treatment failure by nearly 40% (OR=1.38, 95%CI=1.10, 1.73).

CONCLUSIONS: Interruptions in HIV care visits are common. Numerous and long interruptions are detrimental to viral suppression. Measuring patterns of interruption, rather than using a binary measure at one point in time, more accurately captures the fluid nature of life-time, health-seeking behavior, and can be assessed using clinic attendance data.

PEC0735

AGE *DOES* MATTER: OLDER MALES STAY LONGER ON PREP ACROSS DIFFERENT SUB-POPULATIONS OF MEN IN ZAMBIA

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BACKGROUND: The USAID DISCOVER-Health Project (DISCOVER), implemented by JSI Research and Training Institute Inc (JSI), supports the Ministry of Health to improve access to and utilization of quality HIV services in Zambia. DISCOVER is among the first MOH-partners to rollout PrEP, both in the pilot phase and after May 2018 scale-up approval. In Zambia PrEP is provided only to individuals found to be at substantial risk of HIV using a national eligibility screening tool. Studies in Africa show continuation rates of around 40% and 25% at 1 and 3 months post-initiation, respectively. We present PrEP continuation rates for males under the Project.

METHODS: In a relatively young PrEP program, but with a growing number of male clients ever-enrolled (5,121 by September 30, 2019), DISCOVER developed/established a PrEP management information system, in order to strengthen the Project ability to provide PrEP, track clients, and analyse data to inform program implementation. We analysed program data from the DISCOVER PrEP info-system and present the results.

RESULTS: We analysed PrEP continuation rates for 1,791 males enrolled between October 2018 and June 2019.

	MSM		Males in discordant relationships		Other Males	
	One month	Three months	One month	Three months	One month	Three months
15-24 (n=433)	19 (58%)	11 (33%)	08 (42%)	04 (21%)	73 (19%)	28 (7%)
25-34 (n=726)	17 (71%)	12 (50%)	78 (55%)	35 (24%)	203 (36%)	96 (17%)
35+ (n=632)	10 (59%)	09 (53%)	96 (56%)	53 (31%)	191 (43%)	81 (18%)
All (n=1,791)	**46 (62%)**	**32 (43%)**	**182 (55%)**	**92 (28%)**	**467 (34%)**	**205 (15%)**

[Table. Sub-population and continuation of PrEP beyond months 1 and 3 / Age (Years)]

Across all sub-populations, older men have higher PrEP continuation rates than younger men. Although most PrEP messaging in Zambia targets men 20-34, older men access PrEP at almost the same rates as younger men, and stay on. MSM and men in discordant relationships (MiDR) have higher PrEP continuation rates than Other Males (primarily heterosexual men). MSM, MiDR and older males, are perhaps more HIV risk-aware and thus persist on PrEP longer. Younger males (across sub-populations) may cycle out of risk more frequently, with shorter 'on-PrEP' periods.

CONCLUSIONS: Age matters across all sub-populations for PrEP continuation. DISCOVER is engaging younger men and heterosexual men to understand factors that inform their persistence or non-persistence on PrEP in order to inform more effective PrEP programming.

PEC0736

DETERMINANTS OF RETENTION IN HIV ANTIRETROVIRAL THERAPY PROGRAMS IN THE CONTEXT OF TREAT ALL STRATEGY IN CAMEROON

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BACKGROUND: Retaining HIV positive patients in antiretroviral treatment (ART) is essential for successful ART outcomes. However, suboptimal ART retention continues to be reported in Cameroon and other sub-Sahara African countries. This study aimed at identifying the determinants ART retention in three HIV clinics in Cameroon within the HIV test and treat context.

METHODS: A 24-month retrospective chart review was conducted on 423 subjects who initiated ART between July and September 2016 in the Limbe (Soutwest region), Bamenda (Northwest region) and Jamot (Central region) Hospitals. Patients' sociodemographic and clinical characteristics and ART retention data were abstracted using standardized paper forms. Chi square test was used to test for bivariate associations and logistic regression used to adjust for confounders. P-value was set at <0.05 at 95% confidence interval.

RESULTS: The mean age was 39±11 years, and 65.08% were females. At the end of the 24 months following ART initiation, 30/423 (7.1%) were transferred out,11/423(2.6%) were reported dead, 73/423(17.3%) were lost to follow-up and 309/432(73.0%) remained in care. ART retention rate was 309/392(78.83%). Widowed (AOR 5.98, 95% CI 1.25-28.54, P=0.02) and non-disclosure of HIV status (AOR 0.18 95% CI 0.06-0.53, p=0.00) were associated with higher retention while being unemployed (AOR 0.48, 95% CI 0.14-0.166, P=0.01) was associated with lower retention. Jamot Hospital (AOR0.32 95%CI 0.12-0.88, P=0.00) was reported the lowest retention.

CONCLUSIONS: About a quarter of the patients were not retained after 24 months, suggesting a need to address barriers to ART retention. Associated patient and HIV clinic level factors should be considered when designing ART retention strategies. More research aimed at improving ART retention are needed.

PEC0737

ACCEPTABILITY AND ADHERENCE TO PRE-EXPOSURE PROPHYLAXIS AMONG HIGH-RISK POPULATIONS OF HIV INFECTION IN BEIRA CORRIDOR, MANICA PROVINCE, MOZAMBIQUE

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BACKGROUND: Mozambique has an HIV prevalence of 13.2%; 15.4% among women and 10.1% among men (IMASIDA, 2015). In Manica, HIV prevalence is 13.5% (IMASIDA, 2015). The Beira Corridor connects Mozambique to interland countries and is one of the corridors with the highest rates of HIV infection (William M Miller, 2017). Pre-exposure oral prophylaxis (PrEP) with tenofovir disoproxil fumarate and emtricitabina has shown to be effective in preventing HIV in serodiscordant (SD) couples, female sex workers (FSW), men who have sex with men (MSM) and adolescents at risk (AR). Since May 2019 Mozambique's Ministry of Health introduced PrEP in Manica Province

with support from the Efficiencies for Clinical HIV Outcomes (ECHO) project. The objective of this study is to analyze the acceptability of PrEP in seven health facilities in the Beira corridor in Manica: four urban health centers (Eduardo Mondlane, 7 de Abril, Nhamaonha, and 1o de Maio) and three suburban facilities (Manica District Hospital, Gondola District Hospital, and Vanduzi Health Center).

METHODS: Data from patients' records from PrEP patients enrolled between October and November 2019 in the seven study facilities were analyzed using Excel.

RESULTS: From October to November 2019, 306 patients were counseled and tested negative for HIV in the study facilities, of which 289 (94.4%) accepted PrEP. Of those, 171 (60%) were women, and 171 (60%) were 25-49 years old. PrEP acceptability rates were 95.1% in urban areas (156/164) and 93.7% in suburban areas (133/142). Manica District Hospital had the highest acceptability rate (99%, 79/78), while Vanduzi Health Center had the lowest (87%, 26/30). FSW, MSM, and AR had the highest acceptability rates at 100%, while the rate for SD couples was 84% (243/289). Of the 95 patients who were due to return for their next dose within the period under analysis, 33 (35%) returned at 30 days.

CONCLUSIONS: Overall there was high acceptability of PrEP, with greatest acceptability rates among FSW, MSM and AR. Retention remains a major challenge for PrEP. ECHO will continue to monitor and analyze PrEP acceptability and retention rates to inform improvement strategies. More research is needed to understand factors affecting PrEP acceptability and retention.

PEC0738

PREP ROLL-OUT IN LATIN AMERICA SHOULD AIM TO INCREASE AWARENESS AMONG ELIGIBLE INDIVIDUALS TO PREVENT REFUSAL, AND PROVIDE SUPPORT TO NEW USERS TO PREVENT EARLY DISCONTINUATION

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BACKGROUND: Despite the high efficacy of HIV PrEP, its roll-out has been slow globally. While free PrEP programs In Latin America are finally being set-up, uptake and/or continuation may be sub-optimal, implying a loss of prevention opportunities. We assessed the occurrence and reasons of PrEP refusal in the Peru component of ImPrEP, a PrEP implementation project. We also explored the phenomenon of early discontinuation among acceptors.

METHODS: Since 2018 ImPrEP has been enrolling eligible, adult MSM and transwomen (MSM/TW) for daily oral PrEP use in public STI clinics. Eligible subjects (i.e. HIV-, reporting either condomless anal sex with unknown partners, or sex work, or STIs, or HIV+ partners) came either for HIV testing or to ask about PrEP. They were offered PrEP; those who refused (Refusers) responded a short survey about reasons for refusal; those who accepted (Acceptors) were enrolled and asked to return in 30 days. Qualitative interviews were conducted with refusers, ongoing users and early discontinuers (defined as those who missed their 30-day visit within a 60-day window). Here we describe the frequency and reasons stated for PrEP refusal; as well as qualitative findings from refusers and early discontinuers.

RESULTS: Until 31 December 2019, 2554 eligible MSM/TW were invited to enroll in ImPrEP, of whom 2038 (80%) enrolled, and 516 (20%) refused participation. Main reasons for refusal were: Lack of time (39%); need more information on PrEP (20%); concerns about side effects (14%), do not want to take pills (9%) or to make quarterly visits (3%); and perceive their risk as low (6%). In qualitative interviews, reasons for early discontinuation were similar to those for refusal, i.e: lack of time; disbelief in PrEP effectiveness, low self-perceived risk; side effects; and concerns about PrEP/ART stigma. While early discontinuation is common, frequency data will be presented subsequently.

CONCLUSIONS: Of 5 eligible MSM/TW who are offered PrEP, one refuses. Both refusal and early discontinuation (also observed among many acceptors) may reflect natural reactions to PrEP roll-out in contexts of low awareness. Emerging PrEP programs should actively provide PrEP information to refusers to help them reconsider PrEP use, and support acceptors to prevent early discontinuation.

PEC0739

SEX DISPARITIES IN PATTERNS OF HIV INCIDENT CASES BETWEEN 2010 AND 2019 IN HIGH-INCOME COUNTRIES AND SUB-SAHARAN AFRICA: RESULTS FROM THE GLOBAL BURDEN OF DISEASE STUDY 2019

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BACKGROUND: Though prevention of HIV transmission has become both more effective and available, social and geographic inequalities in access are prevalent. In particular, women and those in low-resource settings have lower access to preventive methods such as PreP. To assess the evolution of the HIV epidemic in these vulnerable groups, we compare the incidence of HIV between sexes in high-income countries and Sub-Saharan Africa over the last ten years.

METHODS: For Sub-Saharan Africa we estimated incidence using 87 population-based seroprevalence surveys and 14,746 site-years of antenatal care clinics data in UNAIDS-developed Estimation and Projection Packages. For high income countries, we used a modified version of Avenir Health's Spectrum incorporating vital registration data to estimate incidence. Our analysis was based on the 2019 Global Burden of Disease estimates.

RESULTS: Globally, estimated HIV incidence decreased from 1,169,732 (95% uncertainty interval 1,034,039 – 1,360,646) to 910,660 (95% UI 767,539 – 1,067,133) for women between 2010 and 2019. In this same period, women's share of incident cases decreased from 52.4% (95% UI 50.2% - 54.1%) to 49.4% (95% UI 46.5% - 51.6%).

The estimated number of incident cases for women in high-income countries increased from 28,744 (95% UI 18,436 – 40,411) to 37,450 (95% UI 21,705 – 54,728) however the share of incident cases between men and women remained stable, with men and women accounting for 72% (95% UI 69.1% - 74.5%) and 28% (95% UI 25.5% - 30.9%), respectively.

In sub-Saharan Africa, the number of incident cases for women decreased from 970,900 (95% UI 842,430 – 1,141,105) to 682,931 (95% UI 566,889 – 833,381) between 2010 and 2019. Women accounted for 59.8% (95% UI 56.2% - 60.1%) of all incident cases, an increase of 1.4% (95% UI 1.2% - 1.8%) between 2010 and 2019.

CONCLUSIONS: Trends in incident HIV cases among women vary regionally. In high-income countries, women's share of incident cases was stable, while the number of incident cases has decreased. In

sub-Saharan Africa the number of incident cases has decreased, yet the share has increased. These estimates suggest the need for prevention methods that are efficacious for and accessible to women in resource-rich and resource-poor settings.

PEC0757

TIME TO FOCUS ON RISK PERCEPTION AND PREP SERVICE AVAILABILITY TO ADDRESS PREP DISCONTINUATION AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN THAILAND

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BACKGROUND: HIV pre-exposure prophylaxis (PrEP) needs to be taken consistently during periods of risk to be effective as HIV prevention. Among men who have sex with men (MSM) and transgender women (TGW) at risk for HIV in Thailand, continuation on PrEP is low. We explored reasons for discontinuing PrEP, and risk behavior after discontinuation among MSM and TGW.

METHODS: Princess PrEP under the LINKAGES-project, which serves more clients than any other PrEP program in uses trained key population (KP) lay providers provide free PrEP to KPs at 8 community-based organizations in 6 provinces. In August 2019, clients not returning to Princess PrEP services for at least 6 months were invited to participate in an anonymous online survey about PrEP discontinuation.

RESULTS: 1291 clients (15.9% of clients in the program) not returning for at least 6 months were invited 120 (9.3%) responded and completed the questionnaire. Median age was 30 years, 105 (93.8%) were MSM, 5 (4.5%) were TGW. Of these 120 clients, 28 (23.3%) reported currently using PrEP from another source. Among 92 (76.7%) clients who had discontinued PrEP, reasons for discontinuation were: not at risk anymore (45 (49.0%), of whom 13 (28.9%) reported inconsistent condom use), moved away and PrEP not available (20, 21.7%), concerns about side effects (16, 17.4%) or drug interactions (12, 13.0%), and lack of time (11, 12.0%). After discontinuation, 36 (39.1%) reported inconsistent condom use, 7 (7.6%) reported chem-sex, and 48 (52.2%) did not have an HIV-test after stopping PrEP. Clients who had discontinued PrEP were then asked when they would restart PrEP: 64 (69.6%) clients indicated they would restart when their HIV risk increased, of whom 27 (42.2%) reported current inconsistent condom use, and 5 (7.8%) reported chem-sex.

CONCLUSIONS: A significant proportion of clients discontinued PrEP while still at risk for HIV and did not perceive themselves to be at risk. Given this lack of risk perception, gain-framed HIV prevention messages and PrEP educational campaigns are urgently needed to facilitate and support PrEP continuation during risk. Furthermore, PrEP services need to be scaled up across Thailand to ensure continuity of access throughout the country.

KEY POPULATION-LED PREVENTION PROGRAMMES (FROM REACH, RECRUIT, TEST, TREAT, PREVENT AND RETAIN)

PEC0740

TRENDS IN HIV RISK BEHAVIOR AND CARE OUTCOMES AMONG HISPANIC/LATINO MSM IN THE UNITED STATES: A SYSTEMATIC REVIEW OF NATIONAL SURVEILLANCE DATA

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BACKGROUND: In the United States, Hispanic/Latino (H/L) men who have sex with men (MSM) are the only racial/ethnic group with increasing HIV incidence in recent years. We conducted a systematic review to examine trends in HIV risk behaviors among HIV-negative H/L MSM and care outcomes among H/L MSM with HIV diagnosis for informing ending HIV epidemic (EHE) efforts.

METHODS: We searched MEDLINE, EMBASE, PsycINFO, CINAHL, Sociological Abstracts for reports published between January 2008 and May 2019. Additional searches in CDC's HIV Resource Library, HRSA's Ryan White Data Reports, and Atlas Plus were conducted in December 2019. Reports from national surveillance that provided data from multiple years on relevant outcomes (see Table) for H/L and white MSM were included.

RESULTS: Seventeen reports from National HIV Behavioral Surveillance (NHBS), National HIV Surveillance System (NHSS), Medical Monitoring Project (MMP), and Ryan White Programs provided relevant data from 2011 to 2017. High-risk sex among HIV-negative persons decreased for both H/L and white MSM; however, a higher percentage of H/L MSM reported not taking PrEP and engaging in condomless sex. Although knowledge of HIV serostatus increased for both groups, a lower percentage of H/L MSM were aware of HIV-positive status. Having prescribed ART among those in HIV care was comparable between groups. Among patients receiving Ryan White programs, viral suppression increased for both groups and H/L MSM were close to the 90% target.

Outcome	% reported high-risk sex among HIV-negative persons[a]		% had knowledge of HIV-positive status		% had ART prescription among persons in HIV care		% had viral suppression (VL <200)	
Data Source	NHBS – MSM cycle		NHSS		MMP		Ryan White	
	H/L	White	H/L	White	H/L	White	H/L	White
2011	15.3%	10.8%	76.5%	86.4%	92%	93%	76.0%	79.0%
2012	-	-	77.3%	86.9%	91%	92%	77.9%	81.4%
2013	-	-	77.8%	87.4%	94%	95%	81.4%	84.3%
2014	15.3%	10.8%	78.5%	87.8%	-	-	84.0%	86.6%
2015	-	-	79.1%	88.2%	-	-	85.7%	88.3%
2016	-	-	79.8%	88.6%	-	-	87.2%	89.4%
2017	12.4%	8.7%	-	-	-	-	87.9%	90.1%

[a] % of HIV-negative gay and bisexual men who report not taking PrEP in the past 12 months and who report condomless sex with a HIV-positive partner or partner of unknown HIV status at last sex

[Table]

CONCLUSIONS: National surveillance data indicate that strengthening efforts to address barriers to HIV testing and use of PrEP among H/L MSM are needed. H/L MSM who are in HIV care can benefit from ART prescription and be virally suppressed. Caution is warranted as outcomes were assessed based on different national surveillance data. Identifying individual, social and structural factors contributing to high-risk sex, serostatus unawareness, and unsuppressed viral load may further inform effective EHE efforts.

PEC0741

A SYSTEMATIC REVIEW OF HIV CASCADE OF CARE INTERVENTIONS AMONG MEN WHO HAVE SEX WITH MEN IN SUB-SAHARAN AFRICA

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BACKGROUND: HIV disproportionally affects men who have sex with men (MSM) and transgender (TG) communities across Sub-Saharan Africa (SSA). Preliminary estimates of the HIV care cascade outcomes among MSM and TG in SSA are far below the UNAIDS 90-90-90 targets, reflecting suboptimal access to HIV testing, treatment and care. Therefore, we conducted a systematic review to identify interventions that aim to optimize the HIV care cascade among MSM and TG in SSA.

METHODS: We searched MEDLINE, Embase, and Web of Science databases for peer-reviewed articles (from January 2010 to July 2019) reporting HIV interventions among MSM/TG living in SSA, following PRISMA guidelines. Qualitative and quantitative research articles were included if an intervention was performed to improve at least one of the HIV care cascade outcomes: uptake of HIV testing, access to treatment, and retention including adherence as well as viral load suppression. Records were screened independently by two reviewers using Covidence.

RESULTS: Of 1336 potentially relevant titles, 156 full-text studies were screened. From this, 14 studies were included (9 in East and Southern Africa, 5 in Western and Central Africa). HIV interventions targeted MSM only (8/14), key populations including MSM (5/14), specific subgroups such as male sex workers (1/14) and MSM who use drugs (1/14), while none targeted TG. None of the interventions providing PrEP evaluated its impact on the HIV care cascade outcomes. Most interventions (11/14) improved access to HIV testing through outreach counselling activities (3/11), social networks of peer educators (4/11), distribution of HIV self-testing kits (1/11) and developing MSM-friendly clinics (2/11). Interventions providing quarterly medical follow-up including regular contact with peers and counsellors improved access to treatment (2/14) and retention in HIV care (1/14).

CONCLUSIONS: Most of the interventions that have been evaluated and reported in the peer-reviewed literature involving MSM in SSA are focused on access to HIV testing. Future intervention and research efforts should focus on developing strategies to optimize access to treatment and retention in HIV care. Furthermore, significant efforts are still needed to better integrate MSM sub-groups (e.g., TG, MSM who use drugs) in HIV interventional research.

PEC0742

EFFECTIVENESS OF PEER-DELIVERED HARM REDUCTION INTERVENTIONS FOR PEOPLE WHO INJECT DRUGS IN YANGON AND NAY PYI TAW, MYANMAR

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BACKGROUND: Myanmar has a concentrated HIV epidemic with an estimated 240,000 people living with HIV in 2018.The highest HIV prevalence is observed in people who inject drugs (PWID) at 34.9%. The Youth Empowerment Team (YET) was formed in June 2003 as a community-based organization, and a member of the National Drug Users Network in Myanmar. YET aims to educate young people about the harms associated with drug use and to implement harm reduction programs for PWID. Currently, YET is implementing a pilot project supported by the Open Society Myanmar in Yangon and Nay Pyi Taw in 2019, where limited services are provided for drug users.

DESCRIPTION: The pilot project uses a peer-to-peer approach to provide a comprehensive package of services to PWID, including the distribution of needles, syringes, and condoms; referral to methadone maintenance treatment, HIV testing, ART and STI treatment; hepatitis B screening and immunization; screening and treatment of tuberculosis (TB); as well as education and distribution of IEC materials. Between January and December 2019, over 10,000 needles and syringes (N/S) were distributed to 200 PWID in Yangon and Nay Pyi Taw. In Yangon only, a total of 275 PWID were tested for HIV; 25 referred to ART; 40 referred to MMT; 25 screened for HBs, and 5 for TB.

LESSONS LEARNED: Despite law enforcement activities (including police crackdowns and arrests), peers were able to successfully distribute syringe and needles. Through their experiential knowledge and relational skills, they were able to map where PWID gather and educate their peers to dispose of N/S safely, contributing to increasing acceptance of harm reduction in the community at large, while indirectly reducing stigma and discrimination.

CONCLUSIONS/NEXT STEPS The peer-led approach has demonstrated its effectiveness in raising awareness of the benefits of harm reduction among police, local communities, family members and PWID themselves. It has also increased awareness of/access to vital prevention, care and treatment services among PWID in challenging settings. Peer-delivered harm reduction can be powerful tools for fast-tracking the response to HIV in Myanmar.

PEC0743

ESTIMATING NATIONAL AND SUB-NATIONAL POPULATION SIZE AND HIV BURDEN AMONG KEY POPULATIONS IN MOZAMBIQUE

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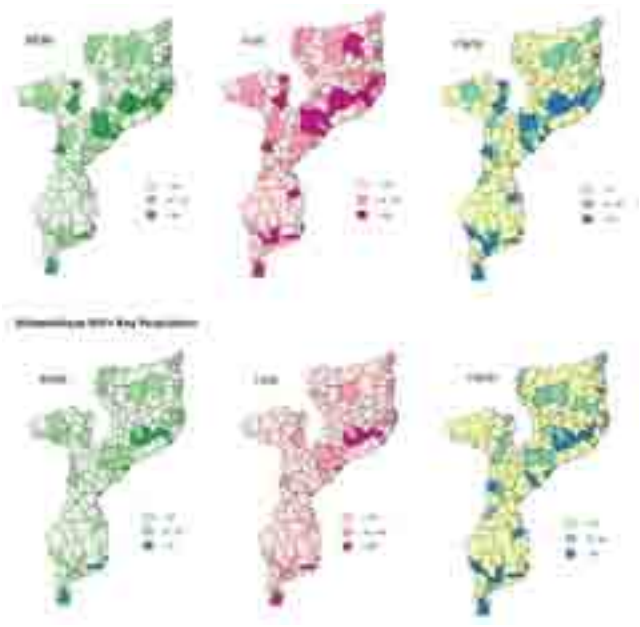
BACKGROUND: Population size estimates (PSE) of key populations (KP) living with HIV is imperative to estimate the burden of HIV among men who have sex with men (MSM), female sex workers (FSW) and people who inject drugs (PWID) and to allocate resources appropriately for targeted prevention and treatment services.

METHODS: Given the lack of a gold standard, we combined data from multiple sources to produce district-level PSE for PWID, MSM and FSW in Mozambique and the number of KP with HIV. Our analysis included data from the Census, Biological Behavioral Surveillance (BBS), AIDS Indicator Survey (AIS) and regional literature.

First, to estimate the PSE for each KP group in the 161 districts, we multiplied the literature-based KP PSE by district-level census data. In BBS cities, the PSE was the median of the literature estimate and the BBS-based PSE.

Second, we calculated the number of KP with HIV in urban areas by applying the BBS-based HIV prevalence estimates to the PSE of urban districts. To estimate number of KP with HIV in rural areas, we applied the regional AIS rural/urban HIV prevalence ratio. Stakeholders working with KP nationwide validated results.

RESULTS: We estimate that in Mozambique there are approximately 41,393 MSM (0.55% of adult male population), 93,412 FSW (1.1% of the adult female population) and 13,514 PWID (0.08% of adult population). Of which, 2,800 MSM, 21,631 FSW and 5,193 PWID have HIV. These estimates have been disaggregated by region, province, urban/rural areas, and district (Figure 1).



[Figure 1. Mozambique key population size estimates]

CONCLUSIONS: Given limited data and high prevalence of HIV among KP in Mozambique, these results provide important baseline for programmatic target setting, optimal resource allocation, and epidemic monitoring. Mapping and enumeration are necessary to provide additional data points, especially in high-burden districts. This should be an iterative process updated annually to produce robust estimates longitudinally.

PEC0744

REBOUND VIREMIA IN KEY POPULATIONS ON ART IN ZIMBABWE: THE CASE FOR FURTHER INVESTIGATION

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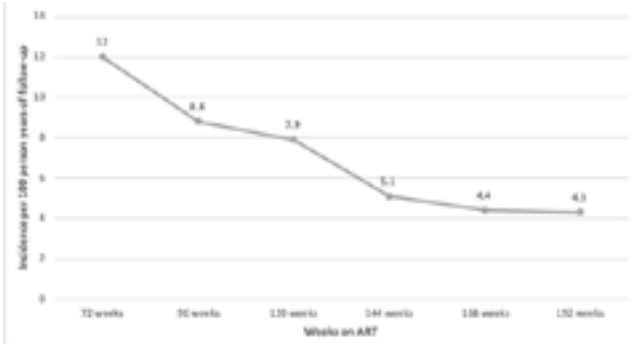
BACKGROUND: PSI Zimbabwe has offered specialized ART, including yearly viral load testing, to key populations (KP) since 2013. We were curious to determine the extent of possible viral rebound among clients with an initially suppressed viral load (VL)by reviewing successive VL test results within our cohort of MSM and SW key populations (KP) clients on annual virological monitoring.

METHODS: A retrospective cohort study was conducted on a secondary program dataset of 7,405 KP ART records created between 2013 and 2019 in 3 urban PSI clinics. To be eligible, a record had to include at least two VL tests conducted 12 months apart, with the antecedent VL result <50 copies/ml. Rebound viraemia was defined as a pair in which a VL result with ≥50 copies/ml followed an initial test with <50 copies/ml. Stata 13.0® was used to calculate one-time and cumulative incidence of rebound viraemia and test for its variation against covariates of age, sex, key population type and duration on ART.

RESULTS: The mean duration on ART for the 4,423 records analyzed was 2.6 years. 89% of records were from female KP. One-time incidence of rebound viraemia was 7.5% (331/4,423), whilst the 6-year cumulative incidence fell to 5.5% (CI: 4.9 –6.1) and did not vary by age, sex or key population type. The incidence of rebound viraemia reduced significantly with increasing weeks on ART (Figure 1).



[Figure 1. Incidence of rebound viraemia by weeks on ART]

CONCLUSIONS: Our results show that viraemia is a real risk for KP, even after initial suppression. The decline in detectable viraemia with increasing time on ART suggest that most high-risk clients can achieve an undetectable status. This suggests that annual monitoring may be insufficient for monitoring a subset of our population. Further analysis to find common factors among patients who rebound may enable us to proactively provide more frequent VL monitoring to those likely to rebound.

PEC0745

ALIGNING CIVIL SOCIETY BUDGET TO ADDRESS BARRIERS TO 'TEST- AND- TREAT POLICY' AND IMPROVE OUTCOMES OF THE 2ND AND 3RD 90 AMONG MEN WHO HAVE SEX WITH MEN IN GHANA

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BACKGROUND: The HIV Prevalence rate amongst Men who have sex with men (MSM) in Ghana is 18.1% (Ghana Men study II, 2018) as compared to the general population of 1.3% (Ghana Demographic Health Survey, 2017). Despite the enrolment of the "test and treat" policy, some health facilities still demand baseline testing to be done before HIV positive clients are initiated on treatment. The cost of some of the baseline laboratory tests is not covered by the National Health Insurance (NHIS). MSM's are not able to afford the cost of these labs and with no budget line on these activities for CSO's, this results in delay in enrolment or no initiation on ART at all.

DESCRIPTION: Maritime Life Precious foundation(MLPF) is a Non-Governmental Organisation with vast experience in Key population implementation in the western region of Ghana. MLPF implemented the life support strategy to help improve ART initiation among MSM. It also revised its approach to budgeting to ensure that limited resource for programme implementation is allocated in a manner that address all financial barriers in achieving the 2nd and 3rd 90. The life support strategy ensured that newly diagnosed MSM PLHIV who needed financial assistance to complete baseline labs were provided with funds.

LESSONS LEARNED: The life support strategy and the realignment of the project budget was effective in improving the ART initiation among MSM. Between October 2017- September 2018 MLPF diagnosed 365 MSM HIV positive with 329 (90%) initiated on treatment. Out of the total initiated on ART 215(65%) were supported through budgetary allocations support transport cost to the facilities; 67(20.3%) were provided with life support and 47(14.2%) could afford to start and maintain treatment on their own. These findings imply that majority of MSM HIV positive require financial support to start and maintain ART.

CONCLUSIONS/NEXT STEPS In other to effectively achieve the 90-90-90 targets, budget should be allocated to address the financial needs of the MSM with regards to starting and maintain treatment on ART.

PUBLIC-PRIVATE PARTNERSHIPS

PEC0746

DETAILED PROFILE OPTIONS ON DATING APPS INCREASE AWARENESS ABOUT SEXUAL HEALTH

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BACKGROUND: Hook-up apps, where an increasing percentage of MSM meet their sexual partners, play an important role in communication about sexual health strategies to mitigate behavioral risk. Most hook-up apps now give users the opportunity to disclose aspects of their sexual health and preferences (condom use, PrEP, undetectable viral load, HIV status) so that users can convey this information comfortably and easily prior to meeting in person.

Building Healthy Online Communities (BHOC) is a consortium of public health organizations working with dating apps to improve sexual health outcomes among app users.

DESCRIPTION: In 2011, BHOC conducted formative research with website owners, public health professionals, and hook-up website/app users. Nearly 80% of website users wanted to include safer sex information in website profile options and 58% wanted HIV testing reminders.

BHOC worked with five dating websites and apps (Grindr, SCRUFF, Adam4Adam, GROWLr, and Daddyhunt) to change default profile options to increase information shared among app users about sexual health strategies. BHOC also supported Grindr, Daddyhunt and Adam4Adam to send testing reminders to users who opt-in to that feature.

LESSONS LEARNED: In 2018, BHOC partnered with American Men's Internet Survey (AMIS) through Emory University to measure uptake. Among 10,129 AMIS participants, 66% reported using a dating app in the past year (n=6724). 74% of app users reported knowing that they could include sexual health strategy preferences on dating apps and 59% of those aware reported using sexual health profile options. Among the 26% (1,748 users) who didn't know about the options, more than half (56%) of users (n=979) reported that they would like to use these features in the future. Among individuals who reported recent unprotected sex and no recent HIV test (n=1791), a lower percentage reported knowing of the sexual health feature (69%) and opting into the feature (47%).

CONCLUSIONS/NEXT STEPS In order to reduce HIV/STI transmission, BHOC continues to work with app owners to encourage users to update their sexual health profiles, to increase awareness and uptake of existing sexual health profile options, and to advocate that websites and apps include condoms as a sexual health strategy option.

COMMUNITY INVOLVEMENT AND GOOD PARTICIPATORY PRACTICE IN EPIDEMIOLOGICAL AND PREVENTION RESEARCH

PEC0747

WALK THE TALK: ENGAGING COMMUNITY IN THE HIV RESEARCH AGENDA

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BACKGROUND: National and international organizations share the vision that people determine what research is conducted in their communities and have opportunities to participate in community engaged research (CER). The benefits of CER are documented. Our community needs assessment (CNA) was conducted to understand the research interests and needs of our local community, and to assess its usefulness in forging an equitable process that identifies and addresses CER facilitators and barriers.

DESCRIPTION: From August-December 2017, we conducted a CNA in California's San Francisco Bay Area among organizations and advocacy groups that serve key populations – primarily PLWH, MSM, people who use drugs, sex workers, transgender and non-binary people, and young people (ages 15-24). The follow-up "Meet and Greet", held September 2019, drew 30 individuals from academia and the community, allowing participants to share their thoughts, reactions, reflect on CNA findings, and to identify potential CER opportunities.

LESSONS LEARNED: We used a semi-structured, IRB exempted qualitative guide and interviewed 22 individuals from 11 organizations/advocacy groups. We conducted a content analysis of verbatim transcripts from the recorded CNA interviews and took detailed notes of the meet and greet discussion, which we shared with participants. Participants expressed an interest in their organization having greater, improved, or continued access to/involvement in research, ranging from access to research publications, opportunities to attend our research symposiums, opportunities to interact with funders and understand funding mechanisms, and participation in CER projects focusing on key populations. Participants were invited to participate in a NIH listening session and have been included on our listserv, providing access to research findings. Leading with hu-

mility, flexibility, and equity of researcher and community expertise facilitates positive, transparent, and sometimes difficult conversations that are necessary to advance CER. When the interview process allows participants to veer off topic, respect of community voice and trust are created, garnering community pearls of wisdom that otherwise would remain unstated.

CONCLUSIONS/NEXT STEPS CNAs potentially serve as a helpful method to engage community members as equitable partners and advance CER endeavors. We are following up with other community recommendations, including supporting community identified/led forums and exploring potential new CER partnerships.

PEC0748

NOTHING ABOUT US, WITHOUT US! LESSONS LEARNT FROM ADOLESCENT ADVISORY GROUPS WITH YOUNG PEOPLE LIVING WITH AND CLOSELY AFFECTED BY HIV

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BACKGROUND: Despite a commendable increasing policy and programmatic focus, AIDS-related deaths and new HIV infections among adolescents and young people continue. There is a clear imperative to better understand their needs, find tools that facilitate young people's participation, and to co-develop responses that are generated by young people themselves.

METHODS: Building on 10-years of work with an advisory group of young people (n=18, ages 16-23) living with, or closely affected by HIV in South Africa, this project expanded adolescent advisory group activities. Located in the Western Cape (n=18) and Eastern Cape (n=19) Provinces, a total of seven group engagements over twelve days were held throughout 2019. Activities aimed to foster reciprocal participation between advisory groups of young people, engagement practitioners and researchers. Activities drew on participatory, participatory action research, and more traditional qualitative methods and included theatre, group discussions, drawing, young people led-focus group discussions, singing and story-telling. Methods were participant-generated or selected.

RESULTS: Advisory group members demonstrated comprehensive age-appropriate engagement about the research process and interest and ability to co-create activities and co-generate rich evidence on a variety of topics. Methodological findings include: the importance of taking time to clarify and co-determine advisory group purpose; delivering age-appropriate capacity-building activities on the research process to facilitate understanding and participation; encouraging participant-generated methods and ensuring adequate referral support.

Participants never discussed HIV as a stand-alone concern, but consistently identified it as a cross-cutting issue across challenges facing young people in South Africa. The most prominently discussed challenges included:

(1) 'Blessers' (transactional, age disparate sex);
(2) Substance abuse;
(3) Medicine-taking and health;
(4) Bullying;
(5) Pregnancy; and,
(6) Careers and unemployment.

CONCLUSIONS: Adolescent advisory groups require time and resource investments, but are feasible and can generated rich methodological and empirical evidence to inform research, policy and practice – even with the most vulnerable adolescents. HIV was not an issue that was discussed on its own, but was rather understood as a complicating factor in many important life areas. This finding has relevance in the design of research, policy and programmatic responses and affirms HIV-sensitive (rather than specific), and combination approaches to adolescent health and development.

PEC0749

BEYOND BUILDING MORE BRIDGES: DECOLONIZING RESEARCH STRUCTURES THROUGH CO-CREATING RESPECTFUL AND EQUITABLE INDIGENOUS-SETTLER PLHIV PARTNERSHIPS IN A MULTI-SITE CANADIAN COHORT

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BACKGROUND: The creation of equitable Indigenous-settler research partnerships in settler-ally research can be challenging despite good-intentions. Efforts to bridge differences between Indigenous-settler research approaches are complicated by neo-colonial practices within research structures. This abstract describes an intentional co-creation of partnership in response to challenges that arose in a national HIV cohort study.

DESCRIPTION:

The study (analytic N = 4,151) utilized multivariable logistic and cox regression on treatment-naïve HIV+ MSM age 18+ who initiated combination antiretroviral therapy (cART) after January 1, 2000, had at least 6 months of follow-up,1 viral load test in the first 6 months after cART initiation, and 2 viral load tests in first year. A community advisory group guided the study. After settler researchers attempted to enforce neo-colonial work that contradicted GIPA/MIWA/MEPA, two community researchers living with HIV utilized a decolonizing, positive-people centered framework to engage in a culturally-safe, bilateral and reflexive knowledge exchange (KE) on Indigenous and anti-oppressive settler research approaches. The KE took place outside of a mainstream institutionalized research space and led to a respectful, equitable co-development of recommendations for researchers.

LESSONS LEARNED: Respectful, equitable Indigenous-settler research partnerships require researchers to:

1) recognize that Indigenous Peoples and settlers have different world views, ways of knowing and doing;
2) understand pan-Indigeneity does not exist across reserves on Turtle Island or globally due to ongoing displacement and genocide of cultures and communities, yet Indigenous solidarity work is vital;

3) don't speak for, or on behalf of communities and respect all consulted views;
4) understand that research has personal spiritual significance for some members of community; and,
5) know when to step back and support community in making decisions autonomously.

CONCLUSIONS/NEXT STEPS Decolonizing research within neo-colonial research structures requires researchers to implement ethical research guidelines in culturally safe manners. Having an understanding that Indigenous worldviews are not static and they change from a colonized to a traditional spiritual perspective while "one crosses the half moon" is critical in Indigenous-settler partnerships. As communities of people living with HIV are diverse, the co-creation of equitable, decolonizing HIV research must be GIPA/MIWA/MEPA centered and requires continuous and proactive engagement and critical reflexivity for implementation.

PEC0750

AWARENESS OF HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNE DEFICIENCY SYNDROME (HIV/AIDS) AMONG INFORMAL HEALTH CARE PROVIDERS IN URBAN SLUMS OF KARACHI

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BACKGROUND: A recent surge in HIV/AIDs cases due to an outbreak in which 80% of the cases are young children reported in Sindh province of Pakistan. Medical malpractices such as reuse of needles, unsafe blood transfusion, male circumcision with unhygienic blades, etc. by the unregistered and unqualified health care providers are reported as the main reasons for this outbreak among children. Therefore, this study is conducted to determine the awareness and attitudes of health care providers regarding HIV/AIDs in slum areas of Karachi, Pakistan.

METHODS: A cross-sectional survey was conducted among health care providers in different slum areas of Karachi. The questionnaire was administered by interviewers at different small clinics/ hospitals. Statistical significance of associations between predictors of knowledge about HIV/AIDS among qualified and unqualified health care providers were determined through the chi-square test.

RESULTS: A total of 160 health care providers were recruited in the study. The mean age of participant was 42.11 years with a standard deviation (SD) of 10.464 years. About 97 (60.6%) were male and 137 (85.6%) were qualified medical practitioners. From participants 133 (83.1%) heard of HIV/AIDS, 141 (88.1%) were aware of the sign and symptoms of HIV/AIDs and 127 (79.4%) knew that HIV infection can be asymptomatic. Around 87 (54.4%) were aware of blood tests for diagnosis of HIV infection and 112 (70.0%) correctly reported about all modes of transmission. Blood transfusion was identified by 142 (88.8%), re-used blades 147 (91.9%), re-used syringes 148 (92.5%) and unprotected sex 147 (91.9%) were correctly identified by the participants. About 130 (81.3%) considered HIV/AIDS as a serious health problem for Pakistan. More qualified medical practitioners as compared to un-qualified health care providers were aware of asymptomatic HIV patients (P-value; <0.000), the blood test for HIV diagnosis (P-value; 0.042) and nearby facility for AIDS treatment (P-value; 0.003).

CONCLUSIONS: Informal or unqualified health care providers have a very low level of knowledge about HIV/AIDS as compared to qualified medical practitioners. In order to prevent transmission and further outbreak, the Government needs to take initiatives to enhance knowledge of the general public including informal health care providers regard HIV/AIDS disease.

PEC0751

COMMUNITY ADVISORY BOARDS AS A MODEL FOR EFFECTIVE COMMUNITY ENGAGEMENT IN THE COLLABORATIVE AFRICAN GENOMICS NETWORK IN BOTSWANA

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BACKGROUND: Collaborative African Genomics Network (CAfGEN) is a Human Heredity & Health in Africa (H3Africa) affiliate and National Institutes of Health (NIH) funded study with the aim of integrating genetics and genomics technologies in Africa and probe host genetic factors that are important to the progression of HIV and HIV-TB co-infection in sub-Saharan African children from Botswana, Eswatini and Uganda. Collaborative genomics studies of this nature require effective community mobilization and engagement to encourage community participation. Community Advisory Boards (CABs) is an effective method to engage both the researcher and the community.

DESCRIPTION: The CAfGEN CAB in Botswana was established in 2015, it comprises of twelve key stakeholders with expertise and interest in welfare of children. The main role of the CAB is to be a guardian of CAfGEN study participants. CAB meetings are held monthly to be updated and provide feedback on study progress. The highlight of the CAB engagement with the community was the development of genome adventure comics translated into English, Setswana, Luganda, Swahili, Arabic, Hausa, French and Portuguese. The target for these comic books was school going children, youth and adults. During the CAB monthly meetings, useful feedbacks and suggestions were provided on graphics, method of distribution, and monitoring and evaluation. Once completed, the books were distributed and launched in Botswana, Tanzania and Uganda. The books are also freely accessible online.

LESSONS LEARNED: The CAB has provided useful guidance and feedback to CAfGEN study and is thus a suitable model for resource limited settings. Early engagement with community leads to a well accepted conduct of study as there is buy-in from the community. The CAB recommended the development of a scientific comic genome adventures book as part of engaging the public which has been well received the world over.

CONCLUSIONS/NEXT STEPS The model will continue to be used in the next funding phase of the CAfGEN study. The CAB will help with further development of 2 more books to deal with other research issues. We hope to publish this experience so that other communities can benefit from the model.

HARNESSING BIG DATA FOR EPIDEMIOLOGICAL RESEARCH/DIGITAL EPIDEMIOLOGY

PEC0752

KIDNEY FUNCTION AND RISK FOR CHRONIC KIDNEY DISEASE AMONG HIV-INFECTED INITIATING CARE IN ZAMBIA

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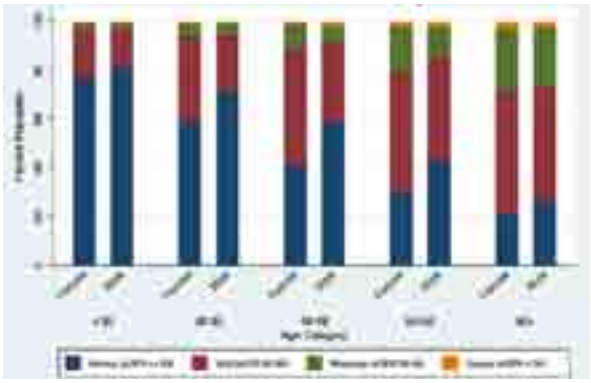
BACKGROUND: As the global response to the HIV epidemic progresses, the risk for co-morbid non-communicable diseases (NCDs) like chronic kidney disease (CKD) and hypertension increases with an aging population living with HIV (PLHIV) on anti-retroviral therapy (ART). In Zambia, ART initiation includes a routine serum creatinine measurement to assess ART regimen safety and suitability. Here we assess potential to leverage the routinely measuring serum creatinine at ART initiation to describe risk for CKD and hypertension among those in HIV care in Zambia.

METHODS: For our analysis, we included all PLHIV recorded between January 1, 2011—December 31, 2017 in the national electronic medical record >17 years of age with ≥1 documented creatinine measure(s). We described kidney function using the CKD-Epi estimated glomerular filtration rate (eGFR) categorized by the Renal Association without modification for race/ethnicity. Logistic regression was used to describe the associations between covariates available in the HIV record. Blood pressure categories identified according to current WHO guidelines.

RESULTS: A total of 79,912 observations among 68,646 PLHIV in HIV care of which 61.0% identified as female and a median age 34 years (IQR: 28-40 in the study period. Of these, 2,853 (5.93%) had a moderately reduced eGFR, while 627 (1.3%) had a severely reduced eGFR. In addition, we observed a statistically significant increase in risk corresponding to increased age (figure), stage two hypertension (OR 1.46; 95% CI 1.30, 1.64), being male (OR 0.81; 95% CI 0.74, 0.88), and obesity (OR 1.26; 95% CI 1.05, 1.51).



[Figure. Estimated glomerular filtration rate by age and sex]

CONCLUSIONS: Using routinely collected data at antiretroviral therapy (ART) start can help identify individuals that may have underlying kidney disease and hypertension. As the PLHIV population in HIV care ages, it is increasingly important to evaluate non-communicable disease risk through HIV clinical care access points.

PEC0753

CREATING A BROADLY IMPLEMENTABLE AND OPEN ACCESS DATA COLLECTION AND MANAGEMENT PLATFORM TO SUPPORT MEASUREMENT OF ADOLESCENT HIV CARE TRANSITION PROCESSES AND OUTCOMES WITHIN LOW- AND MIDDLE-INCOME COUNTRIES

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BACKGROUND: Few national programs and research cohorts within low- and middle-income countries (LMICs) document transition-related processes and outcomes for adolescents living with HIV transitioning to adulthood. The Global fRAmework of Data collection Used for Adolescent HIV Transition Evaluation (GRADUATE) project was established to create a broadly implementable and open access data collection and management platform that would support measurement of adolescent HIV care transition processes and outcomes within LMICs.

METHODS: During this collaborative effort (2017-2019), key data variables and definitions capturing the process, predictors, and outcomes across the transition period were identified by a global advisory group composed of HIV expert clinicians, researchers, and implementers. Thereafter, data tables were created and formatted into a GRADUATE Data Exchange Standard (DES), which were then added to and harmonized with the existing International epidemiology Databases to Evaluate AIDS (IeDEA) DES. Variables were categorized into three tiers; tier one (core basic) included variables most likely to be available within routine records, and tier two (core advanced) and three (research) included those likely to be unavailable within routine care but could be collected by longitudinal cohorts or during targeted research. These include variables capturing transition preparation, disclosure, caregiver status, housing, education, mental health, alcohol and substance use, and sexual activity.

RESULTS: Eight "GRADUATE tables" containing 104 variables identified as essential to capturing transition-related information were added to the existing IeDEA DES: 2 relating to socio-demographic characteristics and life experiences (e.g., disclosure, education, employment, housing, substance use, sexual behaviour); 3 relating to hospitalization and fracture events, and mental health management; 1 relating to HIV care responsibilities; and 2 relating to transfers and transition experiences.

CONCLUSIONS: Optimally measuring transition preparation, implementation, and outcomes is central to assessing and comparing transition outcomes. The GRADUATE DES is the first harmonized set of data tools designed to guide clinical programs and research cohorts as to the data variables, and their definitions, that can be collected to characterize adolescent-specific HIV outcomes. Integration of this DES across regional settings will facilitate comparisons and identify data gaps that need to be addressed in order to better characterize the health of this expanding population.

HARNESSING NEW TECHNOLOGY FOR UNDERSTANDING EPIDEMIC DYNAMICS

PEC0754

ENABLING REAL-TIME MONITORING OF ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG PEOPLE LIVING WITH HIV USING THE 99DOTS MOBILE PHONE TECHNOLOGY SOLUTION: A FEASIBILITY ASSESSMENT IN NORTH INDIA

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BACKGROUND: Adherence monitoring and support are essential to maximize the benefits of antiretroviral therapy (ART) among people living with HIV (PLHIV). India's National AIDS Control Program (NACP) reports that 40% of PLHIV newly initiated on ART drop out within six months. Adherence normally gets assessed during their monthly follow-up visits. Under the PEPFAR/USAID-supported and FHI 360-led LINKAGES project, FHI 360 partnered with NACP to adapt the mobile phone-enabled 99DOTS from India's tuberculosis program to support ART adherence. Participating PLHIV self-verify adherence by calling a toll-free number (TFN) after consuming daily ART. A secure web dashboard and automated messages to providers' phones provide real-time cues to execute support actions (phone calls or house visits) when patients do not call the TFN. We conducted a feasibility assessment for adherence using 99DOTS at two ART centers in North India.

DESCRIPTION: From March 12 to April 13, 2019, 57 PLHIV newly initiated on once-daily tenofovir/lamivudine/efavirenz regimen, weighing >35 kg, age >10 years, with access to a mobile phone consented to voluntarily report their daily ART adherence through 99DOTS. Patients who were pregnant, had HIV/TB co-infection, or resided beyond the center's catchment area were excluded. Hands-on training and virtual WhatsApp-based support were offered to providers. Patient adherence data were captured digitally and analyzed for descriptive statistics and chi-square values to compare proportions between support actions and adherence.

LESSONS LEARNED: Participating PLHIV had a median age of 30.0 years (IQR=25.5-39.5), and 67% were male. Of the 906 expected calls during the assessment period, real-time self-verified adherence reported through the TFN was 80% (n=724), and the remainder of the time real-time cues were sent to providers for support actions. Support actions were conducted, and adherence changed accordingly for individual patients 96% of the time, increasing adherence to 99%. Adherence of >95% increased from 40% to 93% after support actions, which had a strong association (p=0.0002).

CONCLUSIONS/NEXT STEPS Successfully implementing a mobile-phone-enabled adherence monitoring system among PLHIV, adapting 99DOTS technology and engaging the PLHIV and providers on a real-time basis, is feasible. We recommend scale-up of this technology to further inform NACP and optimize its benefit for the PLHIV community.

ETHICAL AND HUMAN RIGHTS ISSUES IN RESEARCH AND DEVELOPMENT

PEC0755

ADVOCATES' PERSPECTIVES ON NEXT-GENERATION HIV PREVENTION TRIAL DESIGN

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BACKGROUND: HIV incidence is declining globally, but not nearly at the pace or scale required to reach the UNAIDS Fast Track targets. Many populations and geographies remain underserved, and there is urgency to deliver existing treatment and prevention methods and simultaneously develop additional effective options. Researchers developing new biomedical prevention modalities, such as vaccines, antibodies and long-acting pre-exposure prophylaxis (PrEP), must design efficacy trials in this context of declining incidence and expanded access to daily oral PrEP, which have implications on sample size, statistical analysis, trial duration and cost. As various novel trial designs are discussed and deliberated, research stakeholders have called for meaningful community and advocacy engagement.

DESCRIPTION: In September 2019, AVAC convened a group of global advocates to advance understanding of novel trial design for HIV prevention research and forge initial engagement between advocates and key research stakeholders, including statisticians, trialists, ethicists, and regulators, around emerging questions and challenges. Workshop objectives included:

- Establishing a cadre of advocates skilled to engage in discussions and decisions with researchers, regulators, and funders;
- Identifying opportunities for further engagement on protocol-specific and broader product development issues;
- Developing mechanisms and tools for ongoing capacity building and engagement.

LESSONS LEARNED: Workshop participants developed a statement outlining their perspectives, asserting that:

- Efficacy trials will require a new level of cohesion between the trial context and evolving prevention standards.
- The gold standard of randomized, placebo-controlled trials should continue to be used where possible. Rationale for alternative, innovative designs need to be clearly articulated and carefully navigated with communities and advocates.
- Negotiated post-trial access plans should be in place in advance of trial launch.
- There is urgency for better congruence between ethics guidance at normative, national, and institutional levels to align around the practical conduct of next-generation HIV prevention trials.
- Robust Good Participatory Practice as a part of innovative trials will help safeguard research and accelerate translation of results into real world outcomes and public health impact.

CONCLUSIONS/NEXT STEPS A cadre of well-versed, committed advocates stands ready to partner with product developers, researchers, ethicists, regulators and funders to navigate discussions and necessary solutions for the success of next-generation prevention trial designs.

TRACK D

COMMUNITY ENGAGEMENT IN RESEARCH AND RESEARCH DISSEMINATION

PED0755

"I NEVER TEACH MY PUPILS. I ONLY PROVIDE THE CONDITIONS IN WHICH THEY CAN LEARN" ADVOCACY FOR HIV – STUDENT EXPERIENCES

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BACKGROUND: As a result of intensive efforts in ART, HIV has transitioned into a chronic illness globally presenting new challenges of increased morbidity and care gaps. Gaps include an increased need for rehabilitation to address disability and wellness challenges. One of the responses has been to mainstream HIV management into all health workers education. Students receive input on HIV pathology, aetiology and management from a rehabilitation perspective. Once students are exposed to patients, they become aware of gaps in access to rehabilitation at patient, family, community and system level. The student needs to advocate where required. This project sought to establish the level and extent of advocacy for HIV rehabilitation undertaken by students as part of their HIV curriculum.
METHODS: Third and fourth-year physiotherapy students undertaking clinical rotations at the University of the Witwatersrand participated in an advocacy and rehabilitation session for people living with HIV. Consenting students participated in the study. Four of the six rotations required the students to identify a patient who was infected with HIV and includes advocacy in their management plan. The cases, including advocacy plans, were qualitatively analysed using MAXQDA.
RESULTS: A total of 31 verbal case presentations were analysed. These included cases from paediatrics, public health, adult neurology and cardiopulmonary. Four themes emerged, namely the goal, role, level at which advocacy was undertaken and concrete examples of how students undertook advocacy. The goal and role in advocacy included explicit and implicit advocacy for the individual patient and at structural level in the areas of improving education about the condition in general and person knowledge, importance of exercise, obtaining aids and appliances, improving facilities such as basic hygiene, referral to services such as psychologists and involvement of family. The level of advocacy was undertaken predominantly at an individual level with the aim of empowerment and protection.
CONCLUSIONS: Students were involved in patient advocacy at an individual level. Much of the advocacy resulted in the empowerment of the patient in managing HIV, and students play a facilitatory role in creating an enabling environment for effective outcomes in the patient management care continuum and successful functional outcomes.

PED0756

NARRATIVE MEDICINE, STORYTELLING AND UNDERSTANDING HIV & AIDS AMONG RURAL AND REMOTE CITIZENS OF MALAWI

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BACKGROUND: More than 80% of Malawain citizens live in rural or remote areas. This transdisciplinary study funded by the Wellcome Trust sought to establish the correlation between narrative, storytelling and beliefs about HIV in a localized context as they are shared amongst communities living in rural and remote areas. The project centres the aesthetics and socio-cultural constructions of traditional storytelling (including various styles, genres, & themes) and indigenous ways of knowing, teaching and communicating to identify the factors that influence access to HIV/AIDS testing, treatment, and social acceptance following seropositivity.
DESCRIPTION: The study took place between November 2018 and January 2020 in Malawi in the four geographical regions: north, central, east and southern Malawi. The qualitative project implemented participatory action research and indigenous reception theories which drew upon decolonizing methodologies in health care research in rural and remote communities. The study explored and framed challenges faced by ordinary citizens as they sought information about HIV/AIDS and other diseases in their localized context by understanding the framework for their traditional way of knowing. The study population was uniquely tailored to match traditional storytelling transmission incorporating factors such as disparate languages, ethnicities, ages, identities, sexual orientations and economic status within communities and families.
LESSONS LEARNED: Preliminary findings indicate that traditional narrative plays a significant role in shaping localized understandings of disease including origins, transmission, treatment and cure. Furthermore, that the study indicates that there are lacking structures within the government, the NGO, and individuals to address structures of complex understanding of disease burdens.
CONCLUSIONS/NEXT STEPS: Neglecting social and power hierarchies within groups is detrimental to the study of HIV/AIDS as the stories which emerge and are believed are contingent upon deeply rooted social hierarchies and figures of authorities depending on the 1) individual, 2) social setting and 3) age group. The study suggest that a different set of empirical questions must be raised in contemporary approaches to understanding collective formations of narratives about AIDS including metaphors, stories, myths, rumours, folklores and even recounting of dreams.The implementation of indigenous knowledge systems and audience reception methods would provide invaluable insight into the formation of beliefs, stigmas and conceptualisations about HIV/AIDS.

KNOWLEDGE TRANSLATION AND DISSEMINATION OF RESEARCH AND PROGRAMME OUTCOMES

PED0757

MESSAGING TRANSMISSION: A QUALITATIVE ANALYSIS OF FACTORS IN THE UPTAKE OF U=U IN CANADIAN PUBLIC HEALTH MESSAGING

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BACKGROUND: A scientific consensus has emerged that a person living with HIV who has an undetectable viral load does not transmit the virus sexually, commonly known as "undetectable equals untransmittable" (U=U). However, the uptake of this science in Canadian public health messaging has been inconsistent. This study identified factors that may facilitate or delay knowledge transfer and exchange for public health messaging.

METHODS: Public endorsements and communications of the U=U message by 61 Canadian HIV and public health organizations between 2016 and July 2019 were compiled and analyzed. Organizations were grouped into discrete categories: national HIV organizations, local and regional HIV organizations by region, and public health authorities. U=U adoption within each category was charted over time. Qualitative one-on-one interviews were held with nine participants from organizations purposively sampled across multiple time periods of adoption. Interview transcripts were analyzed using framework analysis.

RESULTS: The pattern of U=U adoption varied based on the region and type of organization, with national HIV organizations being the first category of organizations to reach 50% adoption, followed by local and regional HIV organizations in the province of Ontario. Public health authorities were later to adopt the message than HIV organizations. Factors that played a role in the timing of adoption included the perceived relevance of the message to target audiences of the organization, congruence with pre-existing organizational values, institutional agility and risk tolerance, and the influence of funders, policy-makers and thought leaders.

CONCLUSIONS: The findings point to strategies that can leveraged by researchers, knowledge brokers and public health practitioners to expedite the uptake of new research in public health messaging. These include knowledge translation to reframe research in alignment with the interests and values of organizations and their audiences, identifying and altering characteristics of an institution's culture and decision-making processes that may hinder adoption of new research, and leveraging the influence of thought leaders.

PED0758

UNDERVALUED RESOURCE: WHY IMPLEMENTATION OF THE EDUCATIONAL ACTIVITIES FOR NURSES RESPONSIBLE FOR DISPENSING ART DRUGS IS A VITAL NECESSITY IN UKRAINE. PRESENTATION RESULTS OF THE TRAINING PROGRAM EFFECTIVENESS

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BACKGROUND: Since the beginning of 2017, PLHIV in Ukraine have gained expanded access to ART treatment: generic drugs entered the market. More than 30% of patients were transferred from multi-component to single-tablet regimens. ART became appealing to patients. In order to make dispensing ART faster, nurses were obligated to deliver ART. However, they were not educated to dispense medicines and working with PLHIV. In addition, feedback from the fields demonstrated that nurses have low-level proficiency in consulting in ART adherence, no knowledge in HIV and high level of stigma, which was influenced on the patients.

In order to fill the gap in the knowledge of nurses, Charitable organization "100 PERCENT LIFE" in cooperation with I-TECH Ukraine implement the project "Building clinical and managerial capacity of HIV / AIDS Service in Ukraine", aimed at raising the awareness of nurses in the context of building a adherence to ART, to reduce stigma and discrimination and destroy myths about generic and branded drugs.

DESCRIPTION: The project has been implemented from October 2018 to October 2019, active phase (training activities) were held for providers from the 12 most urgent regions for HIV. Were provided 1 ToT for 22 nurses and 8 trainings which attended by 176 nurses.

Each training intro and final assessment of knowledge was carried out in order to optimize the training course and obtain information on the progress of the project.

LESSONS LEARNED: Assessment results demonstrated low entrance level of nurses' knowledge and high response from participants (more participated than been announced). The average level of knowledge improvement is 36%, the highest level of increased knowledge is myths and truth about generic and branded ART (83%), stigma and discrimination related to HIV (77%).

CONCLUSIONS/NEXT STEPS: Conducting education with a detailed analysis of results significantly increased the level of professional knowledge of nurses, which improve the quality of the support of PLHIV. Non-priority regions demonstrate lower rates in attracting PLHIV to ART, continuing on outdated approaches and regulatory guidelines. This confirmes that the scaling of projects throughout the whole country will make it possible to align the situation, according to the standards of providing care for PLHIV.

PED0759

OVERCOMING THE DICHOTOMY OF DAILY AND EVENT DRIVEN PREP REGIMENS FOR MSM: LESSONS LEARNED FROM COMMUNITY SUPPORT PROGRAMS IN FRANCE

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BACKGROUND: Regarding oral pre-exposure prophylaxis for HIV (PrEP) for MSM, two intake regimens have demonstrated their effectiveness through biomedical trials: the daily and the event-driven regimens. Since 2009 in France, community-based organization AIDES mobilized the MSM community around PrEP use as a new HIV prevention tool. AIDES has offered constant community support to new PrEP users since the early stages of the ANRS IPERGAY trial (2012-2016) and then with PrEP rollout from 2016 with French guidelines allowing both regimens for MSM. As from May 2017 this also includes the 17 hospitals units and free STI clinics of the ANRS PREVENIR study.

DESCRIPTION: Trained community workers and volunteers were available after each medical appointment and during 6 months after PrEP initiation. They offered repeated counseling sessions to users, focusing on HIV, STIs and drugs risk reduction, PrEP adherence and global sexual health.

LESSONS LEARNED: The community worker teams, benefiting from bimensal professional practice analysis and supervision sessions, identified three crucial situations for PrEP users, generating most of the questions during follow-up, either during counselling sessions or on social media support groups: how to start and stop PrEP, how to adjust PrEP to their evolving sex life and how to react when a dose is missed or not taken on time. These questions suggest that the guidelines are not clear, or adapted to the evolving needs of PrEP users, particularly for those who switch between the regimens. To simplify, community workers chose to promote notions around starting and stopping PrEP use that is independent of the chosen regimen.

CONCLUSIONS/NEXT STEPS: The research concepts of daily and event-driven PrEP for MSM have been inserted into worldwide guidelines without having been translated into real life situations. They could be merged into a "start and stop" concept that has recently been introduced in 2019 WHO guidelines. This concept would be much easier to explain by PrEP providers and would make PrEP autonomously adjustable. Further exploration and understanding of how individuals use PrEP and the feasibility and acceptability of concepts such as "stop and start" for users (and providers) are necessary to empower users.

PED0760

THE KNOW-DO GAP IN ADHERENCE TO TB-HIV SCREENING GUIDELINES IN URBAN NIGERIA: A STUDY OF TB-CARE QUALITY AMONG PRIVATE CLINICAL PROVIDERS IN TWO STATES

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BACKGROUND: The WHO classifies Nigeria as high burden country for TB, multidrug resistant TB (MDR-TB), and TB-HIV. Currently, little is known about the quality of screening, diagnosis and treatment of TB in the country, especially in the private sector. The USAID-funded Sustaining Health Outcomes through the Private Sector Plus (SHOPS Plus) project implemented a study to evaluate the extent to which private clinical facilities it trained to provide TB services adhere to national standards for management of presumptive and confirmed TB. These standards specify that providers should inquire about a presumptive and confirmed patients' HIV status, provide HIV counseling and testing if appropriate, and test PLHIV with TB symptoms for MDR-TB.

METHODS: The study used a standardized patient (SP) survey, which is considered the "gold standard" for examining provider behavior, and a medical vignette survey to assess provider knowledge gaps. The sample included 398 clinical facilities in urban areas of Lagos and Kano states. Two different patient scenarios were examined – a "textbook" case of presumptive TB and a treatment initiation case in which the SP presents with a confirmed TB diagnosis. The survey instrument included elements on PITC – whether providers asked if patients had been previously tested for HIV, and whether providers recommended HIV testing.

RESULTS: The study found that among presumptive and treatment initiation cases, few providers engaged in questioning on HIV testing status (respectively 13.4% and 27.1%) or made recommendations for HIV testing (respectively 10.3% and 13.4%). The vignette survey revealed a knowledge gap among providers about testing PLHIV for MDR-TB (only 0.9% said they would). By comparing results from both surveys a "know-do" gap is evident: although 34.3% recommended HIV testing for TB-presumptives on the vignette survey, only 10.3% made this recommendation in the SP survey.

CONCLUSIONS: Results indicate an adaptive management opportunity for SHOPS Plus. Going forward the project should implement supportive supervision or training remediation to better sensitize private clinical providers to TB-HIV protocols. A planned follow-up survey before the end of the project will assess effectiveness of such support to improve the quality of TB care provided by SHOPS Plus-affiliated providers.

MIXED METHODS, INTEGRATED APPROACHES AND SYNERGIES IN HIV RESEARCH AND INTERVENTION

PED0761

WILLINGNESS TO PARTICIPATE IN SHORT AND EXTENDED ANALYTIC TREATMENT INTERRUPTION (ATI) DURING HIV REMISSION TRIALS

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BACKGROUND: Short analytic treatment interruption (ATI) in HIV remission trials is employed to facilitate evaluation of an experimental agent. Investigators are currently exploring whether ATI and associated viremia time was too short to demonstrate benefits. Extended ATI implies a longer exposure to the potential risks of ATI for participants and partners. Several studies have explored participant attitudes toward ATI, but do not compare duration of ATI or include people with ATI experience.
We present quantitative data from a large cohort of acutely diagnosed individuals in Bangkok (SEARCH010) on attitudes toward short and extended ATI; and qualitative data on extended ATI from SEARCH010 members with ATI experience.
METHODS: Vignettes in an online survey for SEARCH010 participants described the rationale for short and extended ATI, potential benefits and harms, and criteria for restarting ART, followed by attitude questions about acceptability of conducting the trial and willingness to participate (WtP) (1-strongly disagree to 4-strongly agree). The extended ATI vignette was included in interviews conducted after 4 SEARCH010 remission trials (with short ATI). Descriptive analyses and T-tests were conducted on quantitative data. Coding and thematic analysis of qualitative data included "willing to participate", "unwilling", or "undecided".
RESULTS: Survey responses (n=408) are presented in Tables. Mean scores for acceptability and WtP were significantly higher for short versus extended ATI (p<.0001). Of participants (n=33) interviewed after experiencing short ATI, 45% (n=15) were willing, 21% (n=7) unwilling, and 33% (n=11) undecided about extended ATI. Willingness was higher in trials evaluating the efficacy of an intervention (15 of 28 willing) versus with ATI only (0 of 5 willing).

Short ATI	Disagree/strongly disagree	Agree	Strongly Agree	Mean
Acceptability	10%	42%	48%	3.4
Willing to participate	22%	43%	35%	3.1

[Table 1.]

Extended ATI	Disagree/strongly disagree	Agree	Strongly Agree	Mean
Acceptability	15%	51%	24%	3.2
Willing to participate	31%	45%	24%	2.9

[Table 2.]

CONCLUSIONS: We found higher WtP and acceptability of short vs extended ATI, though most were positive about both. About half with short ATI experience, even after viral rebound, remained willing to participate in extended ATI studies. Research interest and endorsement, while varied in response to these scenarios, is expected to be high among participants in an existing cohort like SEARCH010.

PED0762

"INTERSECTING VULNERABILITIES": HOUSING INSTABILITY AND LOW-INCOME WOMEN'S HIV-RISK

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BACKGROUND: Much research explores the intersections of housing stability and HIV-risk. Increasingly, it recognizes stable housing as a social determinant of HIV. This research focuses primarily on the impacts of housing for those living with HIV. It rarely examines the specific experiences of women. We address these limitations by considering how housing and other factors associated with life in low-income, predominantly minority neighborhoods in a mid-sized city in the northeast US intersect to shape women's HIV-related vulnerability.
METHODS: Data are from surveys and semi-structured interviews collected as a part of the Justice, Housing, and Health Study (JustHouHS), a mixed methods study that explores the intersecting impacts of mass incarceration, housing stability, and sexual health. We analyze data from the 126 low-income women survey participants using bivariate analytical techniques to compare the HIV-related risks of "unstably vs. stably" housed women. We further explore these intersections were qualitatively. Thematic analysis was performed on 67 interviews with 17 low-income women interview participants.
RESULTS: 44% of women in the quantitative sample experienced unstable housing at baseline. Unstable housing was significantly related to several HIV-risk factors (i.e. criminal justice involvement, substance use, and riskier sex practices). 59% of women in the qualitative sample experienced unstable housing during JustHouHS. Qualitative interviews reveal several different forms of unstable housing (i.e., homelessness, doubling-up, and marginal housing). They also provided insight into how unstable housing intersects with and shape HIV-risk.
CONCLUSIONS: Our findings indicate that housing instability is an important issue in the lives of low-income women. Moreover, the results suggest that access to stable housing has implications for low-income women's HIV-related vulnerability. Policies and programs that seek to address these impacts will need to attend to the different forms that housing instability can take and the different ways that it intersects with HIV. Our findings suggest that women may have a unique experience with unstable housing. Thus, future work should compare women's and men's experiences to understand how gender may also shape the relationship between housing instability and HIV-risk.

QUALITATIVE AND ETHNOGRAPHIC METHODS IN HIV RESEARCH

PED0763

ADHERENCE TO ANTIRETROVIRAL TREATMENTS IN A NATIONAL NETWORK OF YOUNG ACTIVISTS LIVING WITH HIV

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BACKGROUND: Since the mid-1990s, the development of highly active antiretroviral therapy (HAART) improved the prognosis of HIV infection of affected people. "Adherence" to treatments became a central issue of medical-institutional approaches. In this context, civil society organizations have played a significant role in articulation with international cooperation agencies and agencies.
In this study, I seek to understand how members of a national network of young people living with HIV articulate their activism practices with the experience of being young and living with HIV. Thus, I propose to analyze the meanings expressed by some activists around these long-term treatments and I will present how the category of "adherence" is discussed in different events and institutional activities in which medical infectologists also participated.
METHODS: For this study I implemented an ethnographic approach through observation with participation in the activities of the network, complementing with interviews to activists and analysis of secondary sources. I carried out the field work between August 2015 and June 2016 within the institutional framework of the network, which was formed in 2011 and is considered a space for participation nad support organized exclusively by young people who ive with HIV in Argentina.
RESULTS: In the testimonies of young people, other meanings of "good adhesions" are highlighted. Young people show how a "good adherence" can include an adequate intake of medication with the development of a full youth life. Here, "good adherence" is not translated into the effectiveness of the treatment, but rather that the youth life is not affected by the treatment. A "good adherence" is translated in the recognition of the efficacy of the treatment, but accepting that the medication intake may be interrupted. However, the network is valued by young people as an emotional space that allows treatment to be resumed.
CONCLUSIONS: This study shows how the medical category "adherence" circulates within a network of young people with HIV. The notion of "adherence" is appropriate for young people and given new meanings in the different instances of participation. Medical knowledge is molded from the knowledge produced by young people in their lives, which expose other dimensions of treatments obstacles.

PED0764

SEXUAL PRACTICES OF YOUTH AND ADOLESCENTS - MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER WOMEN (TGW) - USING PRE-EXPOSURE PROPHYLAXIS (PREP) TO HIV: LESSONS FROM BRAZIL

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BACKGROUND: Studies on PrEP uptake and sex behaviour in "real-world" settings remain largely unknown for adolescents and young MSM and TGW (AYKP). Our goal is to explore narratives of sexual behaviour among AYKP using PrEP in Northeast Brazil, to understand changes in aspects of their health, youth, and sexuality.
METHODS: Thirty semi-structured interviews were conducted with selected participants of the first PrEP demonstration cohort study ongoing in 3 Brazilian cities among AYKP aged 15-19 (PrEP1519 study), during June-November 2019 in Salvador site (25 MSM, 5 TGW). Our sample is made of adolescent in a follow-up from 1 to 5 months, all belonging to the medium-low class of the black population of AYKP.
RESULTS: Even though most of the participants say they have been using condoms since their first sexual relationship, they also reported unprotected sex at least one time. The participants who have a steady relationship are generally less interested in prevention practices, unless they fear that their partner has been unfaithful - in this case, some of them have been tested for HIV. After PrEP enrolment, they mentioned a feeling of being safe and more protected in their sex life and referred less frequent sexual intercourse, specifically occasional encounters. In fact, some participants highlighted the need to improve their self-care in their sexual practices. Furthermore, even those in a steady partnership mentioned that they became more conscious of using the condoms more frequently.
CONCLUSIONS: PrEP1519 is not only enrolling AYKP in PrEP but raising awareness on STI/HIV combination prevention, and providing counselling for a healthy and more protected sex life. Despite these new possibilities in the field of HIV prevention, the challenge is to consider aspects of the vulnerability of different groups and ages as well as the way they live their sexuality.

ROLE OF SOCIAL AND BEHAVIOURAL SCIENCE IN BIOMEDICAL RESPONSES

PED0765

OPTIMIZING UPTAKE OF INDEX TESTING SERVICES AND PARTNER ELICITATION BY INDEX CLIENTS IN 7 STATES IN NIGERIA: EFFECT OF INTEGRATED HEALTH MESSAGING STRATEGY

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BACKGROUND: Index Testing (IT) is known to be an effective strategy for HIV case finding and assurance of an Index client's anonymity is fundamental to the success of IT services. Despite efforts made in scaling up IT in Nigeria, acceptance and sub-optimal elicitation

remains a challenge. The objective of this study was to assess the outcome of using an integrated health message approach to improve service uptake and partner elicitation during Index testing services offered to Index clients in a CDC funded HIV program in Nigeria.

DESCRIPTION: IT service providers were trained on the use of integrated health message script (IHMS) for contacting sexual partners elicited by index clients. The script encouraged partners of index clients to take up free health checks supported by the government which included vital signs check, Hepatitis B, syphilis, malaria and HIV. Providers discussed this approach with index clients during IT initiation to encourage acceptance. An analysis of IT program data before and after the deployment of the IHMS was conducted to determine the rates of acceptance of Index testing services and partner elicitation rates using data from 165 health facilities across 7 states in Nigeria

LESSONS LEARNED: Prior to the application of the IHMS 15,941 (5,970 Male and 9,971 Female) HIV positive persons were offered index testing; 14,234(5407 Male and 8,827 Female) (89%) accepted the service; and elicited 24637 (14,231 Males, 10,406 Females) partners -1:1.7 partner elicitation ratio.

After the application of IHMS, 14,460(5,428 Males; 9,032 Females) were offered IT; 14,144 (5,329 Males; 8,815 Females) accepted the service and they elicited 36,119(21,360 Males and 14,759 Females) - 1:2.6 elicitation ratio.

The acceptance rate before the application of IHMS was 89% (14,234/15,941) and 98% (14,144/14,460) after.

CONCLUSIONS/NEXT STEPS: The use of an integrated health messaging and services approach for index testing services improves acceptance of the service by index clients and improves elicitation of more partners. This strategy eliminates the fear of intimate partner violence and stigma associated with disclosure and should be scaled up.

SOCIAL AND BEHAVIOURAL CONCEPTS AND THEORIES

PED0766

FACTORS INFLUENCING WOMEN'S PERCEIVED SEXUAL SELF-EFFICACY IN BOTSWANA: AN IMPLICATION FOR HIV INTERVENTION PROGRAMS

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BACKGROUND: Most sexual and reproductive health policies have focused too narrowly on the spread of HIV thus psycho-social factors like perceived sexual self-efficacy are relatively under researched in many African countries. In investigating the disproportion of HIV/AIDS skewed towards women in the region, there is need to examine the factors affecting sexual self-efficacy of women in order to influence and direct policy related interventions as well as to achieve goal 3 of the SDG's. For Botswana this is especially pivotal if the country is to simultaneously reduce HIV prevalence as well as rectifying this disproportion.

METHODS: Data from the most recent 2013 Botswana Aids Impact Survey was used which focused on women aged 15-35 years. Perceived sexual self-efficacy is a dichotomous variable with outcomes being high or low. Descriptive, bi-variate and binary logistic analysis was used to examine the factors associated with perceived sexual self-efficacy. A total of 6 independent variables was considered in the analysis.

RESULTS: At bi-variate level, marital status, religion, occupation, age, type place of residence and education were associated with sexual self-efficacy. Overall, the proportion of women with low sexual efficacy was 56.5%. Odds of low sexual self-efficacy were higher for older women aged 20-24 (OR, 3.733), 25-29 (OR, 1.027) and 30-35 (OR, 1.173). They were also higher for women with secondary (OR, 2.038) and higher education (OR, 1.641). Sexual efficacy was higher for non-religious people, those cohabiting, those living in rural areas as well as non-working students.

CONCLUSIONS: Conclusion: There is an association of women's perceived sexual self-efficacy with all the independent variables. From our results, we can deduce that as age and educational attainments increase, women's sexual self-efficacy is seen to be low; the same applies for people in urban areas and those who have never been married. Apart from having targeted policies and campaigns for these vulnerable populations, alternative models must be formulated in order to rectify the gender-double standards. Such psycho-social factors must be considered in any HIV intervention program for the melioration of their overall effectiveness and to empower women to take up a more mindful position as sexual agents.

PED0767

MEASURING SEXUAL RELATIONSHIP POWER AMONG WOMEN LIVING WITH HIV IN CANADA: POWER, RESILIENCE AND VIOLENCE

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BACKGROUND: Low sexual relationship power (SRP), including controlling behaviours within intimate relationships, has been linked with increased HIV-risk, low condom use, and experiences of violence. Among women living with HIV (WLWH), few studies have examined associations between SRP and condom use, violence, and resilience. We examined the psychometric properties, prevalence, and relative associations of the relationship control (RC) SRP sub-scale.

METHODS: This study includes baseline data from sexually active WLWH (≥16 years) enrolled in the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS). Pulerwitz's RC sub-scale was trichotomized and low/medium scores were compared to high scores (higher scores=more SRP equity [SRPE]). Exploratory factor analysis and Cronbach's alpha assessed scale reliability. Crude and adjusted logistic regression examined associations between education and resilience (RS-14) and RC, as well as RC and condom use and violence (any violence [sexual, physical and/or emotional] and emotional violence). All models were adjusted for education, age, ethnicity, income, housing stability, and gender discrimination [measured using the Everyday Discrimination Scale]).

RESULTS: Of 1422 WLWH in CHIWOS, 473 (33%) reported being sexually active in the last 6 months and completed the RC sub-scale: 80% had high SRPE. The RC sub-scale demonstrated good reliability (Cronbach alpha= 0.92) loading onto one factor. Bivariably, compared to those with low SRPE, WLWH with high SRPE were more likely (p<0.05) to have higher education and incomes, to be married or in a common-law relationship, have no children and not currently using injection drugs.

In multivariate models, higher resilience scores were associated with high SRPE (aOR=1.03, 95%CI=1.00-1.06/per 1-score increase). WLWH with high SRPE were more likely to be consistent condom users (vs. never users) (aOR=5.38, 2.05-14.1), and less likely to have experienced any violence (aOR=0.09, 0.03-0.28) and emotional violence (aOR=0.13, 0.06-0.28) in the last 3 months (vs. never).

CONCLUSIONS: We found good reliability and validity for the RC sub-scale among WLWH in Canada. Aligned with previous studies, SRPE was associated with reduced experiences of recent violence and increased consistent condom use. Findings highlight fostering resilience may improve SRPE, and in turn reduce experiences of violence, supporting improved HIV-outcomes and wellbeing among WLWH.

PED0768

PREDICTING INTENTION TO USE PRE-EXPOSURE PROPHYLAXIS (PREP) USING THE THEORY OF PLANNED BEHAVIOR AMONG KENYAN ADOLESCENT GIRLS AND YOUNG WOMEN

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BACKGROUND: Pre-exposure Prophylaxis (PrEP) remains the most viable Human Immunodeficiency Virus (HIV) prevention method among Adolescent Girls and Young Women (AGYW) given their disproportionate risk and gives promise for HIV epidemiological control. However, PrEP uptake, a function of one's intent, remains low among the AGYW in Kenya.

Understanding the importance of attitude, perceived norms and perceived behavioral control as predictors of intention to use PrEP is important in tailoring messages to non-intenders. We sought to identify predictors of intention to use PrEP among AGYW using Theory of Planned Behavior (TPB).

METHODS: A mixed method study was employed to enroll 418 AGYW aged 15-24 years in Kisumu County, Western Kenya. Data was collected using structured questionnaires and Focused Group Discussions (FGDs). Intention to use PrEP was measured using a 5 point continuous rating scale and categorized to either low or high intention to use PrEP. Intention to use PrEP was predicted using constructs of TPB. Qualitative data was transcribed and analyzed thematically while Chi-square test of independence was used to measure associations.

RESULTS: Quantitative: High intention to use PrEP was reported in 30% (100/335) of the participants. Intention to use PrEP was higher among AGYW in rural areas (p-value= 0.001), more educated (p-value= 0.048) and married (p-value=0.001). Qualitative: Participants provided several reasons for their intention to use PrEP or lack of it thereof. They reported difficulty in taking a pill everyday although access was easy. Fear of being perceived as HIV positive or promiscuous if taking PrEP was unfavorable. They were pessimistic that their parents/guardians would approve of them taking PrEP and positive feedback from PrEP users was encouraging although they report fear of side effects. The promise of protection against HIV was a major motivator in the AGYW intention to use PrEP.

CONCLUSIONS: Low intention to use PrEP was reported among AGYW. Intention to use PrEP was particularly higher among the married and rural populace a fact that requires further investigation. PrEP messaging should be tailored around modifying attitudes, perceived norms and perceived behavioral control and creating innovative programs to target sub-populations with low intentions thus increasing intentions and ultimately uptake of PrEP.

PED0769

DEVELOPMENT OF A MODEL TO UNDERSTAND AND ADDRESS PREP STIGMA AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN SUB-SAHARAN AFRICA

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BACKGROUND: Stigma is a well-known barrier to HIV testing and treatment, and is emerging as a barrier to PrEP use. To guide future research, measurement, and interventions, we developed a conceptual framework for PrEP stigma among adolescent girls and young women (AGYW) in sub-Saharan Africa, who are a target population for PrEP.

METHODS: A literature review and expert consultations were conducted to adapt the Health Stigma and Discrimination Framework, which describes the stigmatization process nested within the socio-ecological framework. We reviewed all articles on PrEP stigma and those addressing HIV, contraceptive, or sexuality stigma among AGYW. Expert consultations were conducted with 10 stigma or PrEP researchers and 2 Kenyan youth advisory boards to review and revise the framework.

RESULTS: The conceptual framework identifies potential drivers, facilitators, and manifestations of PrEP stigma; its direct outcomes and ultimate health impacts; and relevant intersecting stigmas (Figure 1). Main findings include:

1) PrEP stigma is primarily driven by established HIV, gender, and sexuality stigmas, and by low PrEP awareness within communities.

2) Stigma is facilitated by factors at the policy (e.g. targeting of PrEP to high-risk populations), health systems (e.g. youth-friendly service availability), community (e.g. social capital), and individual (e.g. developmental stage) levels.

3) Similar to other types of stigma, manifestations include labelling, violence, and shame.

4) PrEP stigma results in decreased availability and acceptability of PrEP, lack of social support, and community resistance, which can ultimately decrease PrEP uptake and adherence.

5) Stigma may also engender resilience by motivating AGYW to think of PrEP as an exercise in personal agency.

CONCLUSIONS: Our PrEP stigma conceptual framework highlights potential intervention targets at multiple levels of influence and points in the stigmatization process. Its adoption would enable researchers to develop standardized measures and compare the burden of stigma across timepoints and populations as well as evaluate intervention outcomes.

[Figure 1. Conceptual framework of PrEP stigma among AGYW in sub-Saharan Africa]

participants. Responses included hope for cure during the trial; optimism for future cure; and cure is not possible in the foreseeable future (Table 1). Data suggest that trial design and/or experimental agent impacted participants' hopes. After trials ended, equal proportions of participants and decliners endorsed cure as important to normalcy and health. A substantial minority reported cure as not very important due to living normally on ART (Table 2). Most participants were disappointed by their failure to suppress virus for a longer time during ATI. Yet most retained their baseline hopes, and a few reported higher hopes due to scientific progress.

	Hope for cure in trial	Hope for cure in future	Cure not possible
Participants: RV397 n=15	5	8	2
Participants: RV405 n=19	10	5	3
Decliners RV397/405 n=14	3	6	5

[Table 1 Optimism statements]

	Important to normalcy/health	Not important	Not interpretable
Participants (RV397/RV405)	23	10	1
Decliners (RV397/RV405)	8	5	1

[Table 2 Importance of cure]

CONCLUSIONS: Respondents understood the nature of early-phase "cure" research, but similar to other studies, participants displayed optimism regarding personal and scientific benefit. They differed regarding anticipated importance of cure for their own lives. Longitudinal data indicate that for most, a personal experience of rapid viral rebound did not alter optimism regarding future HIV cure.

PED0770

WHAT DOES "HIV CURE" MEAN TO ACUTELY DIAGNOSED THAI INDIVIDUALS INVITED TO REMISSION TRIALS WITH ANALYTIC TREATMENT INTERRUPTION?

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BACKGROUND: HIV remission ("cure") research comprises early-phase trials seeking to eradicate HIV, often employing ATI to assess time to viral rebound as a measure of efficacy. Despite careful attention by investigators to informed consent, many studies find that people entering early-phase clinical trials are optimistic about personal benefit. In HIV trials with ATI, participants' hope for "cure" focuses on maintaining viral suppression without ART.

METHODS: We present longitudinal interview data from participants (n=34) and decliners (n=14) to two remission trials with ATI in Thailand (SEARCH010 RV397, trial of VRC01; and RV405, vaccine trial). Interviews queried motives and hopes for trial participation; meaning of HIV cure; and importance of cure to their lives. All but one participant experienced viral rebound during ATI.

RESULTS: 48 respondents were male/MSM and one was female. Most were familiar with biomedical concepts of HIV cure (sterilizing and functional) and demonstrated good understanding of the trials. Anticipated trial outcomes varied within interviews and across

HOST CELLULAR FACTORS AND LATENCY

PED0771

TRANSLATION AND VALIDATION OF THE HIV STIGMA SCALE TO MOSHI, TANZANIA

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BACKGROUND: Enacted, anticipated and internalized HIV stigma are informed by individual and community-level stigmatizing attitudes that impede all steps of the HIV care continuum. While much research has been conducted to understand HIV stigmatizing attitudes from the perspective of people living with HIV, little psychometric evidence exists on scales that evaluate stigmatizing attitudes in the general population. Furthermore, HIV stigma has been shown to vary by cultural context, pointing to the need for measures validation in various regions and across languages.

METHODS: A scale to measure HIV stigmatizing attitudes in Tanzania was developed from a modification of the HIV stigma scale (HSS) by Visser et al. Items were added to the original scale based on the team's formative qualitative research and other stigma instruments. The resulting 18-item scale was translated into Swahili and back

translated into English by the team's native Swahili speakers. The scale was pilot tested and further modified for cultural context and ease of understanding. From April to November 2019, 1008 women and 489 male partners were enrolled in an HIV stigma reduction study at two antenatal care clinics in Moshi, Tanzania. The validity and reliability of the HSS scale were analyzed using rigorous statistical methods for scale validation.

RESULTS: The translated version of the HSS scale was found to have acceptable domain coherence. Reliability was strong (Cronbach's alpha = 0.92). Exploratory and confirmatory factor analysis of one, two, and three factor models were conducted, and the two-factor model showed ample results, pointing to subscales of blame/moral judgement and isolation/social distancing. HSS scores were externally validated with the anticipated HIV stigma scale scores and were moderately positively correlated (r = 0.43, n = 1497, p < 0.001).

CONCLUSIONS: Given the role that HIV stigma plays as a barrier to HIV care engagement, the development of tools to adequately evaluate HIV stigmatizing attitudes is critical for public health research. This study presents one of the only Swahili adaptations and validations of the HSS instrument. The tool had acceptable psychometric properties, suggesting it can be used to measure stigma in a Tanzanian setting and is adaptable to other locales.

STRENGTHENING SOCIAL AND BEHAVIOURAL DATA COLLECTION AND ANALYSIS

PED0772

UTILIZING PARTICIPATORY MAPPING TO CONTEXTUALIZE PERCEIVED HIV RISK ACROSS GEOGRAPHY AMONG YOUNG BLACK MSM IN THE DEEP SOUTH

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BACKGROUND: HIV incidence among young Black men who have sex with men (YBMSM) has remained stable. HIV spreads at increased rates in dense sexual networks. Identifying the location of HIV clusters and risk behaviors that occur within them could inform geographically-focused HIV prevention interventions.

METHODS: Five semi-structured focus groups were conducted with 27 YBMSM between the ages of 18 and 34 years who met criteria to receive a PrEP prescription. Using a modified social mapping technique based on Singer et al.'s approach, the focus groups explored how and where HIV risk behaviors occur in Jackson, Mississippi. Outcome measures included: 1) meeting places for sexual encounters; 2) distance traveled to meet sexual partners; 3) location of sex encounters; 4) locations where HIV risk behaviors occurred and 5) knowledge of the geographic distribution of HIV.

RESULTS: A commonality was that participants believed that most individuals living with HIV resided in the Southern area of Jackson and reported feeling safer when attending sexual encounters in the Northern areas. Many of the participants identified similar locations for meeting places for sexual encounters (i.e. colleges and universities, gay clubs, or nearby convenient areas) and reported they would not travel outside of the city to meet for hookups. However, many have had partners travel into Jackson from outlying areas. Many of the participants reported attending or being invited to sex parties. Participants noted that sex parties take place in North Jackson rather than in South Jackson where most individuals living with HIV reside. Participants discussed being more comfortable having sexual encounters when outside of the Jackson area. Many participants noted that they were more likely to have condomless anal sex or concurrent anonymous partners while traveling. People generally knew that HIV was more commonplace in South Jackson, but understood little about geographic hotspots.

CONCLUSIONS: HIV transmission may be occurring outside identified HIV hot spots. Utilizing mixed geospatial and qualitative methods offered a comprehensive assessment of where HIV transmission occurs, and suggests that geographically circumscribed interventions may need to focus on where YBMSM reside and in specific geographic locations where they engage in HIV risk behaviors.

PED0773

A TALE OF TWO "U" S AND THEIR USE BY HEALTHCARE PROVIDERS: A CROSS-COUNTRY ANALYSIS OF INFORMATION-SHARING ABOUT 'UNDETECTABLE = UNTRANSMITTABLE' (U=U)

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BACKGROUND: The remarkable scale-up of ART globally, has seen 20.7 million people living with HIV (PLHIV) on treatment, thus accelerating the UNAIDS target to end AIDS as a public health threat by 2030. However, PLHIV's incentive to remain on ART needs to be prioritized. U=U is an empowering discussion that may help with that incentive to reach and maintain undetectability. We investigated the percentage of PLHIV informed of "U=U" by their healthcare provider (HCP), and measured associations with health-related outcomes.

METHODS: Data was from the 24-country 2019 Positive Perspectives Survey of PLHIV on treatment (n=2112). HIV-related knowledge, attitudes, and behaviors, including health-related outcomes were compared between those informed vs. not informed of "U=U" ($p<0.05$).

RESULTS: Overall, 67% were informed of "U=U" by their HCP. Those informed (n=1413) were significantly more likely than those not informed (n=699) of reporting: awareness that antiretrovirals prevent transmission (78% vs. 62%); treatment satisfaction (76% vs. 57%); optimal adherence (79% vs. 69%); self-reported virologic control (75% vs. 68%); and optimal overall (60% vs. 48%), mental (62% vs. 45%), and sexual health (50% vs. 41%). The percentage informed of "U=U" was significantly higher among ≥50-year-olds (71%) than <50-year-olds (65%, $p=0.014$), those in metropolitan (69%) than non-metropolitan areas (64%, $p=0.015$), and those with high-school or lower, than with higher than high-school education (75% vs. 64%, $p<0.001$). Overall, prevalence was 71.7%, 65.7%, and 55.2% among men who have sex with men (MSM), women, and heterosexual males respectively

(p<0.001); country-specific prevalence was highest among women in the U.S. (90%), but highest among MSM in Germany (84%), Portugal (83%), and Taiwan (77%).

CONCLUSIONS: Those that reported they were informed of U=U by their HCP had more favorable health outcomes than those not informed. Missed opportunities exist, given that one-third were not told about U=U by their HCPs, and in particular, heterosexual males were by far the least likely to be given this information. As gatekeepers of essential information, intensified efforts by HCPs to better engage patients can benefit public health. Patient-HCP U=U discussions should be considered in care guidelines to help improve PLHIV's quality of life.

ADAPTATION TO LIVING WITH HIV FOR INDIVIDUALS, FAMILIES AND COMMUNITIES

PED0774

THE IMPACT OF PARENTAL HIV-POSITIVE STATUS ON THE LIVES OF CHILDREN WITHIN THE FAMILY CONTEXT IN BANGLADESH

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BACKGROUND: HIV is particularly challenging for children in a family with HIV-positive members. Studies suggest that children in HIV-affected families are extremely vulnerable. However, little is known about the vulnerabilities faced by the children in HIV-affected families in Bangladesh. In order to address this gap in knowledge, this study examined the impact of parental HIV status on the lives of children within family context in Bangladesh.

METHODS: A qualitative research design using aspects of grounded theory approach was adopted and data were collected using in-depth interviews with nineteen HIV-positive parents who were living with their children in Khulna and Dhaka, Bangladesh.

RESULTS: The results indicate that parental HIV-positive status had a significantly negative impact on children ranging from disrupted socialization to reduced academic achievement. The results further indicate that parents' HIV-positive status negatively influenced the parent–child interpersonal relationships within the family. Parents described how their children's socialization and education were hampered by HIV as they could no longer provide an environment conducive to social and academic success. Factors which had a negative effect on children's academic achievement included: an unsupportive environment, economic hardship, gender roles, increased household responsibility, social stigma and discrimination, and negative psychological thoughts and feelings.

CONCLUSIONS: The results of this study demonstrate the effect of and need for appropriate programs for the betterment and welfare of children living with HIV-positive parents in Bangladesh.

PED0775

MEDIATING IMMEDIATE LINKAGE TO CARE IN THE ERA OF 'TREAT ALL': QUESTIONING THE (CHRONO) LOGICS OF HIV TREATMENT INITIATION IN SHINYANGA, TANZANIA

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BACKGROUND: Immediate initiation of antiretroviral treatment is considered a cornerstone of the current HIV 'universal test and treat' approach. Delayed linkage to care is often framed as a major stumbling block in HIV epidemic control. Here we examine the linkage to care and treatment initiation trajectories of people diagnosed with HIV in Shinyanga Region, Tanzania. We provide a critical interrogation of public health definitions of immediate linkage to care by exploring when and how linkage to care occurs for different clients, and the social dynamics that shape this process.

METHODS: The data are drawn from a broader social science study on the uptake of a treat all model in Shinyanga Region, Tanzania. Between April 2018 and December 2019, 30 participants who tested HIV-positive in community-based testing campaigns were interviewed in-depth on their HIV testing and (non-)linkage to care process. In addition, structured observations (24) were conducted during HIV testing campaigns and treatment literacy classes. Thematic analysis based on inductive coding was completed using NVivo software.

RESULTS: Many participants followed non-linear pathways to (eventually) link to HIV care and initiate treatment. These pathways often involved movements back and forth along the HIV care continuum or repetitions of particular steps. This included re-testing multiple times at different locations, sometimes involving intimate partners or others in subsequent testing encounters, before formally linking to care and initiating treatment. In some cases, this meant that what was reported as an 'immediate initiation' was in fact part of a longer process — unfolding over the course of several months or years — of coming to terms with a diagnosis and mediating its potential social fallouts.

CONCLUSIONS: Linkage to care must be understood as a socially embedded process, not a once-off event in a unidirectional cascade or continuum. Public health models built on the assumption that people diagnosed with HIV follow a (chrono-)logical series of steps from diagnosis to effective viral suppression lose too many people along the way. The development of responsive approaches that help people navigate the health system and the social dynamics that shape their engagements with it could more effectively support people along their diverse trajectories to treatment initiation.

PED0776

HEALTH EDUCATION TALKS DURING WAITING TIME FOR POSITIVE LIVING AMONG CLIENTS ATTENDING ART CLINICS OF BUKOMANSIMBI DISTRICT IN CENTRAL UGANDA

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BACKGROUND: Background: Health Education Talks (HETs) have been recognized as a powerful vehicle through which health literacy is achieved thus contributing to improvement in numerous patient outcomes, delay disease and improved adherence on Antiretroviral Therapy. The study examined the use of health education talks during waiting time and healthy living practices among clients attending ART clinics

METHODS: The study was conducted between August 2018 and April 2019 targeting 162 respondents in 07 health facilities in Bukomansimbi District. It was a cross sectional study using both qualitative and quantitative methods. Sampling size was determined using Kish Leslie's 1965 formula at 5% precision and data obtained through random and purposive sampling techniques. Quantitative data was analyzed using SPSS version 20 while qualitative data was organized in ATLAS Ti for analysis.

RESULTS: The respondents' mean age was 40 years, (F-84, M-78). About 58% PLHIV reported waiting time for over 3 hours of which 37.5 % spent that time doing nothing. The average waiting time was 181 minutes with averagely 30 minutes spent on HETs. Majority (90.1%) of the respondents reported having received HET with 67.9% of them taking up healthy living practices such as improved adherence, quitting smoking and alcohol consumption and avoidance of multiple sexual partners among others. However, inadequate time for the talks due heavy workload among health workers, missed talks by late arriving clients, monotony of talks, lack of practical talks, non-involvement of PLHIV in selection of topics for discussion were cited as challenges affecting HET at health facilities.

CONCLUSIONS: Given the chronic nature of HIV, there is need for continuous patient education to prepare PLHIV for any complications they might encounter including non-communicable diseases and opportunistic infections. ART clinics should therefore purposefully use every contact time with PLHIV for education programs including the unutilized waiting time not only to address some of the challenges affecting HETs such as inadequate time allocated to talks but also promote quality of life and enhance Positive living through equipping them with other skills like entrepreneurship necessary for survival beyond only HIV related information.

PED0777

THE ASSOCIATION BETWEEN BEING A PARENT AND VIRAL SUPPRESSION IN PEOPLE LIVING WITH HIV AT A REFERENCE HOSPITAL IN LIMA

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BACKGROUND: Whereas having children is a well-known motivator for patients' health care, it also implies responsibilities that may limit attendance to health services. We determined the association between having infant and adolescent children (ages up to 19 years-old) with viral suppression of people living with HIV health (PLWH).

METHODS: Retrospective cohort study based on secondary data of PLWH enrolled at the largest HIV program in Lima from 2012 up to 2017. The main exposure was the presence of infant and adolescent children at admission; in addition, we identified cases with a child born during the first year after enrolment.

The main outcome was viral suppression (<400 copies/ml) until end of follow up (December 2018). We conducted Cox regression analysis for repeated events, with censoring by time of death or end of follow-up; the final model, selected by log likelihood ratios, was built by backward stepwise starting with all variables theoretically important or with p-value ≤ 0.20 in bivariate analyses. We present hazard ratios (HR) with 95% confidence intervals (CIs).

RESULTS: In 3170 PLWH, mean age was 31.6 years (SD: 10.9), 79.8% were men and 862 (27.2%) reported infant and adolescent children, with a median number of two children. At the end of the follow up (8766.6 person-years), 534 (62.0%) were in viral suppression. In a final model that included age, sex, level of education, sexual orientation, having a partner, baseline CD4, time for ART start, interactions of having children with age and having partners; having infant and/or adolescent children (HR 3.53; [95% CI] 1.88 - 6.62) and the birth of a child during the first year after enrolment in the HIV program (HR 1.81; [95% CI] 1.30 – 2.50) were independently and significantly associated with no viral suppression by the end of follow up.

CONCLUSIONS: The presence of infant and adolescent children was associated with negative effects for viral suppression, probably due to parental responsibilities that may affect own health care. Family supporting services may benefit HIV care.

PED0778

WHAT SHAPES RESILIENCE AMONG PEOPLE LIVING WITH HIV? A MULTI-COUNTRY ANALYSIS OF DATA FROM THE PLHIV STIGMA INDEX 2.0

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BACKGROUND: Understanding factors that lead to resilience among people living with HIV (PLHIV) is critical for informing programming. We examined the influence of multi-level factors on resilience in three countries, using the PLHIV Stigma Index 2.0 survey.

METHODS: The Stigma Index was implemented in Cambodia (n=1,207), the Dominican Republic (DR, n=891), and Uganda (n=391), since 2017. We measured resilience with a newly developed PLHIV Resilience Scale (range -10 to +10), which asks about the effect of HIV status (negative, neutral, or positive) on attainment of needs, such as ability to cope with stress, find love, or contribute to one's community. We used hierarchical multiple regression to assess associations between individual, interpersonal and structural/policy-level factors and resilience, controlling for potential confounders.

RESULTS: About 60% of respondents were female. Mean time since HIV diagnosis was 11 years in Cambodia, seven in the DR/Uganda; ≥95% were on antiretroviral therapy. Mean resilience scores were 1.50 (Cambodia), 0.25 (DR), and 0.69 (Uganda), and varied substantially by the six provinces/districts within each country (all p<0.001). In multivariable analyses, at the individual-level, higher resilience was associated with lower internalized stigma (all countries; p<0.05 to <0.001) and no experience of human rights abuses (DR/Uganda; p<0.05). At the interpersonal-level, higher resilience was associated with less HIV-related stigma from family (DR, p<0.05). At the structural/policy-level, higher resilience was associated with greater awareness of legal protections for PLHIV (Cambodia/DR; p<0.01, p<0.05) and experience of HIV-related stigma (lower in Cambodia, higher in DR; both p<0.01). The set of structural/policy-level factors in Cambodia and the DR, and individual-level in Uganda, explained the most variance in resilience.

CONCLUSIONS: Factors at multiple levels, especially internalized stigma and human rights abuses, affect whether PLHIV in Cambodia, the DR, and Uganda report resilience. To promote resilience among PLHIV, multilevel interventions addressing individual factors, interpersonal dynamics, and the structural/policy environment are required.

Hypothesized direction of influence on resilience (+, -)		Cambodia (n=1,207) Adjusted for controls only *Adj. Beta*	Cambodia (n=1,207) Multi-variate *Adj. Beta*	Cambodia (n=1,207) ΔR^2	Dominican Republic (n=891) Adjusted for controls only *Adj. Beta*	Dominican Republic (n=891) Multi-variate *Adj. Beta*	Dominican Republic (n=891) ΔR^2	Uganda (n=391) Adjusted for controls only *Adj. Beta*	Uganda (n=391) Multi-variate *Adj. Beta*	Uganda (n=391) ΔR^2
Control Variables				0.1%			4.5%			3.4%
Age (in years)		-0.02	-0.02		-0.01	-0.02		-0.05*	-0.07*	
Time since diagnosis (in years)		-0.02	-0.04		0.12***	0.11***		0.15***	0.16**	
Education										
--Primary or less	-	(ref)	(ref)		(ref)	(ref)		(ref)	(ref)	
--Secondary	-	0.13	0.07		0.81**	0.50		-0.29	0.20	
--More than secondary	+	-0.47	-0.58		1.03**	0.49		-0.47	-0.37	
Individual Level				+6.6%			+2.5%			+6.4%
Internalized stigma (scored 0 to 6)	-	-0.42***	-0.28*		-0.22**	-0.31***		-0.57***	-0.41*	
HIV-related enacted stigma (count of types)										
Key-population-related enacted stigma (count of types)	-	0.31***†	0.33		-0.14**	0.18**†		-0.14	-0.02	
Human rights abuse										
Food/housing insecurity	-	--[a]	--[a]		0.11	0.07		-0.16	-0.01	
	-	0.41	-0.17		-0.56	-0.67*		-2.15**	-1.7*	
	-	-1.05**	-0.61		-0.39	-0.40		-0.53	-0.99*	
Interpersonal Level				+0.5%			+0.8%			+1.2%
In an intimate partnership	+	-0.56*†	-0.48		-0.39	0.26		0.09	0.05	
Supportive disclosure experiences with family and friends	+	0.60**	0.30		0.63**	0.39		0.91	0.37	
HIV-related stigma from close family	-	0.76	0.10		0.04	-0.73*		-1.84***	-1.44	
Structural/policy Level (aggregate variables at province/district level, measured on scale of 1-10)				+10.1%			+3.0%			+4.4%
HIV-related enacted stigma in community	-	0.32***†	-0.97**		0.36***†	0.33**†		-0.29	0.16	
Awareness of legal protections for PLHIV in community	+	0.86***	1.41**		0.63***	0.62*		0.22**	0.09	
Food/housing insecurity in community	-	-0.35**	0.06		-0.04	0.04		0.79***†	0.94*†	
Percentage of variance explained by full model				18.4%			10.8%			18.6%

* p<0.05 ** p<0.01 *** p<0.001 † Significant effect is in unexpected direction
Betas represent effect on resilience score (range of 20; higher=more resilience) per one-unit increase in the independent variable (adjusting for the variables noted).
ΔR^2 = Change in proportion (shown as percentage) of variance in resilience score, explained by the set of variables, above and beyond all previous sets in the table.
[a] Sample size too small for inferential analyses; only 3% of sample was member of a key population in Cambodia.

[PED0778 Table 1: Association with resilience among PLHIV, by country]

PED0779

IMPLEMENTATION OF COMMUNITY ART REFILL GROUPS (CARGS) IN THE HIV CARE AND TREATMENT (ZHCT) PROJECT TO STRENGTHEN RETENTION IN ART CARE IN ZIMBABWE

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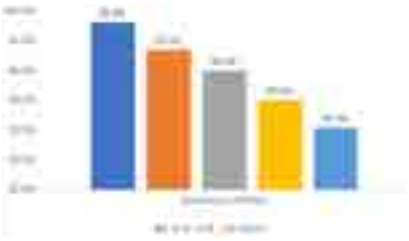
BACKGROUND: Zimbabwe's general antiretroviral (ART) retention rate is estimated to be 91% at 6 months, decreasing to 64% by 24 months post ART initiation. As the number of clients has increased, there is need to maintain adequate support for adherence to treatment while also decongesting health facilities. Community ART Refill Group (CARG) is one differentiated service delivery model designed to facilitate access to regular ARV drug refills and to reduce the workload at health facilities. We present retention rates and viral suppression from the CARGs model implemented by FHI 360's Zimbabwe HIV Care and Treatment (ZHCT) project.

METHODS: The ZHCT staff worked closely with health facility nurses to support formation of CARGs. CARG eligibility was based on: 6 months CD4 count>400, been on ART >6 months, weight above 30kg, aged ≥ 15years, and no signs of opportunistic infection. Due to limited availability of viral load (VL) machines, this was not part of the eligibility criteria. However, client enrolled in CARGs were prioritised for annual VL tests. Groups of 4-12 stable people living with HIV (PLHIV) on ART would take turns to: pick up ARVs at the health-facility; and distribute ARVs to group members in the community. A retrospective assessment of CARG outcomes (retention in care, VL suppression) were tracked from October 2016-July 2019 in the eight districts.

RESULTS: A total of 2397 CARGs were formed from October 2016 to July 2019 in the 8 ZHCT supported districts with 16,450 (16,262 adults and 188 adolescents) members. As intended with this model, the retention rates were very high (Figure 1).



[Figure 1.]

CONCLUSIONS: Scaling up CARGs to all districts could improve the overall ART program retention rate in Zimbabwe and CARG retention rates could serve as a proxy indicator for viral suppression, due to its limited availability as shown by the ZHCT results.

AGEING WITH HIV: EVOLVING AND ADDITIONAL NEEDS AND RESPONSES

PED0780

EXAMINING THE RESILIENCE OF RACIALLY DIVERSE, HIV-POSITIVE, MIDDLE-AGED AND OLDER MEN WHO HAVE SEX WITH MEN TO HIV/AIDS: RESOURCES, PROTECTIVE FACTORS, AND PERSONAL STRENGTHS

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BACKGROUND: Despite being at increased risk for acquiring HIV, many men who have sex with men (MSM) aged 40 years and older (≥40y/o) have remained HIV-negative since the 1980s. Among HIV-positive ≥40y/o MSM, many have exhibited resilience to HIV/AIDS not only by surviving its clinical/social impacts, but also by thriving, living full lives, and advocating for their rights and needs. Jurisdictional and international policymakers have identified research involving older MSM, and strengths-based studies, as priority areas for further research.

METHODS: From January to June 2019, we conducted semistructured, two-on-one interviews with HIV-positive ≥40y/o MSM (*n = 41;* Table 1) from Ontario, Canada to obtain their perspectives on their resilience to HIV/AIDS. We employed Thematic Analysis (Braun & Clarke, 2006) on our data to generate our results.

Identifies As	Gay = 31	Bisexual = 7	Men Who have Sex with Men = 1		Two-Spirit = 2	Cis = 40	Trans = 1
Age Range	40-44 y/o = 7	45-49 y/o = 8	50-54 y/o = 10	55-59y/o = 7	60-64y/o = 5	65-69 y/o = 1	>70 = 3
Race/ Ethnicity	White = 17	Black = 8	Latino = 4	S/SE/E Asian = 7	W Asian/M Eastern = 3		Aboriginal = 2
Region	Downtown Toronto = 30		Greater Toronto Area = 8		Southwest Ontario = 3		

RESULTS: We generated three superordinate themes:
(1) resources,
(2) protective factors, and
(3) personal strengths ≥40y/o MSM have relied on to stay resilient to HIV/AIDS.
Resources included LGBTQ not-for-profit agencies, AIDS service organizations, healthcare/service providers, community health centers/clinics, and the larger LGBTQ and HIV-positive communities. *Protective factors* included support from family members/life-long friends; the impact of losing so many during the epidemic; meaningful sexual relationships; volunteering; controlled/managed substance use; compartmentalization; information/education; religion/spirituality; serosorting; and activism/advocacy. *Personal strengths* included being proactive and/or persevering; having the right attitude; remaining self-aware; and learning to age well. Participants also discussed their views on the younger generation of MSM, racism in the LGBTQ community, and barriers to remaining resilient to HIV/AIDS.

CONCLUSIONS: The findings of our study will prove extremely beneficial to establishing strengths-based programs that could promote resilience to HIV/AIDS among both racially-diverse, HIV-positive ≥40y/o MSM, and their younger counterparts.

PED0781

HIV DISEASE BURDEN AMONG OLDER ADULTS (50+ YEARS) IN ESWATINI: SUCCESS IN MITIGATING THE CONSEQUENCES OF A SUSTAINED SEVERE HIV EPIDEMIC

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BACKGROUND: Eswatini's severe HIV epidemic has been ongoing for over 3 decades. Scale-up of antiretroviral therapy(ART) has increased life expectancy among people living with HIV(PLHIV), but previous national HIV indicator surveys have only included adults up to 49 years. We described the sociodemographic and clinical characteristics of older PLHIV in Eswatini, and determined correlates of HIV prevalence in this population.

METHODS: We utilised data from the second Swaziland/Eswatini HIV Incidence Measurement Survey(SHIMS2), a Population-based HIV Impact Assessment(PHIA) cross-sectional survey of a nationally representative sample of households with structured questionnaires, and biomarker testing for HIV, ART, CD4 count and viral load. Our analysis was restricted to adults 50 years(y) and older (50+y, older adults). We estimated HIV prevalence and described demographic and clinical characteristics of older PLHIV. We used logistic regression to determine correlates of HIV infection among older adults.

RESULTS: Of 1988 adults 50+y, 43%(n=702) were male.HIV prevalence was 26%(95% Confidence Interval, 95% CI, 24-28, n=489) overall; 28%(95% CI 26-33, n=199) among males and 23%(95% CI 22-27, n=290) among females. HIV prevalence was 37%(n=186/495) among those 50-54y, 32%(n=131/414) among those 55-59y, 27%(n=105/401) among those 60-64y, and 11%(n=67/678) among those 65+y. Most older PLHIV reported ART use 94%(n=462): 42%(n=197) for 0-4y, 40%(n=183) for 5-10y and 16%(n=76) for 10+y.Most older PLHIV (91%, n=441) had detectable antriretroviral drugs in blood collected during the survey, of whom 99%(n=438) were virally suppressed.Most (74%, n=362) had CD4 count >350 cells/μL.

In adjusted analyses, HIV prevalence was associated with younger agegroups (ref: 65+y): 50-54y (adjusted odds ratio [AOR]=5.0, 95% confidence interval [95% CI]: 3.4-7.2), 55-59y (AOR=5.1, 95% CI 3.2-7.9), and 60-64y (AOR=3.1, 95% CI 2.1-4.7). HIV prevalence was also associated the lowest (AOR 2.0, 95% CI:1.3-2.9) and second lowest wealth index (AOR 1.7, 95% CI: 1.1-2.6). ref: highest wealth index.

CONCLUSIONS: This first description of the HIV epidemic among older adults in Eswatini demonstrates substantial disease burden, especially in the 50's. Older PLHIV had optimal ART access, viral suppression and CD4 status.HIV programs in Eswatini must be strategically designed to accommodate this aging HIV population with long-term ART use.

PED0782

THE EFFECTS OF EXERCISE ON PHYSICAL AND MENTAL HEALTH IN OLDER PEOPLE LIVING WITH HIV: A SCOPING REVIEW

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BACKGROUND: Older people living with HIV (OPLWH) are expected to live longer in the era of antiretroviral treatment. However, they are at risk for developing various health complications as a consequence of life with infection, exposure to medications that carry their own toxicity and side effects, and natural effects of aging on the immune system. Because senescence is an inherent process that can be accelerated by HIV, it is important to identify strategies that can modify this phenomenon. Emerging data suggests that while exercise may not have a positive impact on viral replication and immune system of people living with HIV, it can elicit improvements in physical and mental health, and overall quality of life.

METHODS: A scoping review methodology was employed, based on the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews (PRISMAScR) methodology. Peer-reviewed primary studies were extracted from relevant electronic databases, and the search strings on each electronic database were conducted using Boolean logic. A thorough title, abstract and full article screening, prior to extraction of relevant studies was conducted, while the quality of the studies was assessed using an appraisal tool prior to final inclusion.

RESULTS: Following a comprehensive systematic search process and quality appraisal of appropriate evidence, six articles were included and analysed in this study. None of the articles included in the review indicated any adverse effects of exercise on physical health in OPLWH. The findings demonstrated that irrespective of the association between HIV and declining physical functioning, exercise is an effective strategy to improve physical health and quality of life in OPLWH. The simultaneous use of aerobic, resistance and strength exercise encouraged greater independence in this population. However, the scoping review revealed a dearth of literature regarding exercise intervention on mental health outcomes and exercise prescription guidelines for OPLWH.

CONCLUSIONS: Findings thus far have demonstrated the holistic benefits that rehabilitation can provide for OPLWH, namely, the improvement of physical health and quality of life using exercise and physical activity. However, exercise interventions for mental health outcomes together with specific and well-formulated exercise programmes that ensure successful implementation and adherence requires further exploration.

PED0783

COMMUNITY PERSPECTIVES ON FUNCTION AND QUALITY OF LIFE IN PEOPLE LIVING WITH HIV IN MALAYSIA: ARE WE MEASURING IT RIGHT?

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BACKGROUND: As life expectancy increases and people living with HIV (PLHIV) grow older, appreciating the definition of function and quality of life from the communities perspective is important to ensure the right tools are used to accurately measure these characteristics.

METHODS: We sought to address the above through a Patient and Public Involvement (PPI) session with PLHIV from a community-based organization based in Kuala Lumpur, Malaysia. Four groups with five to seven participants each were convened. Discussions were initially carried out by age groups (old >40 years and young <40 years), then collectively to clarify meaning and prioritise measures. Participants were asked:

1) "What would be a good measure of how old you are, apart from your age?" and directed to think about function; and

2) "What would be a good measure of happiness in life?"

RESULTS: All participants (n=24) were male, with an age range of 24 to 59 years and living with HIV for a mean of 7 years. The most important measure of function to both groups was not being incontinent and maintaining mobility to perform daily living activities. Using living aids such as wheelchair, walking stick, reading glasses were considered signs of aging. In the senior group, loss of physical fitness, decreased libido, memory loss and difficulty concentrating were important measures of decreased functionality as they aged whereas the younger age group were focused on maintaining creativity and problem-solving skills.

In both groups, remaining socially engaged with community and family was the most important source of happiness. Among the seniors, the ability to remain in control and enjoy meals/food/hobbies as well as contribute to society, especially their peers, was important, whereas career achievements and body image were among the elements of happiness for the younger group. Both groups eluded to living in a stigmatized society as a source of unhappiness which impacts their quality of life.

CONCLUSIONS: Tools incorporating activities of daily living and domains of locomotion/mobility, physical activity, cognition and sensory were important to define function; while characteristics associated with control, pleasure and self-realisation were identified as important measures influencing quality of life of PLWH in our setting.

PED0784

REDUCING SOCIAL ISOLATION AMONG HIV LONG-TERM SURVIVORS BY BUILDING FRIENDSHIPS AND TIES TO COMMUNITY

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BACKGROUND: People with HIV are living longer and the proportion of HIV-positive people over age 50 continues to grow. In San Francisco, there are more than 10,500 HIV-positive adults over age 50--representing 67% of all people living with HIV. In addition to physical challenges related to aging with HIV, these individuals are confronting unique social and emotional challenges with health care systems ill-equipped to respond. In a survey of HIV-positive San Franciscans over age 50 (ROAH 2.0 survey), 38% indicated moderate to severe depression; 43% reported being "lonely" or "very lonely"; and, three-quarters said their emotional support needs were not fully met. People living with HIV who are struggling with depression or other mental health concerns are less likely to remain adherent to ARVs.

DESCRIPTION: To address unmet health needs of HIV-positive seniors, San Francisco AIDS Foundation (SFAF) established a social support network serving MSM over age 50. The Elizabeth Taylor 50-Plus Network offers weekly social and wellness activities. With input from geriatricians, HIV providers and clients, in recent years, activities were adapted to meet the needs of people aging with HIV who may be on limited incomes. Staff host activities in venues with elevators and ADA access, prepare materials with large font sizes, provide balanced and nutritional meals at events with take-home containers, and encourage activity participation at the right level for each individual. The group is popular in the community and regularly brings in >200 members for events that range from coffee meetups, to HIV activism, to salsa on Sunday afternoons. With two full-time staff members, the group engages >400 members who actively participate in weekly activities.

LESSONS LEARNED: Many individuals losing friends and loved ones over the years to HIV experience social isolation. Social support programs--by and for long-term survivors--combining social and health services can lead people out of isolation and can be adapted to meet the needs of people aging with HIV.

CONCLUSIONS/NEXT STEPS: Organizations must include long-term survivors as they shape policies and programs serving people aging with HIV. SFAF will continue to collaborate with HIV providers and geriatricians to build effective, evidence-based programs and services.

PED0785

A REVIEW OF THE PHYSICAL, MENTAL, AND SOCIAL FACTORS OF AGEING WITH HIV

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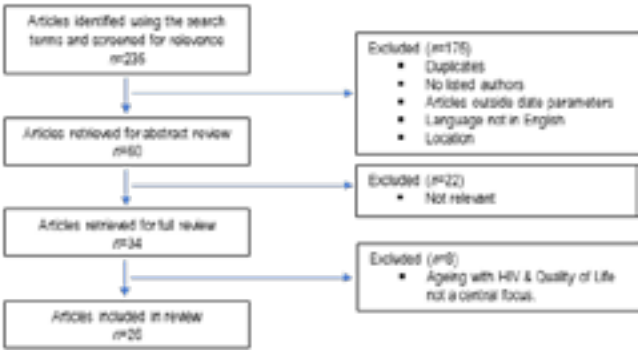
BACKGROUND: More people are growing older with HIV and living into older age. 43% of Scotland's cohort of PLWHIV are over the age of 50. Evidence suggests that with complex health concerns, mixed with other societal factors, many PLHIV face major life challenges in ageing. This 'greying' of the HIV population has prompted a need to understand the health and societal considerations of ageing among PLHIV.

METHODS:
Relevant peer-reviewed literature was collated from reputable sources, and compiled using specific search terms and the results checked to verify the validity of the search parameters: (HIV OR AIDS) AND (Ageing OR Older People OR People living with HIV) AND (Quality of Life). Articles were then scrutinised to ensure relevance.



[Figure.]

RESULTS: 26 studies that met the reviews eligibility criteria were identified and analysed, and represented within seven thematic areas (Comorbidities, Mental Health, Utilisation of Health Services, Access to Social Services, Social Isolation, Age– and HIV–related stigma, and Financial Distress) that can impact on the quality of life for older adults living with HIV. The review highlighted the following a wide variety of issues that impact on the healthy ageing of people living with HIV. For example, a common theme was that improving access to employment, benefits, and financial products is seen as a critical element in addressing financial insecurity among older adults living with HIV.
CONCLUSIONS: A diversity of factors that contribute to quality of life for older people living with HIV are evident in literature. Whilst government stakeholders typically have the most prominent role in setting health system change, relevant cross-sector and community actors play a critical role in ensuring quality and effective implementation of initiatives aimed at improving the quality of life for people living and ageing with HIV.

PED0786

"I DRINK VODKA OR BRANDY, I AM NOT A GIRL ANYMORE": ALCOHOL USE IN OLDER (50+ YEARS) HIV-POSITIVE MALE AND FEMALE PATIENTS IN UKRAINE

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BACKGROUND: While the proportion of older (50yo+) people living with HIV (OPWH) among newly HIV diagnoses in Ukraine is increasing, this population delays ART initiation compared to younger adults. Heavy alcohol drinking is associated with lower ART uptake and adherence and suboptimal viral suppression; however, drinking patterns in male and female OPWH in Ukraine are unknown. We aimed to explore collective accounts of alcohol use reported by HIV patients and their health providers, to develop potential intervention strategies.
METHODS: In October-November 2019, we conducted five focus-groups with OPWH and one focus-group with their health providers at Kyiv City HIV Clinic. We audio-recorded and transcribed focus-groups verbatim, and performed data thematic analysis.
RESULTS: Thirty-four OPWH (13 women, median age 52 [49-60 years], and 21 men, median age 52 [50-75 years]) and seven health providers (four females; 2 infectious disease (ID) physicians, 2 narcologists, 2 psychologists, and 1 social worker; aged 31-55) participated in focus-group discussions.
Across all focus-groups, participants reported that both men and women continued drinking alcohol after their HIV diagnosis, that contributed to delaying ART initiation. However, while women maintained or increased their pre-diagnosis alcohol use to cope with their diagnosis, men might temporarily or permanently quit drinking alcohol after learning their HIV status. Men's accounts described recreational, "moderate" drinking of beer or wine socially, as a way to relax, while women's accounts included regularly (2-7 days per week) consuming hard liquor to forget problems.
OPWH shared that ID physicians asked primarily men about their drinking at the beginning of HIV treatment, using no instruments. Providers' accounts confirmed they may ask new patients "whether they abuse alcohol", not following up if the answer is "no", since "a patient's appearance reveals their alcohol abuse". In providers' accounts, OPWH may not disclose their alcohol use due to shame, especially women fearful of stigma against traditional cultural perceptions – "a mother, a grandmother, a hearth keeper".
CONCLUSIONS: To identify and address OPWH' unhealthy alcohol consumption as a barrier to ART, providers need training in screening and brief interventions for alcohol use and in trust-building and non-judgmental attitudes towards male and female OPWH.

PED0787

UNDERSTANDING THE CHANGING TREATMENT CONCERNS OF OLDER PEOPLE LIVING WITH HIV AND DIFFICULTIES WITH PATIENT-PROVIDER COMMUNICATION

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BACKGROUND: Treatment priorities and needs of people living with HIV (PLHIV) evolve as they age. To continue to identify and address these for older PLHIV, providers need to understand such changes and ensure that there is ongoing open dialogue. We compared perspectives on treatment-related concerns and on patient-provider communication in older PLHIV and explored differences based on level of treatment experience.
METHODS: Data of 648 PLHIV aged ≥50 years from the 24-country 2019 Positive Perspectives Survey were analyzed. We compared older newly diagnosed PLHIV (n=61, median duration=2 years) vs older treatment experienced PLHIV (n=587, median duration=20 years). Comparisons were with chi-square tests ($p<0.05$).
RESULTS: Current treatment issues reported as most important to older treatment-experienced PLHIV included medicine related concerns such as 'Keeping HIV medicines at a minimum' (57.8% [339/587]), 'Ensuring minimal side effects' (77.0% [452/587]) and 'Minimizing long-term treatment impact' (69.8% [410/587]). Older treat-

ment-experienced PLHIV were less likely than newly diagnosed older PLHIV to be asked by their providers about their treatment concerns 65.1% [382/587]) vs (75.4% [46/61]), side effects (61.2% [359/587]) vs (82.0% [50/61]), or to have new treatment options discussed (63.9% [375/587] vs 80.3% [49/61]) (all p<0.05). Barriers to raising concerns to HCPs were reported between older PLHIV and their provider in 52.6% (309/587) of treatment experienced and 86.9% (53/61) of newly diagnosed individuals.

For salient medicine related issues, more than one in four older PLHIV (25.5%, 165/648) self-reported as being uncomfortable to discuss side effects of HIV medications, while approximately one third (32.6%, 211/648) were uncomfortable discussing concerns about drug-drug interactions.

Expressed fears among all older PLHIV who experienced a barrier (both treatment experienced and newly diagnosed combined) included: fear of being labelled "difficult" (34.3%, 124/362), perception nothing could be done (32.6%, 118/362), perception HCP's priorities were different (30.1%, 109/362), and that the HCP knows best (30.9%, 112/362).

CONCLUSIONS: Providers must acknowledge the evolving and unique needs of PLHIV as they age. Patient-provider communication issues can hinder optimization of care by preventing some needs being broached. Providers must also recognize that some patients find it difficult to raise issues including medicine-related concerns with their current treatments.

PED0788

AN INTEGRATED HEALTH CARE PACKAGE TO IMPROVE THE WELL BEING OF ELDERLY CLIENTS WITH HYPERTENSION AND DIABETES RECEIVING ANTI RETRO VIRAL THERAPY AT AIDS INFORMATION CENTRE(AIC) KAMPALA, UGANDA

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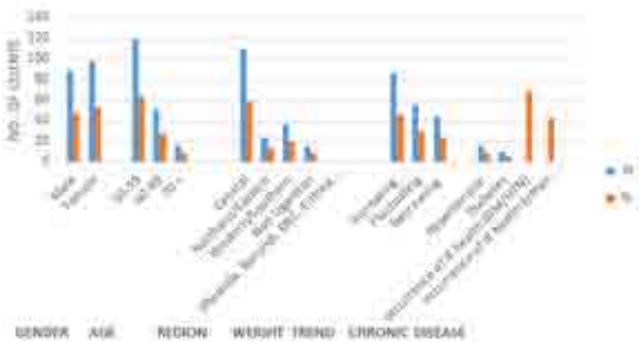
BACKGROUND: The increasing risk of diabetes, hypertension and other NCDs among the aging population is becoming a major challenge in Uganda most especially among HIV/AIDS clients.

An integrated healthcare package was implemented at AIC Kampala to address the increasing morbidity trends due to either hypertension/diabetes among elderly clients stable on ART. It involved screening, monitoring and management of hypertension/Diabetes alongside Anti-retroviral therapy

The main objective of this package was to increase early diagnosis and monitoring of diabetes and hypertension among elderly clients receiving ART treatment at AIC.



[Figure. A clustered graph showing the demographics, weight trend and chronic diseases among the elderly clients on ART]

DESCRIPTION: Based on results of a data analysis conducted in January 2019 below, A Friday clinic that screened clients with 50years and above using BP measurement, Fasting/Random blood sugar, weight measurement and risk factor history and those diagnosed were managed and monitored Health education talks were held for all elderly receiving ART at the clinic. Bi-monthly weekly reports on client weight trends, new diagnoses, stable vitals for Diabetes and hypertension clients were continuously reviewed and monitored from February to December 2019.

LESSONS LEARNED: The morbidity occurrences due to diabetes and hypertension among the elderly ART clients reduced to 30%. The percentage of Clients diagnosed increased to 13% and 8% for hypertension and diabetes respectively. The percentage of clients with increasing weight who attended health talks reduced by 20%

CONCLUSIONS/NEXT STEPS: To offer an integrated care package on screening and management of Diabetes, Hypertension and other non-communicable diseases associated with aging to improve the wellbeing of elderly clients living with HIV

PED0790

PHYSICIANS AND HIV+ PEOPLE ON LONG-TERM HEALTH ISSUES

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BACKGROUND: Previous research has found the life expectancy gap between people with and without HIV has decreased from 44 years in 1996-1997 to 12 years in 2011*. With a longer life expectancy, people with HIV are becoming more concerned about long-term health issues, such as renal and bone issues. The objective of this research is to compare physicians and patients' long-term health considerations of taking antiretrovirals (ARV) medication.

METHODS: The Ipsos HIV syndicated Patient Community gathered qualitative patient perceptions via an online community platform; collected via a patient's PC, tablet or via an app in the US in August 2019. 42 patients were recruited from a specific HIV patient panel and were diverse in age, time since diagnosis, and ethnicity.

The Ipsos HIV US Therapy Monitor, a syndicated retrospective patient chart audit running since 1994, was used for this analysis. 193 physicians from across the US provide demographic, disease and treatment data on 3853 HIV+ patients seen in consultation between October to December 2019.

RESULTS: From the patient community, the top safety issue most mentioned was organ damage involving kidneys, liver, and bones followed by problems with weight/fat distribution and cardiovascular complications. The top safety issues were primarily driven by patients diagnosed over 5+ years ago. When asked "what does long-term health mean to you?', top mentions were to live a normal life, age normally, control HIV symptoms, and maintain overall health. Patients diagnosed for less than 5 years were primarily concerned about controlling HIV symptoms and living a normal life. From the therapy monitor, when physicians were asked about their primary reason for prescribing the current regimen, the top reasons were Convenient dosing (12%), To support patient long-term health (9%), Low renal risk (9%), Durability of efficacy (8%), Good tolerability profile (7%).

CONCLUSIONS: Renal issues were a top concern among patients regarding long-term health and it was a top priority for doctors when prescribing ARV medication. Patients want to live normal lives without interference from HIV, which was complimented by doctors prescribing treatments with convenient

PED0791

CHARACTERIZING INTIMATE PARTNER VIOLENCE REPORTED BY HIGH-RISK WOMEN IN KENYA WHEN OFFERING HIV SELF-TESTS OR CLINIC BASED HIV TESTING REFERRAL CARDS TO THEIR PARTNERS

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BACKGROUND: In sub-Saharan Africa, men are less likely to know their HIV status than women. Secondary distribution of HIV self-tests, an approach in which a person is provided multiple self-tests to offer to individuals in their sexual networks, has shown promise in reaching male sexual partners of women. However, there are concerns over possible intimate partner violence (IPV). We report IPV cases in a large ongoing study among high-risk women in Kenya.
METHODS: We analysed data from an ongoing cluster randomized-controlled trial of an HIV self-testing intervention (NCT03135067). HIV-negative women aged ≥18 years with ≥2 sexual partners in the past 4 weeks were eligible. Women in intervention clusters received multiple HIV self-tests on an ongoing basis for distribution to sexual partners while women in control clusters received referral vouchers for clinic-based testing. All women were counselled on how to avoid IPV. Information on IPV (physical, psychological and sexual) is collected during six-monthly and phone-based quarterly follow-up visits. Participants are urged to call the help-line to report any IPV.
RESULTS: 2,091 women were enrolled from 66 clusters. Participants' mean age was 27.1 years, 64.4% were married, and average monthly income was US$47.1. Baseline IPV was 50.5% (29% physical, 44.9% psychological, and 12.2% sexual). Over a 16-month follow-up, 41 IPV cases (21 intervention and 20 control) were reported; 39% related, a rate of 1.3%pa, implying that counselling on IPV effectively reduced incident cases almost 40-fold. Psychological violence was reported by 29.3%, physical by 48.8%, sexual by 7.3%, and multiple by 12.2%. Most IPVs (56%; n=41) were perpetrated by non-primary partners (NPP) both in the intervention and control clusters (57%; n=21 vs 55%; n=20, respectively). Violence was triggered mainly from suggesting testing (24.4%) and partner testing positive (12.2%); 53% of the relationships were terminated following IPV.
CONCLUSIONS: Among high-risk women participating in partner and couples testing intervention study, overall IPV rates were low. Non-primary partners were the main perpetrators of IPV and introducing HIV testing or receiving an HIV-positive test result were the main triggers of IPV. Adequate counselling to women on how to negotiate HIV testing with partners is crucial.

PED0792

HIV-ELDERS: REDUCING SOCIAL ISOLATION AMONG HIV-POSITIVE GAY AND BISEXUAL MEN 50 YEARS OF AGE AND OLDER IN LOS ANGELES, CA

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BACKGROUND: Los Angeles County, California, is home to an estimated 61,000 people living with HIV (PLWH). Of this number, 45% are over the age of 50, which is poised to increase to 72% by 2025. In 2016, APLA Health conducted the Healthy Living Project (HLP), an in-depth qualitative research project designed to identify the needs of various sub-populations of aging PLWH in Los Angeles County, resulting in the formation of HIVE (HIVelders), a program for HIV-positive gay and bisexual men 50 years of age and older.
DESCRIPTION: The Healthy Living Project conducted focus groups with four sub-populations of older adults living with HIV: gay and bisexual men, heterosexual men, transgender women, and cis-gender women. Staff hosted an additional focus group in Spanish, comprised of gay and bisexual men. Findings led to the creation of HIVE, focused on HIV-positive gay and bisexual men 50 years of age and older. Launched at APLA Health in July 2018, HIVE includes the following intervention modalities: Shared Interest Groups, Life Skills Support, Health Education, and Community Building/Social Networking strategies.
LESSONS LEARNED: Among the gay and bisexual men, more than half reported Disability or Social Security as their primary source of income, and relying on financial assistance to pay for their housing. Only a quarter reported having someone they considered a primary partner. The program elements of HIVE, derived from these findings, reached 610 older gay and bisexual men from July 1, 2018 to June 30, 2019. Initial findings revealed that 85% reported men felt less isolated because of participating in a HIVE social activity; 82% reported an increase in self-care and self-efficacy skills, and 75% reported an increase in health literacy.
CONCLUSIONS/NEXT STEPS: The medicalization of HIV has created a significant gap in supportive services for an expanding population of older adults living with HIV; in particular, gay and bisexual men who remain disproportionately impacted by HIV in Los Angeles County. A paradigm shift in programmatic emphasis for older gay and bisexual men is needed to reduce social isolation, promote financial security, and housing stability to promote long-term health outcomes. Next steps include provider competency training specific to aging and HIV.

CONFRONTING STIGMA: LESSONS LEARNED

PED0793

USING MOVEMENT AND CREATIVE PERFORMANCE TO SUPPORT WELL BEING IN WOMEN LIVING WITH HIV: MOVING WITH POWER, A CATWALK4POWER PROGRAMME

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BACKGROUND: Women make up one-third of people living with HIV in the UK, but our voices and visibility are not prominent in discourses surrounding HIV. Stigma continues to form a major barrier and has real consequences on the health and wellbeing of women living with HIV in the UK; over half have experienced violence as a result of their HIV status and 31% have avoided or delayed healthcare attendance in the past year due to fear of discrimination. Creative, physical performance gives women a platform to take up space, express individuality and collective strength. Close physical contact also challenges stigma in relation to intimacy and connection.
DESCRIPTION: A series of workshops were developed collaboratively between Women living with HIV, a public health researcher and a movement director. 30 women participated, as part of the Catwalk-

4power project, using movement to explore trust, connection, self-expression and visibility. This culminated in a performance with 22 women living with HIV owning the stage at a major academic conference.

LESSONS LEARNED: Feedback from participants suggested that the workshops built confidence, sense of connectedness and trust. The success was dependent upon open communication and a flexible response to the diverse needs of participants, from the facilitators and allies. Simple community-building activities, shared meals after workshops and a Whatsapp group were also key to sharing information and ensuring the direction was peer led.

[Delegates at #AIDSImpact brought cheering to their feet by the brilliant women of #Catwalk4Power.]

CONCLUSIONS/NEXT STEPS: This project demonstrated the power of performance in highlighting women's voices and shifting internalised stigma. Our experiences provide a pathway for developing future creative performance programmes and collaborations.

PED0794

PEER-LED PROJECT: CATWALK4POWER, WOMEN LIVING WITH HIV USING CREATIVITY, EMBODIMENT AND PERFORMANCE TO OVERCOME INTERNALIZED STIGMA, DEVELOP CAPACITIES AND STRENGTHEN INDIVIDUAL AND COMMUNITY EMPOWERMENT

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BACKGROUND: Over 30,700 women are living with HIV in the UK - a third of all HIV diagnoses (PHE,2019). Women with HIV continue to experience HIV-related stigma from society and within their communities, often including intersectional stigma from the convergence of their gender, ethnicity and migrant status.

Women with HIV in the UK face significant psycho-social challenges: 45% live below the poverty line (PHE,2019); over half have experienced violence as a result of their HIV status (Sophia Forum/THT,2017); one in three have been diagnosed with a mental health condition (PHE,2017).

Within this context, women lack voice, visibility and meaningful involvement in HIV healthcare and support services.

We created the Catwalk4Power as a peer-led empowerment project, engaging creativity, performance, spoken word, to empower ourselves, to overcome stigma, amplify our voices as women, and improve our well-being.

DESCRIPTION: Throughout 2018-2020, Catwalk4Power produced five performances: three in London, one in Manchester and one in Brighton. A set of five workshops were used to develop each performance with a total of 123 participants.

Workshops covered:

- 'Leadership Skills'
- 'Our Amazing Bodies'
- 'Making Artifacts, Framing Key Messages'
- 'Collective Poetry & Telling Our Stories'
- 'Embodying Positive Affirmations & Strutting Class'

The team produced a toolkit so that communities of women, based in other locations, can engage with the process, tailoring it to suit their specific needs.

LESSONS LEARNED:

- Participants' feedback and interviews reported a rapid decrease in internalised stigma, increased confidence and new connections made to other women with HIV and allies.
- Joined-up collaborative approach among women with HIV, activists/artists, HIV organisations and academic institutions was core to Catwalk4Power's success.
- Catwalk4Power generated broad media interest and provided platforms for women with HIV to be heard.
- Women outside London have less access to support but need this intensely, beyond workshops, highlighting a greater need for peer support specifically for women.
- Catwalk4Power's multifaceted approach, using words, movement, informal discussion, and a focus on action and performance, is accessible and offers something for everyone.

CONCLUSIONS/NEXT STEPS:

- Toolkit dissemination: working with other women's groups and adapting the model to their needs.
- Secure more funding to work collaboratively with national/international women's groups.

PED0795

THE LIVED EXPERIENCE OF MULTIPLE STIGMAS AMONG HIV-POSITIVE GAY AND BISEXUAL MEN IN AUSTRALIA

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BACKGROUND: For many gay and bisexual men (GBM) living with HIV, discrimination for living with a chronic health condition can negatively impact on psychological well being. Although we have seen an advancement in pre/post antiretrovirals, U=U campaigns and greater acceptance of societal views towards non-heterosexual sexual orientations, it might be considered that for many GBM living with HIV, internalized stigma is still prevalent and negatively impacts on everyday functioning.

The aim of this study was to examine the lived experience of HIV-positive GBM in Australia and better understand how both sexual orientation and HIV-related stigma impair mental health. Additionally, feasibility of a stigma reduction program based on the lived experiences and recommendations from study participants was assessed.

METHODS: 21 GBM were recruited through HIV organisations in Melbourne, Australia in 2019. Each participant completed series of stigma measures followed by a one-to-one qualitative interview of approximately 80 minutes. Participants were asked to describe their experiences of discrimination and stigma in relation to sexual orientation and HIV. Participants were also asked what they would like to see in a stigma reduction program as well as what would retain their attendance. Thematic analysis was used to generate themes.

RESULTS: Both sexual orientation and HIV -related stigma impacted negatively on all participants. Among older participants, residual sexual orientation stigma impacted on decision to disclose HIV status. For all participants, rejection from family and friends was common and daily discrimination was experienced across several life domains.

All participants reported 'resilience' as something that helped reduce the impact of multiple stigmas. Participants suggested ways in which resilience can be used to reduce the impact of stigma for newly diagnosed individuals and incorporated into future interventions/programs. The themes and implication of findings will be discussed.

CONCLUSIONS: Both sexual orientation and HIV-related stigma is still experienced among GBM in 2019. Both in-group (LGBTQIA+) and out-group (hetero-normative population) discrimination was reported that resulted in internalized-stigma. However, resilience was found to be fundamental in reducing the impact of such stressors and was reported to be increased through social and peer support.

PED0796

BREAK THROUGH THE HIV STRATOSPHERE AND TOWARD A GREATER INVOLVEMENT OF PLWHA IN TAIWAN – THE EXPERIMENT OF "POSITIVE FACE TO FACE" PLATFORM

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BACKGROUND: In its effort to reduce stigma and discrimination toward PLWHA and to implement GIPA, Taiwan Lourdes Association initiated in February 2019, with PLWHA opinion leaders, the "Positive Face to Face" social dialogue platform. This innovative platform provides the public a direct interaction space with PLWHA, with the aim to expand the positive impact of PLHWA.

DESCRIPTION: The website-based platform provides a safe space of dialogue that surmounts the limit of time and space, on which PLWHA volunteers could directly interact with the public: PLWHA volunteers post their own stories online and give feedback to the public's comments and questions via voice recording, giving PLWHA's narrative particular warmth of humanity. A pre-enrollment meeting and regular meetings for PLWHA volunteers were organized as part of the empowering process.

LESSONS LEARNED: As of the end of 2019, 17 PLWHA volunteers have participated. In total, 106 voice-recording feedbacks were published. The feedbacks covered a wide variety of topics such as: how a teacher living HIV could adopt himself to his career; a computer engineer worried about HIV infection; service providers curious about HIV/AIDS medical care and related policies; HIV/AIDS treatment; private insurance eligibility; the coming-out issue; PLWHA seeking support; magnetic-status couple relationship issue, etc.

CONCLUSIONS/NEXT STEPS: The platform has played a facilitating role, provided a safe space for dialogue and advocacy, and empowered PLWHA to have a constructive interaction with the community, the public, and service providers, etc. PLWHA volunteers enhanced their identity due to their HIV status and gained a sense of self-worth through the narration and interaction process. The public has benefitted from the open dialogue space and been able to get closer to PLWHA, with their voice. As of the current stage, most of the volunteers are MSM PLWHA. We look forward to female, middle-aged, and substance-user volunteers to join the project in order to present the diversity of the community. We are also going to bring on-line interaction in to off-line face-to-face meeting to make the "Face-to-Face" aspect of the project come true. We will further innovate the platform as well in order to expand its impact.

PED0797

DO HIGHER LEVELS OF INTERNALIZED HOMOPHOBIA AND HIV STIGMA LOWER YOUR CHANCES FOR VIRAL SUPPRESSION?: RESULTS FROM HPTN 078

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BACKGROUND: "Ending the HIV Epidemic" in the U.S. requires identifying factors that influence viral suppression among men who have sex with men (MSM). Growing attention is being focused on how stigma contributes to the U.S. HIV epidemic; though, quantitative assessments for the association between HIV stigma or internalized homophobia with viral suppression have been understudied.

METHODS: We used cross-sectional data from 864 MSM living with HIV with available viral load measurements screened for the HPTN 078 trial. Recruitment occurred via direct and respondent driven sampling across four U.S. cities. High internalized homophobia was defined as answering 'Agree' or 'Strongly Agree' on at least one question out of nine items. HIV stigma was measured by a 5-point ordinal score from averaging responses across eleven items on a 5-point Likert scale. We estimated prevalence ratios for the associations between high internalized homophobia and high HIV stigma score with viral suppression using Poisson regression with robust variance adjusting for older age (>=35 years), race, education, and study site. We then stratified analyses by race (Black vs. non-Black).

RESULTS: In these 864 MSM, 76% were virally suppressed (<200 copies/mL). Thirty-six percent reported high internalized homophobia and 61% had an HIV stigma score > 2.5. Black race was consistently significantly associated with lower viral suppression prevalence in all non-stratified analyses. After adjusting for covariates, there was no association between high internalized homophobia and viral suppression prevalence, [PR: 0.97, p=0.39]. Additionally, there was no association between higher scores for HIV stigma and viral suppression prevalence, [PR: 0.96, p=0.06]. After stratifying by race, HIV stigma was significantly associated with lower viral suppression prevalence among non-Blacks [PR: 0.92, p=0.04], but there was no association among Blacks.

CONCLUSIONS: Overall, higher internalized homophobia or HIV stigma was not associated with viral suppression; however, higher HIV stigma was associated with lower viral suppression among non-Blacks. Thus, given that Black participants had lower viral suppression, other social factors (e.g. structural racism, socioeconomics, etc.) may influence their health engagement more so than HIV stigma. Given prior, qualitative literature concerning stigma's influence on healthcare engagement, this research deserves further exploration with more robust data.

PED0798

DEVELOPMENT AND PRELIMINARY TESTING OF AN INTERVENTION DESIGNED TO ADDRESS INTERNALIZED HIV STIGMA IN THE US SOUTH

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BACKGROUND: The US Deep South has been disproportionately affected by HIV, in part due to the pervasive intersectional stigmas in the region and the stigmas' negative impact on health outcomes. With funding from Gilead Sciences' COMPASS Initiative and the Southern AIDS Coalition, we adapted the UNITY Workshop, now called the YOUnity Workshop, to address stigmas among predominantly African American populations of men and women living with HIV in the Deep South.

DESCRIPTION: The YOUnity Workshop was adapted using qualitative and quantitative methods and piloted at five sites in the Deep South to examine feasibility, acceptability, and preliminary outcomes. The peer-led and interactive day-long workshop was designed to strengthen stigma coping skills. Participants completed surveys pre- and post-intervention and participated in focus groups to assess outcomes (3 sites).

Skill(s) Learned from Participating in the YOUnity Workshop	% of Survey Respondents who Strongly Agreed or Agreed they had Learned a New Skill(s)	% of Survey Respondents who Tried a New Skill(s) in their Personal Life
Coping with Stigma	85.4%	65.00%
Disclosure	85.0%	68.30%
Assertiveness	83.0%	82.10%

[Table. YOUnity Workshop findings]

[Figure 1. The YOUNITY Workshop adoption cycle]

LESSONS LEARNED: A majority of YOUnity Workshop pilot participants were African American, male, had lived with HIV for over five years, and reported less baseline stigma than documented in previous research in the region. Most participants reported high workshop satisfaction, 85% gained new skills for coping with stigma, and two-thirds reported using a new stigma coping skill post-intervention. Common themes from the focus group included significant benefit from sharing experiences with other participants and the importance of learning tools for assertiveness and disclosure. Participants described a need for ongoing opportunities for support and building stigma coping skills.

CONCLUSIONS/NEXT STEPS: Study findings demonstrated the acceptability and utility of the YOUnity Workshop. However, more testing is needed, including testing to determine the effectiveness of the workshop among individuals with high levels of baseline stigma. Based on recommendations from this pilot, the YOUnity Workshop was further adapted and additional testing of the intervention is underway in the Deep South.

PED0799

PSYCHOLOGICAL FACTORS MEDIATE THE NEGATIVE IMPACTS OF LAYERED STIGMA ON QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV

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BACKGROUND: People living with HIV(PLWH) are often stigmatized due to their multiple identities and social conditions such as same-sex sexual behaviors, HIV infection, gender and sexual minority identity, and poor socioeconomic status. Layered stigma could affect health seeking behaviors and mental health, but there is a dearth of empirical studies that explore the paths through which stigma affects quality of life (QoL) among PLWH. The current study aims to examine if depression, anxiety, and resilience can mediate the impact of layered stigma on quality of life (QoL) among PLWH.

METHODS: A cross-sectional survey was conducted among 402 PLWH from a large immunology clinic in South Carolina, United States in 2018. Participants were asked about sociodemographic background, depression, anxiety, resilience, perceived layered stigma, and QoL. Perceived layered stigma was measured by accumulating perceived stigma due to gender, HIV infection, same-sex sexual behaviors, migration status, and poverty. Quality of life was assessed by four domains including physical health, mental health, social relationship, and social function. Descriptive analysis and path analysis were conducted with controlling age, income, and employment status.

RESULTS: The final path model fits the data well: $\chi 2 = 34.3$, $p < .001$; CFI = .98; SRMR = .05; RMSEA = .08. Layered stigma significantly and negatively affected social function. Layered stigma was significantly associated with anxiety and depression but not with resilience. Both anxiety and resilience were significantly associated with all domains of QoL while depression was only associated with physical and psychological well-being. Mediation analysis revealed that anxiety could mediate the paths between layered stigma and all domains of QoL while depression could only mediate the paths between layered stigma and physical and psychological well-being. Resilience could not mediate the relationship between layered stigma and QoL.

CONCLUSIONS: Our findings suggest anxiety and depression could play mediating roles between layered stigma and QoL among PLWH. Although resilience could not mediate this relationship, it

is still an important psychological factor which could promote QoL of PLWH. Interventions with aims to reduce anxiety and depression and promote resilience should be integrated into the efforts to improve health outcomes and quality of life for PLWH.

PED0800

UNPACKING IMPACT OF HEALTH RISK AND PROTECTIVE FACTORS ON DIMENSIONS OF STIGMA AND OVERALL HEALTH IN PEOPLE LIVING WITH HIV: INSIGHTS FROM THE ONTARIO HIV STIGMA INDEX

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BACKGROUND: While the negative effect of stigma on health and well-being is well established, there is less known about the dimensions of stigma and their differential impacts on health outcomes of people living with HIV. Understanding the relationships between health risks and protective factors that impact dimensions of stigma may allow for development of targeted intervention strategies aimed at overcoming HIV stigma and potentially improving overall health and wellbeing of people living with HIV.

METHODS: Peer research associates recruited 724 people living with HIV from across Ontario (mean age=47.8 years, % male=67%) to complete the HIV Stigma Index – a global survey tool developed by and for people with HIV to measure nuanced changes in different forms of stigma (e.g., internalized stigma, enacted stigma, and anticipated stigma). Health risks (alcohol and drug misuse, depression, low income, lack of basic needs, and unemployment) and protective factors (social support, self-efficacy, and resiliency) were assessed and risk scores were established for each person. Relationships between health risks and dimensions of stigma were examined as well as the potential for protective factors to mitigate the negative impact of stigma.

RESULTS: Rates of enacted and internalized stigma were high (50-60%) in our sample across priority populations and were significantly associated with self-ratings of overall health ($p<0.0001$), while rates of anticipated stigma were even higher (80-90%) but were not associated with overall health. With each additional health risk, rates increased significantly and in a stepwise fashion for enacted (47% to 72%, $p<0.0001$) and internalized stigma (31% to 63%, $p<0.0001$). Protective factors had the opposite effect, with the addition of each factor seeing a stepwise decrease in enacted (73% to 54%, $p<0.01$) and internalized stigma (69% to 38%, $p<0.0001$). Similar relationships were not observed for anticipated stigma.

CONCLUSIONS: There is a high burden of HIV stigma in people living with HIV in Ontario. Findings suggest focusing in on interventions to increase external support systems and internal resources (e.g. self-efficacy and resiliency) may buffer against the negative impact of experiencing stigma, reduce the internalization of stigmatizing attitudes, and lead to improvements in health and wellbeing for people living with HIV.

PED0801

LESSONS LEARNED FROM AN INNOVATIVE COUNSELLING INTERVENTION EMBEDDED IN ROUTINE ANTENATAL CARE TO REDUCE HIV RELATED STIGMA IN TANZANIA

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BACKGROUND: Internalized and anticipated HIV stigma negatively impact care engagement among pregnant women living with HIV (WLHIV). Antenatal care (ANC) offers an opportunity to directly address HIV stigma during pre- and post-test HIV counselling. We examined the feasibility of a brief stigma-focused counselling intervention, delivered by lay counselors and embedded within routine HIV testing during ANC in Tanzania.

DESCRIPTION: We enrolled women (n=1041) and their partners (n=494) in the study between April and December 2019. Women were equally randomized to intervention or standard of care. Two lay counsellors delivered the intervention before standard of care, guided by semi-structured counselling manuals. Counsellors received a two-week training on counselling skills and HIV-related stigma. The intervention consisted of a short video about a couple's journey after their HIV diagnosis during first ANC, followed by a brief counselling session. WLHIV were invited to attend two additional sessions, one after standard of care and another two weeks later. Content addressed concerns related to stigma, plans for engaging in care, and strategies for bolstering social support. Sessions were audio-recorded and counsellors recorded counseling notes. Four clinical supervisors conducted weekly supervision sessions to audit quality and help counsellors develop skills.

LESSONS LEARNED: Counsellors practiced reflexive listening and were mindful to mirror clients' attitude to not further heighten the anticipation of HIV testing and/or a new diagnosis. They developed skills to balance the semi-structured session guides with flexibility and adaptability, to reflect each client's unique needs and experiences. They learned how to convey the importance of social support in care engagement without needing to push for disclosure and gave clients space to process and express emotion. Supervision sessions were an important forum for counsellors to receive guidance and reflect on their journey, and provided a source of relief and support.

CONCLUSIONS/NEXT STEPS: Lay counsellors were able to implement a stigma-based counselling intervention during routine ANC in a low-resource setting. Effective implementation of counseling interventions to reduce stigma can be achieved if counsellors practice reflexivity and acknowledge each client's unique experience. Regular supervision of counselors is useful for reflection and discussing challenges during the process.

PED0802

SENSITIZATION OF HIV, STIGMA AND DISCRIMINATION ISSUES AMONG RELIGIOUS LEADERS IN 6 REGIONS OF MYANMAR

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BACKGROUND: Myanmar has the second-highest HIV prevalence in the Asia Pacific region at 0.8% among adults (15-49 years), after Thailand. In 2018, Myanmar reported 11,000 new infections. HIV-related stigma and discrimination remain a barrier to ending AIDS in many townships in the country. Stigma index studies (2015) shows that 53% of people surveyed report they were the subject of stigmatizing gossip, and 27% experienced verbal insults, harassments, and threats.
DESCRIPTION: In collaboration with UNAIDS, Myanmar Interfaith Network on AIDS (MINA) implemented a project aimed to increase awareness on HIV AIDS to religious leaders of Christianity, Hindu, Buddhist, and Muslim in six regions in 2017. A total of 708 participants received the half-day training, which included MINA's mission, basic awareness of HIV services availability, effects of stigma and discrimination on social and health-seeking behaviors of PLHIV, sharing experiences from PLHIV and KPs, and discussion on roles of religious leaders in the HIV response. KPs explained religious leaders their experiences related to stigma and discrimination faced such as restriction of entering the religious compound as they were being immoral, limited participation in donations and reluctance to eat together. They discussed with religious leaders to solve these issues out together and get a better environment for them. After the awareness program, religious leaders from four religions visited 5 hospitals and provided emotional support to PLHIV, 158 clients received nutrition support, 40 clients referred to hospital, 20 clients received financial support while admitted hospital, and 2 clients received shelter and financial support.
LESSONS LEARNED: The faith-based and interfaith approach in HIV response resulted in the sustainability of some HIV responses, for instance, religious leaders and faith-based organizations in Kalay coordinated through monthly meetings, supported orphanage, provided nutrition for PLHIV, and organized World AIDS Day event with their trust fund.
CONCLUSIONS/NEXT STEPS: The HIV awareness workshop resulted in increased awareness among the religious leaders on HIV and issues faced by PLHIV and KPs. Additionally, as the leaders have a strong influence in the local communities, they helped reduce stigma towards affected population.

PED0803

NOTHING FOR US, WITHOUT US, BELONGS TO US; HOW TO TACKLE THE STIGMA OF THOSE LIVING WITH HIV THROUGH COMMUNITY PEER EDUCATION LED BY YOUNG PEOPLE LIVING WITH HIV

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BACKGROUND: The STARS (Support, Train and Advocate in Response to Stigma) is a youth driven organization made up of teenagers living with HIV in the Volta Region of Ghana. Their aim is to reduce the stigma on HIV in reality, as they face stigma when they disclose their HIV status. The STARS found various ways to open the discussion in the community of their peers to change the perception of their community towards people living with HIV.
DESCRIPTION: In 2017 The STARS started with a program to break the silence on HIV/AIDS among their peers in 12 various schools in the municipality for World AIDS Day. This program included a speech on the basic facts of HIV as well as highlighting the negative effects of stigma towards those living with HIV. In 2018 a drama play was added based on community feedback from the 2017 event and the speech and play was conducted at 8 schools, 2 churches and a mosque, to reach a bigger audience. In 2019 The STARS added PhotoVoice, a tool that provides visual representation of key aspects related to stigma. The members of the STARS tell their personal stories through the pictures they made, based on a designed research question the group created. In total we have reached an approximate population of 10,000 people.
LESSONS LEARNED: An indigenous message that has been developed by people in the same age group as the target audience is effective. The message on the basic of HIV and stigma is more effective when reinforces with visual aids that are also created in and by the community.
CONCLUSIONS/NEXT STEPS: In 2020 we plan to introduce a knowledge attitudes and practices questionnaire before and after the program is presented to the audience to determine whether the program with the interactive aspects of PhotoVoice has a measurable impact in changing community perception towards people living with HIV. We mainly focus on Junior and Senior High school students now, because of the neglect towards gay and lesbian people we have to include aspects of the program addressing this population too, as it is likely that they carry HIV with them.

PED0804

POSITIVE AFFIRMATION DAY, 2ND DECEMBER, A CREATIVE RESPONSE TO SHIFTING INTERNALISED STIGMA AND CELEBRATING PEOPLE LIVING WITH HIV

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BACKGROUND: Established in 2013 as a grass roots initiative, Positive Affirmation Day is now a global platform for people living with HIV to share our status in a supportive and celebratory way. The objective is to connect creatively, to identify the unique qualities we all have, and to share a "positive" message. The process shifts internalised stigma, by identifying our atributes and qualities beyond HIV and challenges societal stigma by sharing these messages and images on social media. #PADHIV
DESCRIPTION: The project is always evolving and adapting, following feed back from participants:
In 2017, 672 participants were assisted to share a photo or art work and find words containing the letters H I and V that are positively affirming and a collection of 452 individual's images were shared either personally or as part of a large collage. This process redefined the acronym, however was very labour intensive, and not all who wanted to participate could be supported in time.
In 2018 the process was simplified and a series of frames were produced which could be selected rather than uniquely made. The affirmation of "I am ..." was used and participants invited to share any uplifting and inspiring affirmation in any language.

In 2019 a creative workshop was arranged in London to support the social media campaign, so participants could make their own frames and have quality photographs taken. Supporting creative expression, and combating isolation by strengthening a sense of community and belonging.

LESSONS LEARNED: Reviews indicate that joining the online event significantly increased a sense of well-being, a total of 11 participants have used this event to share their diagnosis publicly for the first time.

The workshops boosted self esteem, a sense of self worth and awareness of artistic talent.

CONCLUSIONS/NEXT STEPS: Exploring identity in a safe space, either with online peer support or in participatory creative workshops, allows perceptions to change and people living with HIV to live well and stigma free.

The workshop format of discovering our unique affirmations and creative abilities can be used throughout the year to facilitate this empowerment and awareness.

Any day can be Positive Affirmation Day.

PED0805

"I LOVE MY LIFE, I DON'T WANT TO MISS A THING": MOTIVATORS AND BARRIERS TO ART ADHERENCE AMONG WOMEN LIVING WITH HIV/AIDS IN IRAN

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BACKGROUND: Adherence to ART plays a vital role in HIV/AIDS prevention and treatment. Iran has embarked on the fast-track strategy to end the AIDS epidemic by 2030, so it is necessary to fully understand the motivators and barriers to optimal adherence.

METHODS: Participants were recruited between June and November 2018 .Using semi-structured interviews, we explored the motivators and barriers to ART adherence in 42 women (aged 27-63) who were taking medication for at least 6 months. Medication adherence was assessed by self-report of how many times they have missed their pills in the past 7 days. If it was <90%, they were considered non-adherent. These women were participating in weekly social support sessions. Interviews were audio-recorded and transcribed. Data were inductively analyzed, using thematic analysis.

RESULTS: Only 6 women were nonadherent. The will to live was the major motivator for adherence. The sense of belonging to family and playing the role of caretaker gave the women a reason to stay healthy and strong. For most women, their children were their first and most important priority. On the other hand, family and friends were effective facilitators because they constantly reminded them to take the pills and provided psychological support in times of distress. A close relationship with doctors and counselors and believing in the efficacy of ART also enhanced the adherence. Interacting with other HIV-positive women and sharing their experiences motivated them to keep using the prescribed medications. In addition, most women admitted that if their treatment was not free, they could not afford it. Exploring the barriers of adherence, some themes emerged: side-effects, lack of social support, stigma and playing the role of care-taker.

CONCLUSIONS: Adherence is a multifaceted concept. We should never forget that the patient is part of several social networks and should always include family members, friends, peers, health-care providers and the society that surrounds him/her in programs for enhancing adherence. With the support of social system, the patient can overcome the barriers that stand in the way of optimal adherence.

EXPERIENCES AND IMPACTS OF ANTIRETROVIRAL THERAPY

PED0806

LIVING WITH HIV, MARKET, AND PUBLIC HEALTH: THE UNREGULATED AND INFORMAL DISTRIBUTION OF ANTIRETROVIRAL DRUGS AND SELF-MEDICATION IN CHINA

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BACKGROUND: While antiretroviral drugs (ARVs) are provided for free to people living with HIV (PLWH) in China, limited research suggested that some PLWH are skeptical of the quality of the ARVs available from the government. Anecdotes from affected communities also suggest that some PLWH are purchasing ARVs from other countries for self-medication and selling them to other PLWH. The objectives of this study was to describe patterns of unregulated and informal distribution of ARVs among mostly men who have sex with men (MSM) in China and to explore how and why these men self-medicate and trade medication.

METHODS: From Dec 2017 to Mar 2019, online participatory observation was conducted on social media platforms where PLWH/MSM gather to exchange treatment information and buy and sell ARVs from foreign countries. In-depth interviews were also conducted with select individuals from these platforms.

RESULTS: Unregulated ARVs are mainly from India, Thailand, and South Africa through "sellers" on the Internet. India's ARVs are most common and popular due to their regimens and affordability among middle-income "buyers." At the individual level, men believe that these ARVs are of higher quality with less side effects so that they could return to their normal lives sooner and not be ashamed of living with HIV. Their perceptions and experiences are reinforced by "sellers" within the communities who establish themselves as trustworthy medical advisors and continuously promote the most up-to-date regimens. As a result, some men switch their regimens on an arbitrary basis with little or no consultation from their physicians in fear that they may lose the benefits of free CD4 and viral load testing available in China. Furthermore, discriminatory practices within the healthcare environment drive men to seek informal medical advice online. Finally, several interviewees also reported selling or purchasing ARVs for PEP and PrEP use.

CONCLUSIONS: Our study observed and documented patterns of unregulated and informal distribution of ARVs among Chinese PLWH/MSM and their experiences with self-medication. This phenomenon could have implications for potential drug resistance and abuse due to lack of monitoring. Quantitative research is warranted to determine the extent of this phenomenon.

PED0807

ASSESSING THE FINANCIAL AND NON-FINANCIAL BURDEN FOR HIV PATIENTS IN NIGERIA. HOW MUCH ARE THEY REALLY SPENDING?

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BACKGROUND: Evidence suggest health facilities in Nigeria charge allowable and unallowable user fees for HIV services. Direct user fees add to the burden of travel costs and time spent traveling to a facility. User fees pose a financial barrier which can reduce treatment adherence and lead to reduced viral suppression. We assessed the prevalence and magnitude of user fees and quantified all indirect costs to estimate the current financial burden faced by people living with HIV.

METHODS: We surveyed 640 patients seeking HIV services in 31 healthcare facilities across Akwa-Ibom, Kano, Lagos, and Rivers states. Patients were approached at point-of-care and interviewed either before or after they had received services. Data were collected on costs incurred during the most recent visit for HIV services, along with transportation costs, travel time, time spent, and sociodemographic information. Our study is unique as we also interviewed practitioners in the 31 facilities to find conflicting responses.

RESULTS: During their last visit for HIV services, 25% of patients paid at least one user fee. User fees were more common in states with higher HIV prevalence. The average amount per episode was US$3.4, about 92% of the average daily income and 170% for poor patients. Charges were more common for hospital registration costs, ARV prescriptions, CD4, and viral load tests. Transportation costs amounted to an average of US$1.7 per visit; with an average time spent of about 4 hours per visit, the sum of indirect costs was 89% of average daily income. Across direct and indirect costs, the average total financial burden per visit was US$6.9, 187% of average estimated daily income. We also found conflicting responses from patients and practitioners around what user fees were being charged at facilities.

CONCLUSIONS: The overall burden from user fees and other costs for people seeking HIV services is high in Nigeria. We explore and propose several policy options to eliminate user fees charged for HIV services and reimburse providers from existing state-level health insurance schemes, and to reduce need to travel and visit providers with scaled-up differentiated service delivery. Civil society organizations should track user fee elimination policies as they are introduced.

PED0808

PUTTING THE HEART BACK INTO HAART: GREATER HCP-PATIENT ENGAGEMENT IS ASSOCIATED WITH BETTER HEALTH OUTCOMES AMONG PERSONS LIVING WITH HIV (PLHIV) ON TREATMENT

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BACKGROUND: High quality healthcare provider (HCP)-patient engagement is critical for patient-centered care. We investigated HCP-patient discussions and explored associations with health outcomes.

METHODS: Data were from a 24-country survey of HIV+ adults on anti-retrovirals during 2019 ("Positive Perspectives", n=2112). HCP-patient engagement (low, moderate, high), was modified from the Observing Patient Involvement scale. Descriptive/multivariable analyses were performed.

RESULTS: With their HIV providers, 85% reported ≥one issue they felt uncomfortable discussing. Of those virally suppressed (n=1536), non-suppressed (n=482), and with unknown viral status (n=94), respectively, reasons for discomfort in discussing were: not confident (13.6%, 33.0%, 24.5%); difficulty broaching topic (16.3%, 28.4%, 24.5%); apprehensive of wasting doctor's time (13.4%, 24.9%, 31.9%), perception of issue as "not important" (12.3%, 16.8%, 21.3%); fear of being labelled "difficult" (23.2%, 37.3%, 34.0%); and perception HCP's priorities differed from theirs (17.6%, 27.8%, 26.6%) (all p<0.05). While 61.5% were updated on new treatment options, 65% reported their HCP asked their views before new treatments, and 72% reported they understood about their HIV treatment, However 64% still wanted more involvement. The top issues considered treatment priorities among those diagnosed for ≥2 years (n=1624) were concerns regarding ART side-effects (67%) and long-term impacts (60%); yet, among those rating these issues as important, ~one-third were uncomfortable discussing with their HCP. Additionally, 16.3% had not shared their HIV status with their current non-HIV-care doctor. PLHIV had higher odds of perceiving their treatment needs as being met if they reported HCPs provided enough information (AOR=4.13), sought their views (AOR=4.14), inquired about their concerns (AOR=3.31), asked about side-effects (AOR=4.12), discussed new treatment options (AOR=2.42), and had told them about "Undetectable=Untransmittable"/"U=U" (AOR=2.78). Odds of full adherence (0 missed dose/past 30d) were 1.33 (95%CI=1.01-1.74) and 3.10 (95%CI=2.40-4.01) higher among those with moderate and high vs low HCP engagement.

CONCLUSIONS: High HCP-patient engagement was associated with better health-related outcomes. A substantial proportion of PLHIV did not have high engagement and reported reduced health-related quality of life endpoints. Improving quality of communication between patients and HCPs may better support 4th 90 goals of improving health-related quality of life.

PED0809

"WHY START LATER IF I CAN START TODAY?" PATIENT PERSPECTIVES ON THE EXPERIENCE OF RAPID/SAME-DAY LINKAGE AND ANTIRETROVIRAL THERAPY AFTER HIV DIAGNOSIS

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BACKGROUND: Clinical outcomes following rapid linkage and antiretroviral therapy (ART) are promising. The U.S. Department of Health and Human Services and WHO have endorsed rapid ART, however, little is known about the patient experience of this treatment strategy.

METHODS: Between May 2018—August 2019, we conducted 37 in-depth interviews in English or Spanish with individuals referred for rapid ART at a safety-net HIV clinic in San Francisco (Ward 86) and a clinic network focused on LGBTQ health in Chicago (Howard Brown Health). Data were coded and analyzed using thematic analysis.

RESULTS: Median age was 27 (range 19-49) and 27% were cis/transgender women, 27% heterosexual, 35% Black, 41% Latino, and 49% homeless/unstably housed. ART initiation occurred within 7 days of diagnosis for 80% (40% same-day starts). Three interrelated themes emerged:

1) participants felt highly supported by providers/staff at linkage sites;

2) to delay ART start would be nonsensical;

3) ART initiation meant participants could take charge of their well-being, thereby alleviating anxiety about living with HIV. No participant described feeling pressured to start ART.

Rather, ART initiation was perceived as life-affirming and a logical next step. "It didn't even really seem like a decision. It was more just the obvious course of action."

Participants saw ART as being proactive in preserving health "you're not just sitting and waiting while your body gets destroyed by the virus" and maintaining normalcy "I felt like if I didn't take the pill I couldn't do anything...if I took the pill, I would be okay." ART initiation was experienced as grounding during intense emotional turmoil because it provided a trajectory with an end-goal (viral suppression). It also facilitated disclosure in certain situations – "I walked out of there with a treatment plan...that's what really gave me the courage to go home and tell my family."

Participants were incredulous at the idea of providers waiting to offer ART to individuals newly diagnosed with HIV – "I see it as a human right."

CONCLUSIONS: In two U.S. cities, rapid linkage and ART initiation, a treatment strategy endorsed globally, was highly acceptable to individuals with newly diagnosed HIV.

GROWING UP WITH HIV: SPECIFIC NEEDS AND INTERVENTIONS FOR CHILDREN AND ADOLESCENTS

PED0810

COMMUNICATION BETWEEN CAREGIVERS AND CHILDREN PERINATALLY INFECTED WITH HIV ABOUT THE DISEASE AND MEDICATION WITHOUT DISCLOSURE: QUALITATIVE DATA FROM NYANGABGWE HOSPITAL, BOTSWANA

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BACKGROUND: The increased survival of children to older age and adolescence has focused attention to disclosure of HIV diagnosis to infected children. While the positive effects of HIV disclosure have been documented, health care providers providing HIV treatment and care services to children in Botswana, report that most primary caregivers delay disclosure to HIV-infected children. The study explored primary caregivers' perceptions about disclosure to HIV infected children and examined ways that could make disclosure easy. Aim: To explore primary caregivers' perception about disclosure of HIV diagnosis to infected children and examine ways that could make disclosure easy.

METHODS: Explorative descriptive qualitative study was conducted using focus group discussions with 41 caregivers of HIV infected children between 5-18 years of age receiving ART from the pediatric clinic of Nyangabgwe Hospital Infectious Disease Control Clinic in Botswana. Thematic data analysis using NVivo10, software for data analysis and coding, revealed 10 themes.

RESULTS: Primary caregivers had positive perceptions about disclosure to HIV infected children. They believed that HIV infected children have the right to know their illness. In the absence of disclosure, primary caregivers made the child understand the disease, the importance of good adherence to medication, and prevent the child from getting sick without mentioning HIV. They further reported feelings of guilt for not disclosing and expressed that keeping the diagnosis secret is emotional and hurting. Disclosure could be made easy if it is done by health workers, and caregiver who are trained and counselled on how to approach disclosure to HIV infected children.

CONCLUSIONS: HIV pediatric programs should have disclosure guidelines in place and provide disclosure material that could facilitate disclosure to HIV infected children.

PED0811

FRIENDS' FORUM, AN APPROACH FOR CREATING RESILIENCE AMONG CHILDREN LIVING WITH HIV/AIDS: EXPERIENCE FROM CENTRAL UGANDA

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BACKGROUND: Children living with HIV/AIDS(CLWA) aged 14-18 years experience challenges relating to stigma, stress and non-disclosure which lead to poor health and education outcomes resulting to school dropout. They are also more likely to be non-suppressed compared to other age groups in Uganda. This increases their risk for increased malnutrition and severe illness. Friends' Forum plat-

form was set up with the aim of developing a coping mechanism for them to support each other to achieve viral load suppression.The ultimate goal is to build resilience among CLWA through positive living and preventing further spread of HIV.

DESCRIPTION: Reach Out Mbuya (ROM) is a faith based organisation located in central Uganda. It has 3 static clinics serving a total of 220(64.1%)children aged 14-18years.ROM rolled out the Friends' Forum approach in 2016.The key pointers monitored in this forum include viral load suppression,adherence,social capital,nutritional status and school attendance.Teenage and Adolescent Supporters (TAS) have been trained to monitor and write reports on a weekly basis. A viral load monitoring is done by a child psychotherapist every 6 months and annually for those that are stable. Those children with viral load results greater than 1000copies/mL are supported at household level by finding out their challenges and identifying solutions. Through the TAS,school peer clubs have been established .These clubs organise life skill seminars, debates, dialogues and exhibitions at the community level to enable the CLWA cope and lead a dignified positive life. They share information and experiences on HIV,drug adherence and life skills with their peers.

LESSONS LEARNED: The suppression rate among children aged 14-18 years has increased from 67.8% in 2016 among 133 children of which 66 females and 67 males to 86% among 220 children of which 132 females and 88 males by September 2019. Through peers, these children are able to acquire leadership skills, share experience and sensitize others on HIV/AIDS prevention.It promotes supportive school environments, young people's friendship and social networks which enable them become resilient.

CONCLUSIONS/NEXT STEPS: This approach provides a protective and nurturing environment for peer relationships which fulfills a critical psycho-social and developmental needs of CLWA.

PED0812

DEVELOPMENT OF A YOUTH PLHIV NETWORK "LITTLE STARS" IN RURAL TAMIL NADU, INDIA: CHALLENGES AND OPPORTUNITIES

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BACKGROUND: In rural India such as Ariyalur District (Tamil Nadu), problems of low literacy, poor HIV awareness and HIV stigma persist. We previously developed an HIV peer education model using cartoon-based educational materials that was effective in increasing awareness, reducing stigma, and led to formation of a PLHIV support network. The network meets monthly and provides additional moral, medical and economic support to ~ 200 PLHIV of all ages (https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-6-6). Since 2003 this network has included children/youth living with HIV, but they are generally silent at meetings, and their concerns and voices are not heard. While the program has not lost any children/youth due to AIDS in 13 years, as the children grow up, the formation of a club was considered important to better address their needs.

DESCRIPTION: In 2017, a children/youth HIV club called "Little Stars" was started, with currently 30 members (ages 9 to 29). The network meets monthly under supervision of 3 counselors (2 of them young PLHIV women). In addition, the trained counselors visit the children at home as needed. The children also receive nutritional supplements and financial support for their education.

LESSONS LEARNED: Discussions with Little Stars members and their caretakers revealed many challenges, including delayed HIV disclosure, poor adherence, doubts on the basic facts of HIV, depression, fear, lack of hope and stigma from community members. The problems are age-related and show high variability between individuals and families. The reasons are multifactorial, complex, and often interlinked to challenges of caretaking (including low literacy, high poverty and limited time and resources of caretakers). Overall, the youth expressed that they enjoy attending the meetings and sharing feelings, and requested additional activities including games, creative activities, field trips, and more information on general health and HIV-related topics. Additional printed materials are being developed in the local language to aid with counseling, education and disclosure.

CONCLUSIONS/NEXT STEPS: Because children/youth infected by HIV face unique challenges, there is a need for dedicated funding and resources for this age group. A comprehensive approach including counseling, educational, nutritional and medical support, is important.

PED0813

LOW KNOWLEDGE ABOUT SEXUAL TRANSMISSIBILITY OF HIV AND HIGH VIRAL DETECTABILITY AMONG ADOLESCENTS LIVING WITH HIV IN PUNE, INDIA: A PRESSING CONCERN

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BACKGROUND: India has the second highest number of adolescents living with HIV (ALWH) outside sub-Saharan Africa. A predominant Africa-centric focus on adolescent HIV, has limited our understanding of HIV-associated health knowledge (HAHK) among Indian ALWH. Little is also known about the interaction of these adolescents with the healthcare system. Both factors are important in HIV-transmission. We aimed to describe HAHK and the relationship with healthcare providers, among Asian Indian ALWH.

DESCRIPTION: We used data from 62 ALWH receiving ART aged 15-19 years, randomly recruited between August 2018 and September 2019, from the ART clinic of Byramjee Jeejeebhoy Government Medical College (BJGMC), Pune, India. Eligibility criteria included: self-awareness of HIV status; ability to provide consent (≥18years) or assent (<18 years); parental consent (<18 years) and non-institutionalization. Data on socio-demographic and clinical characteristics, rudimentary HAHK, and healthcare provider interaction were collected using an electronic counsellor-administered questionnaire. HAHK questions included enlisting ARV regimen, the utility of CD4 monitoring and modes of transmission.

LESSONS LEARNED: Of 150 ALWH approached, 43% were unaware of their HIV-status and ineligible. Of 62 enrolees, 77% had been vertically infected; 46% were male; median age was 18 years(IQR:17–18); 61% had≥11 years of education. Median duration on ART was 5 years(IQR:2-8); median CD4 count 516 cells/mm3(IQR:322-698); 37% were virologically undetectable. Only 9% knew their ARV regimen

and 70% were unable to articulate the utility of CD4 monitoring. Twenty-three percent were unaware that HIV was sexually transmitted. Unawareness about sexual transmission wasn't limited to any gender, educational attainment or viral undetectability (p>0.1). Although these ALWH are regular attendees of the ART clinic; 81% reported not being sensitized to the course of disease, treatment options, or preventive measures by healthcare providers.

CONCLUSIONS/NEXT STEPS: In a cohort of ALWH self-aware of their HIV-status, a fourth were unaware of the sexual transmissibility of HIV, and four-fifths had never discussed preventive measures with healthcare providers. The combination of low serostatus self-awareness, low sexual-transmissibility awareness, infrequent preventive measures communication and high viral detectability among AWLH could have calamitous consequences on future HIV-risk for young adult Asian Indians. Larger studies to corroborate our findings and mitigating strategies are mandated.

PED0814

"THERE'S NOT EVEN A POTENTIAL RULE BOOK FOR ANY OF THIS": A QUALITATIVE STUDY OF CHALLENGES AND COPING MECHANISMS AMONG US PARENTS WHO INTERNATIONALLY ADOPT CHILDREN LIVING WITH HIV

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BACKGROUND: An increasing number of US families seek to adopt children living with HIV from other countries. Caring for internationally adopted children living with HIV (IACH) requires comprehensive understanding of HIV and pre/post-adoption support. However, few resources exist for adoptive parents. This study explores the experiences of current parents to offer support to families interested in pursuing IACH.

METHODS: Hour-long, semi-structured, audio-recorded interviews were conducted with a purposive snowball sample of 38 parents of IACH from 18 states, mainly recruited at two pediatric infectious disease clinics. Parents were asked about motivations to adopt, medical and psychosocial needs, challenges associated with adoption, and advice to prospective parents. Interview transcripts were coded for emerging themes using standard qualitative methods.

RESULTS: A total of 38 participants completed interviews, with a mean age of 37 years. All identified as Caucasian, most as female (n=37), Christian (n=34), and married (n=37). Participants adopted a total of 40 IACH, primarily one per family (range 1-2). Mean age of IACH at time of interview was 8 years (range 3-19, 28 females, 25 from African countries, 40 currently on ART, 38 virally suppressed). Many parents had minimal knowledge about HIV prior to adoption. Faith and altruism motivated most parents' decisions to pursue adoption. Initially, parents expressed medical concerns primarily around HIV care and noted that adoption agencies did not typically have up-to-date HIV-related information. However, once educated by healthcare providers and informed of support networks, fears were eased. Parents noted that immediate adoption-related issues, such as pre-adoption trauma, loss, and behavioral issues, often took priority over HIV-related concerns. Many parents called HIV a "non-issue" and became advocates for their children, aiming to reduce HIV-related stigma to protect their children. Key strategies in overcoming challenges associated with raising IACH included using open communication with their child related to their adoption, culture, and HIV status; finding supportive medical, social, and legal resources; understanding disclosure rights; and normalizing HIV in the household.

CONCLUSIONS: Pre-adoption HIV education and post-adoption support for immediate adoption-related issues are crucial for comprehensive care of IACH. Longitudinal research on adoptive families is needed to examine needs across the life course.

PED0815

HIV DISCLOSURE EXPERIENCE OF ADOLESCENTS LIVING WITH PERINATAL HIV INFECTION IN NORTHERN THAILAND

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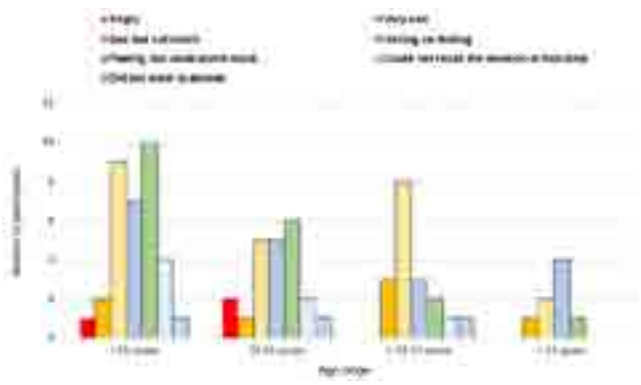
BACKGROUND: Conveying a child's HIV status to the child is a critical process in pediatric HIV care, which both providers and parents always hesitate to perform due to many reasons. In this study we asked adolescents living with perinatal HIV (APHIV) to recall their own experience in order to inform health care providers what to anticipate during disclosure approaches.

METHODS: The cross-sectional study was conducted at Chiang Mai University in February 2018. APHIV were recruited from HIV clinics. Inclusion criteria were: 1) aged between 15-<25 years, 2) having perinatal HIV infection, and 3) willing to join the study. Data collection was performed by computer-assisted self-interviewing.

RESULTS: 110 APHIV were included; 51(46%) were female. Their mean age and duration on antiretroviral treatment were 20.2 (SD2.6) and 12.7 (SD3.1) years, respectively. Thirty-four (31%) were disclosed to their HIV status before the age of ten, while HIV disclosure was done between the age of 10-12, >12-15, and >15 years in 22(20%), 18(16%), and 8(7%), respectively. The emotional reactions were shown in Figure 1. The person who disclosed to the child were parents/caregivers in 42(38%), and health care providers in 48(44%); no significant difference in emotional reaction between the two groups (p=0.848). Currently 89% had their HIV status known to family members; 37%, 16%, and 13% disclosed to relatives, friends/school teachers, and others in community, respectively. Very few (2%) disclosed to employers/coworkers. The appropriate HIV disclosure ages were < 10 years, and between 10-12 years as proposed by 40% and 30% of APHIV, respectively.



[Figure 1. Emotional reactions to HIV disclosure at different age ranges: Experience recalled by adolescents living with perinatal HIV infection]

CONCLUSIONS: We documented HIV disclosure experience as recalled by APHIV who attended HIV clinics. While adults tend to postpone HIV disclosure to avoid unfavorable consequences, most APHIV proposed conveying by anyone before the age of twelve. Rate of social disclosure was low and required further exploration whether it was related to self-stigma.

PED0816

THE THIRD GENERATION: A LONGITUDINAL MIXED METHOD STUDY EXPLORING THE CLINICAL AND SOCIAL CONTEXT OF HIV-PERINATALLY INFECTED YOUNG MOTHERS IN HARARE, ZIMBABWE

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BACKGROUND: Lives of HIV-infected adolescents are typically dominated by numerous complex physical, psychological and social stressors including orphaning and multiple often sequential care giving environments. This longitudinal mixed-method study describes the clinical and psycho-social challenges being faced by HIV perinatally-infected young mothers in Harare, Zimbabwe.

METHODS: HIV-perinatally infected mothers were recruited in 2013 and followed up in 2019. In 2013, mothers completed a structured interview, had a clinical examination, a psychological assessment and provided blood samples for viral load and drug resistance testing. Additionally, a sub set of mothers took part in in-depth interviews (n=10), audio diaries (n=5). In 2019, 11 of the original sample were re-interviewed. Quantitative data were analysed using STATA 15.0. Descriptive summaries and frequencies of social, clinical and demographic characteristics were carried out. Qualitative data were analysed using thematic analysis.

RESULTS: Nineteen mothers aged 17-24 years were recruited in 2013 and 11 were retained in 2019. Between 2013 and 2019, 3 mothers died, 2 moved to South Africa and 3 were LTFU. In 2013, all 19 mothers were taking ART; the median duration of treatment was 8 years (range 2-11 years) and median CD4 count of 524 (IQR 272). Seven mothers (47%) had a viral load >1000 copies/ml, and had evidence drug resistant virus. In 2019 the prevalence of virological failure had significantly reduced to 2/11 (18.1%). Six mothers (54.5%) were on second line while 5/11 (45.5%) were still on first line. Switching to second line and learning about the limited treatment options was a major turning point for some mothers as their adherence improved. At follow up, six mothers were at risk of depression (54.5%) with 27.2% being at risk of severe depression (measured using the Shona Symptom Questionnaire-14). Onward disclosure of HIV status to partners remained limited.

CONCLUSIONS: HIV perinatally infected young women confront a number of a challenges which affects their health as evidenced by high levels psychological distress. Given the high risk of depression, and the impact of this on general well-being, targeted mental health interventions for mothers need to be scaled up.

PED0817

POPULATION CHARACTERISTICS AND IMPLICATIONS FOR ADHERENCE AND RETENTION INTERVENTIONS AMONG PREGNANT ADOLESCENT GIRLS LIVING WITH HIV IN MOZAMBIQUE

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BACKGROUND: Adolescents living with HIV (ALHIV) are at disproportionate risk for poor health outcomes across the HIV care continuum. The CombinADO study aims to develop and test an adolescent-focused intervention to improve 90-90-90 targets among ALHIV in Mozambique. Formative work was conducted to characterize this population and found a high proportion of adolescent girls reporting current/previous pregnancies.

METHODS: A cross-sectional survey of 208 ALHIV (15-19 years) attending HIV services at three health facilities was conducted in Nampula, Mozambique, between June-December 2019. Information on demographic and medical history, relationship characteristics, HIV, and sexual and reproductive health (SRH) was collected using standardized measures. Recent viral load (VL) results were abstracted from clinical records. Of those surveyed, 70% (n=146) were girls of which 57% (n=83) reported a current or previous pregnancy.

RESULTS: Of the 83 girls who reported ever being pregnant, median age was 18 years [inter-quartile range (IQR), 18-19], and 72% (n=60) were not currently attending school. Of girls who were married (65%, n=54), median age at marriage was 17 years (IQR, 16-18), with median age of husband 25 years [IQR, 23-28]. At the time of the survey, 70% (n=58) reported that they had previously given birth; 27% (n=22) were currently pregnant; and 45% (n=37) currently breastfeeding. Median age at last pregnancy was 17 years [IQR, 16-18]; 70% reported their last pregnancy was planned. Pregnancy/having a child was cited as the primary reason (42%) for not attending school. History of an STI was reported by 27% of girls with 68% having an STI in the last 6 months. Median age at ART initiation was 18 years (IQR, 16-18) with 40% reporting a missed dose in the last 30 days. Of the 41 girls with a VL within 6 months of the survey, 51% had VL<50. Of 58 girls who had previously given birth, 8 (14%) reported that at least one of their children tested HIV-positive.

CONCLUSIONS: Given the young age at which girls become pregnant and the suboptimal ART outcomes in this group, there is an urgent need for tailored SRH programs and prevention of mother-to-child transmission interventions for young women living with HIV in Mozambique.

PED0818

WHAT MATTERS MOST TO ADOLESCENTS LIVING WITH HIV IN SOUTH AFRICA? ANALYSIS OF ASPIRATIONS AND SELF-PERCEPTIONS FROM A LARGE COHORT STUDY

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BACKGROUND: Adolescence is a crucial stage when life aspirations emerge. Having aspirations and positive self-perceptions have been linked with better health outcomes in adolescents. The aspirations and self-perceptions of adolescents living with HIV (ALHIV) could be limited due to stigma they encounter. The overall aim of the study is to describe and compare aspirations and self-perceptions of ALHIV and adolescents not infected with HIV in South Africa.

METHODS: A cross-sectional study interviewed adolescents in South Africa in 2014-2015. Study participants were aged 10-19, 55% female, and included ALHIV n = 1064 and uninfected peers n = 455. Qualitative and quantitative descriptive analysis was conducted on three open-ended questions which asked

(1) what would they do as president

(2) their job aspirations, and

(3) what they are most proud of about themselves.

Associations between major themes identified from qualitative analysis and HIV status were evaluated using bivariable and multivariable logistic regression adjusting for sociodemographic factors.

RESULTS: In qualitative findings, adolescents reported a strong desire to change their social circumstances, especially related to housing (41%) relative to 9 other themes identified in question (1) (all mentioned by <15% adolescents). A high percentage of adolescents reported aspirations for careers requiring tertiary education (68%), including Health Care Professionals. However, over 55% of the participants reported delayed grade progression – being at least one grade behind their expected grade-for-age. Nonetheless, adolescents were most proud of their educational achievements (22%) relative to 9 other major themes identified from question (3). In quantitative multivariable analysis, HIV status was not found to be a significant predictor of aspirations and self-perceptions identified in the qualitative analysis.

CONCLUSIONS: Future policies should focus on closing the gap between adolescents' perceived value of education and future aspirations, and the current reality of social and economic inequalities in South Africa. Furthermore, the absence of differences in self-perceptions and aspirations by HIV status supports youth-friendly HIV-sensitive programming of these policies. Including ALHIV in programmes alongside other equally underserved and underprivileged adolescents also helps to avoid stigma. Future interventions can help adolescents achieve their aspirations and positively influence their self-perceptions to improve their psychosocial well-being.

PED0819

IMPROVED ART KNOWLEDGE AND ADHERENCE SKILLS IN YOUTH LIVING WITH HIV PARTICIPATING IN A WHATSAPP SUPPORT GROUP IN NAIROBI, KENYA: THE VIJANA-SMART PILOT STUDY

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BACKGROUND: Youth living with HIV (YLWH) experience poor treatment outcomes. Mobile health strategies show promise to improve ART adherence, but studies in youth are limited. We developed a facilitated WhatsApp support group intervention for YLWH, and evaluated change in mental health and HIV outcomes following 6-month intervention participation.

METHODS: We recruited 55 YLWH who were age 14-24, aware of their HIV status, and had weekly access to WhatsApp. Participants were recruited in person, through healthcare workers, and by snowball recruitment from a district hospital serving an informal settlement in Nairobi. Youth were given the Vijana-SMART intervention (a facilitated WhatsApp group with ~25 YLWH) for 6 months. WhatsApp groups were age-segregated (<18 vs. ³18 years) and gender-mixed. A study counselor facilitated groups by sending weekly scheduled messages, answering questions, and encouraging discussion. Youth could message the group at any time; the facilitator responded within 24 hours. At enrollment and 6 months, self-report questionnaires were administered assessing ART information, motivation, and behavioral skills (by Lifewindows IMB tool), depression (by PHQ-9), social support (by SS-B), stigma (by ALHIV-SS), and ART adherence (by Wilson 3-item scale). Changes from baseline to follow-up were evaluated by generalized estimating equations clustered by participant.

RESULTS: Of 55 participants enrolled, 37 (67%) were female, median age was 18 (interquartile range, IQR, 16-22), and 29 (53%) were currently in school. Nineteen (35%) reported acquiring HIV perinatally and median time on ART was 4 years (IQR 1-8). At enrollment, median ART information, motivation and behavioral skill scores were 3.7 (3.3-4.0), 2.8 (2.2-3.4) and 3.5 (3.0-3.7) respectively (score range 1-5). Median ART adherence was 88.9% (77.8-94.4) and 14 participants (25.5%) reported ³mild depressive symptoms (PHQ-9 score ³5). Forty-six participants (84%) completed follow-up visits. At 6-month follow-up, ART information and behavior skills scores were significantly higher than baseline: 4.2 (3.7-4.3, p<0.001) and 4.0 (3.4-4.4, p<0.001) respectively. We found no significant difference between baseline and follow-up in ART motivation score (2.7 [2.2-3.4], p=0.33), ART adherence (92.2% [77.8-97.8], p=0.50) or depressive symptoms (15, 32.6%, p=0.38).

CONCLUSIONS: The Vijana-SMART intervention is a promising mobile health intervention to improve youth knowledge and skills for ART adherence. Larger-scale randomized evaluation is warranted.

PED0820

ART ADHERENCE SUPPORT INTERVENTIONS TARGETING ADOLESCENTS AND YOUNG ADULTS LIVING WITH HIV IN SUB-SAHARAN AFRICA (SSA): A SYSTEMATIC REVIEW

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BACKGROUND: This systematic review aimed to 1) identify the types of ART adherence support interventions for adolescents/young adults living with HIV in SSA, 2) describe the ART assessment methods used, 3) assess the methodological strengths and weaknesses of the intervention studies, and 4) compare the effectiveness of facility-based interventions versus those delivered in community settings and in combined settings.

METHODS: A systematic search of 9 databases identified peer-reviewed articles and gray literature. Included studies were: 1) published between 2003 and 2019, 2) conducted in SSA, 3) quantitatively evaluated ART adherence support interventions, 4) included adolescents/young adults ages 10-24, and 5) reported ART adherence outcomes. Study methodological rigor was evaluated using the 14-item Methodological Quality Rating Scale (MQRS). A median split of MQRS scores was used to determine high versus low-rigor studies.

RESULTS: Nineteen interventions included mobile phone reminders (n=2), social protection (n=2), adherence counseling and education (n=4), psychosocial support (n=5) and differentiated models of care (n=6). ART adherence was assessed using viral load (n=11), self-report medication adherence (N=8), pharmacy records (n=7), and CD4 cell count (n=5). Almost half of the studies (n=9) had high methodological rigor, with a total score ≥ to the median score of 16 on a 23 point scale. The major methodological strength was multi-component interventions (n=14), and the major weakness was the use of pre-post designs without comparison groups (n=8). Seven interventions were facility-based, seven community-based, and five delivered in combined settings. Most interventions (n=16) significantly improved medication adherence and reduced viral load. All but one intervention for each of the three delivery settings were effective.

CONCLUSIONS: The most common ART adherence support interventions for adolescents/young adults in SSA are psychosocial support programs and differentiated models of care. Despite better expertise of professionals in facilities compared to lay health workers peers, or family members, community-based interventions, and interventions in combined settings, are equally effective as those delivered in health facilities. Community-based ART adherence delivery and support interventions may be an effective, low-cost strategy to improve ART adherence in SSA. Future research is needed to compare the cost-effectiveness of community-based interventions versus those in health facilities.

PED0821

SOCIAL NETWORK CORRELATES OF UNSUPPRESSED VIRAL LOAD AMONG PERINATALLY-INFECTED ADOLESCENTS IN CAPE TOWN, SOUTH AFRICA

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BACKGROUND: Developmental theories suggest that adolescents are particularly sensitive to the social networks in which they are embedded, but little is known about the social networks of perinatally-infected adolescents living with HIV in sub-Saharan Africa. This study was nested within the Cape Town Adolescent Antiretroviral Cohort (CTAAC), a longitudinal cohort of perinatally-infected adolescents on antiretroviral therapy (ART) recruited from public-sector healthcare services across Cape Town, South Africa. The purpose was to identify social network-level correlates of unsuppressed viral load among perinatally-infected adolescents living with HIV.

METHODS: Detailed social network data (including emotional support, instrumental support, and medical support networks) were collected using a customized touchscreen-based interviewer-administered network assessment during the 36-month CTAAC visit from 61 adolescents ages 12 – 16 years. Viral load (VL) testing was also conducted during the 36-month visit. Demographic characteristics were measured at the CTAAC baseline visit. Multivariable logistic regression was conducted to examine social network-level factors associated with an unsuppressed VL (>= 50 copies/mL) controlling for age, gender, race, home language, and highest level of education completed.

RESULTS: 34.4% of adolescents living with HIV (n = 21) had an unsuppressed VL at 36-months (mean = 2,371.9 copies/mL). Among adolescents with an unsuppressed VL, the mean VL was 6,704.5 copies/mL and median was 100 copies/mL. Adolescents with an unsuppressed VL had smaller medical support networks compared to those with a suppressed VL (2.3 vs. 3.3 people in the medical support network, respectively). Increasing size of medical support networks were significantly associated with a decreased odds of having a unsuppressed VL (aOR = 0.60= 0.046) in an adjusted model. Size of instrumental and emotional support networks were not significantly associated with odds of having an unsuppressed viral load.

CONCLUSIONS: The size of medical support networks among perinatally-infected adolescents living with HIV in Cape Town is significantly associated with having an unsuppressed viral load. While more research is needed, interventions seeking to improve clinical outcomes in this population should consider efforts to enhance medical support networks.

PED0822

HIV HEALTH LITERACY AMONG ADOLESCENTS LIVING WITH HIV IN NORTHERN MOZAMBIQUE

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BACKGROUND: Health literacy may have a significant impact on HIV-related outcomes, including access to timely diagnosis, treatment initiation and adherence and retention to antiretroviral therapy (ART). Health literacy is one of the WHO pillars for quality health care for adolescents living with HIV (ALHIV) but there are few data from African ALHIV from high-burden settings.

METHODS: The CombinADO study aims to develop and test an adolescent-focused intervention to improve health outcomes among ALHIV in Mozambique. As part of formative work we conducted a cross-sectional survey of ALHIV (15-19 years) attending HIV services at three health facilities in Nampula, Mozambique, between June-December 2019. Adolescents completed questionnaires assessing demographic and medical characteristics as well as HIV knowledge; viral load (VL) results were abstracted from routine medical records. HIV knowledge was assessed using 14 true/false items and summed this into a scale for analysis.

RESULTS: HIV knowledge questions were completed by 61 boys and 143 girls [median age 18 years; IQR, 16-19]. Most boys (87%) were currently in school, versus 51% of girls. Overall, 46% reported having their own cellphone. Only 4% knew the names of the drugs in their ART regimen. Of the 126 adolescents that reported having VL testing in the past year, most (82%) did not know the result. Among 116 adolescents with documented VL results within 6 months of the survey, 31% of boys and 48% of girls had VL <50 copies/mL. The median knowledge score was 9 (IQR 7-11), with no difference across gender or age. Knowledge was poor on items assessing the meaning of an "undetectable" VL result and the implications of this for sexual transmission. In a multivariable model adjusted for gender and age, higher levels of knowledge were strongly associated with being in school (p<0.001) and having own cellphone (p=0.041). Controlling for age and gender, higher knowledge was significantly associated with better rated health; as well as with an increased odds of VL <50 copies/mL.

CONCLUSIONS: Our findings highlight the importance of assessing health literacy as part of ART adherence support for ALHIV. Interventions to build comprehensive health literacy in this context may promote adherence and perceived health status.

PED0823

A QUALITATIVE LONGITUDINAL STUDY OF ADOPTION AND DISCLOSURE NARRATIVES AMONG U.S. FAMILIES WITH INTERNATIONALLY ADOPTED CHILDREN LIVING WITH HIV

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BACKGROUND: The number of internationally adopted children living with HIV (IACH) in the U.S. is increasing, yet little is known about their families' experiences. This project explores parents' adoption and HIV disclosure narratives, both of which may shape adjustment to the HIV diagnosis as well as their child's identity development.

METHODS: A purposive snowball sample of 24 parents (23 mothers) of 27 IACH were recruited at two pediatric infectious disease clinics. Parents completed two semi-structured audio-recorded phone interviews one year apart. The first interview centered on the adoption story and HIV disclosure decisions. The follow-up interview focused on parents' and children's experiences within their families and communities. Using constant comparison, transcripts were analyzed for emergent themes and changes over time.

RESULTS: All parents identified as white and 22 as Christian. Mean age of children at enrollment was 9.2 years (range 2-19, 15 females, 27 currently on ART, 25 virally suppressed). Analyses revealed that adoption and disclosure narratives were dynamic and changed over time. Parents took cues from their child in order to determine how much adoption and HIV-related information to divulge. Parents wrestled with when to share potentially traumatic adoption-related information and decided to withhold information based on the child's age and maturity, nature of the adoption story, faith, and contact with the birth family. Parents revisited adoption narratives as children matured and began to acknowledge racial/ethnic/cultural differences between themselves and their adoptive parents. Adoption narratives were shaped by level of HIV disclosure to the child and became increasingly complex as children gained understanding of their own HIV status. Parents indicated that "HIV is socially, but not medically difficult". They discussed medical aspects of their child's diagnosis with them first and subsequently sought to help their child prepare for HIV-related stigma by normalizing HIV in the home and building their child's confidence.

CONCLUSIONS: Adoption and HIV disclosure narratives play an important role in the development of IACH, as adopted children learn to manage their illness and develop their own unique identity across the lifespan. Understanding these narratives may help healthcare providers offer higher quality individualized comprehensive care to IACH.

PED0824

VIOLENCE IS ASSOCIATED WITH ART NON-ADHERENCE AMONG ADOLESCENT BOYS AND YOUNG MEN IN WESTERN KENYA

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BACKGROUND: Adolescents and young adults (AYA) in sub-Saharan Africa experience high burdens of violence and HIV, and there are global targets to eliminate both problems by 2030. Guidelines recommend screening for partner and non-partner violence within adolescent-friendly HIV care. However, the relationship between violence and antiretroviral (ART) adherence among AYA is poorly defined. We evaluated recent violence and ART adherence among AYA in HIV care in Western Kenya.

METHODS: This cross-sectional analysis included HIV-positive AYA ages 10-24 who were aware of their HIV status, on ART, and enrolled in an ongoing cohort study at 9 large HIV clinics in Kisumu and Homa Bay counties, Kenya. Surveys assessed demographics, partnerships, violence, and ART use. Recent violence was defined as experiencing any act of physical, sexual, or emotional violence by another person in the last 6 months, adapted from a World Health Organization tool. Self-reported poor adherence was defined as missing two consecutive days of ART in the prior month. Generalized linear models with a binomial link were used to estimate relative risks (RR). Multivariable models adjusted for age and relationship status. Analyses were stratified by gender.

RESULTS: Among 967 AYA, the median age was 17 (Interquartile range [IQR] 15-20) and most were female (67.2%). Fewer males than females were in a relationship (25.0% vs. 55.7%). Prevalence of any recent violence was similar for males (16.5%) and females (17.1%), and the most common type was physical (males, 13.6%, females, 10.6%), followed by emotional (males, 6.6%, females, 8.0%) and sexual violence (males, 0.6%, females, 3.1%). Poor adherence was reported by 9.2% of males and 8.0% of females. Among males, recent violence was associated with significantly higher risk of poor adherence (RR=3.80, 95%CI 2.49-5.83, p<0.001), which persisted in multivariable analysis (adjusted RR [aRR] 3.62, 95%CI 2.16-6.10, p=0.001). In contrast, recent violence was not associated with poor adherence among females (RR 1.04, 95% CI 0.58-1.84, p=0.90; aRR1.07, 95%CI 0.66-1.74, p=0.78).

CONCLUSIONS: Nearly a fifth of AYA in HIV care reported recent violence. Recent violence was associated with poor ART adherence among males but not females, suggesting the need to develop gender-tailored violence and adherence interventions.

PED0825

IMPORTANCE OF CAREGIVER-CHILD RELATIONSHIPS IN HIV MANAGEMENT FOR CHILDREN LIVING WITH HIV

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BACKGROUND: Eswatini has made great strides towards achieving the 95/95/95 UNAIDS targets to combat HIV. The progress is lagging in children and adolescents who have only attained 73.9% viral load suppression[i]. Caregivers have a role in children's treatment adherence support and viral suppression. The Triple R project is using family centred approaches to enhance capacity of caregivers helping children living with HIV in Eswatini

[i] Swaziland HIV Incidence Measurement Survey (SHIMS) 2: 2016-2017

DESCRIPTION: Pact's USAID-funded Triple R project supports C/ALHIV between 0-17 years by prioritising caregiver-child relationship building and strengthening through early childhood development (ECD) and positive parenting skills. Other services include home visits, education support, nutritional assessments, immunization tracking, HIV Testing, treatment initiation, adherence tracking, HIV status disclosure support, and SRH services. Through parenting skills sessions, caregiver-child pairs learn positive parenting strategies and practice acquired parenting skills. Caregivers of babies and younger children receive home-based ECD education and mentorship.

The project has reached 2134 caregiver-child pairs with parenting skills including 38 caregivers of C/ALHIV. Twenty C/ALHIV who were lost to follow-up on treatment were identified and returned to care. Five HIV positive malnourished children were referred for clinical nutritional support and 19 children who were not immunized were linked to services

LESSONS LEARNED: Parents and caregivers play a critical role in the care of C/ALHIV, yet often need support to provide positive parenting and link children and adolescents to critical services. Family centered interventions result in improved and lasting caregiver-child interpersonal relationships. Caregivers that are informed about health issues are better positioned to identify missed milestones for their C/ALHIV and seek appropriate support.

CONCLUSIONS/NEXT STEPS: A good caregiver-child interpersonal relationship is key in realizing the 95/95/95 targets. It enables psychosocial support at the household level to encourage status disclosure, adherence and retention in treatment which are critical to a healthy life for C/ALHIV. Strategies targeting male caregivers' participation in interventions directed at improving the lives of C/ALHIV are also needed.

PED0826

POPULATION CHARACTERISTICS AND IMPLICATIONS FOR ADHERENCE AND RETENTION INTERVENTIONS AMONG ADOLESCENTS LIVING WITH HIV IN MOZAMBIQUE

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BACKGROUND: Despite a heavy burden of HIV, little is known about adolescents living with HIV (ALHIV) in Mozambique. As part of the CombinADO study, we sought to characterize ALHIV enrolled in HIV care to understand potential for adherence and retention interventions.

METHODS: We conducted a cross-sectional survey of ALHIV (15-19 years) attending HIV services at three facilities in Nampula, Mozambique, collecting information on demographics, medical history and sexual and reproductive health (SRH). Recent viral load (VL) results were abstracted from clinical records.

RESULTS: Between June-December 2019, 208 ALHIV were surveyed [median age, 18 years; inter-quartile range (IQR), 16-19); 70% female]. Overall, 57% (n=119) reported being in a relationship and 59% had disclosed their HIV status to current partner. Among girls, 57% reported a current or previous pregnancy ("ever pregnant girls"), with median age at first sex 16 years. Among boys and girls reporting no pregnancies ("never pregnant girls"), 52% and 38% reported ever having had sex, with the median age at first sex 15 and 17 years, respectively. Low levels of condom use at last sex were reported (42% among boys and never pregnant girls). Age at which adolescents learned their HIV status was highest among ever pregnant girls (median age: 18 years, versus 15 years among never pregnant girls and 14 years among boys). Similarly, self-reported age at ART initiation was highest among ever pregnant girls: 12 years for boys, 15 years for never pregnant and 18 years for ever pregnant girls. Of 117 ALHIV with VL within 6 months of the survey, 42% had VL<50 copies/mL. Boys were less likely to have VL<50 copies/mL compared to girls (31% vs 47%), with no difference according to pregnancy status among girls.

CONCLUSIONS: These data suggest high levels of viremia among both female and male ALHIV. Further information related to routine VL monitoring are needed to understand the low numbers of ALHIV with VL results. Further, there is an urgent need for evidence-based approaches and services tailored to ALHIV in order to successfully reach and engage this population-- to improve adherence and retention and ultimately, achieve viral suppression.

PED0827

PEER SUPPORT GROUPS PLUS: A FAMILY-BASED, INTEGRATED CASE MANAGEMENT APPROACH TO IMPROVE ADHERENCE, VIRAL LOAD SUPPRESSION, AND RESILIENCE IN ADOLESCENTS LIVING WITH HIV

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BACKGROUND: In Uganda, the adolescent viral load suppression rate (70%) continues to lag behind that of adults (95%). Ugandan adolescents struggle with a complex set of clinical and socioeconomic challenges like poor treatment literacy, stigma, poverty, and absence of caregiver and social supports, impeding adherence and successful transition to adult care. Efforts to address these gaps are critical to build adolescent resilience and to achieve and sustain epidemic control in Uganda.

DESCRIPTION: Under USAID/Uganda Better Outcomes for Children and Youth in Eastern and Northern Uganda, the Bantwana Initiative of World Education, Inc. (WEI/Bantwana) delivers a differentiated service package to build resilience and mitigate the risks and impact of HIV and violence among 138,000 vulnerable children and caregivers, including 19,038 caregivers and adolescents/children living with HIV (A/CLHIV). To improve adolescent adherence, WEI/Bantwana layered a package of treatment literacy, parenting, economic strengthening, and protective asset-building supports on existing facility-level psychosocial Peer Support Groups for ALHIV. Reaching 132 caregivers and 138 adolescents across six high-volume sites, sessions aimed to improve positive family communication and joint understanding of the importance of adherence, build youth resilience, and equip families with simple skills to boost income. Trained clinic and community-based social protection structures delivered relevant modules, and para-social workers coordinated adherence support with clinic structures through case management.

LESSONS LEARNED: Caregivers can be powerful allies in adolescent adherence when they have practical knowledge and supports. Pre- and post-test data shows that adolescents' disclosure of their HIV status to family, teachers, and friends increased (72% to 90%). Understanding of treatment literacy improved (72% to 90%) for caregivers and youth, caregiver attendance at clinic appointments increased (62% to 95%), and positive caregiver involvement improved (27% to 85%). Coordinated service delivery at facility and community levels strengthened important relationships and understanding among caregivers, adolescents, and health and social welfare cadres for improved results.

CONCLUSIONS/NEXT STEPS: Findings reinforce the benefits of an integrated HIV and social protection package and family-based approach for improved adolescent adherence. Increased caregiver involvement in tackling HIV-related stigma holds promise for greater uptake and maintenance of positive behaviors for adolescents, which is critical for strengthening and sustaining Uganda's epidemic control achievements.

PED0828

QUALITY OF ELECTRONIC MEDICAL RECORDS AND VIRAL SUPPRESSION AMONG CHILDREN LIVING WITH HIV ON ART IN KENYA

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BACKGROUND: Electronic Medical Records (EMRs) systems are increasingly being implemented across HIV clinics in sub-Saharan Africa, and high quality data may improve clinical outcomes. We sought to determine whether EMR data quality was associated with viral load (VL) outcomes among children living with HIV (CLHIV).

METHODS: We analyzed pre-enrollment VL results from March 2018 to December 2019 for children (<15 years old) enrolled in an on-going randomized controlled trial, Opt4Kids (which seeks to determine the

impact of point-of-care VL testing to improve VL suppression among CLHIV on ART), in two high-volume facilities in Kisumu County, Kenya. We analyzed cross-sectional data extracted from the Kenya District Health Information System (DHIS2) reporting data system in March 2018. The DHIS2 is updated quarterly using summary health data from facility-based EMRs. We developed a novel composite score, ranging from 0-14, for data quality based on passing logic checks for 14 HIV-related indicators including numbers of persons tested for HIV, numbers on care, and on ART. We used multivariate, mixed effects, multilevel logistic regression models with random effects, adjusting for children's and their caregiver's sociodemographic and clinical characteristics and clustering within facility, to assess associations between data quality and children's viral suppression (defined as VL <1000copies/ml).

RESULTS: VL results for 279 (85%) children were available for analysis. Median age was 9 years (interquartile range [IQR] 6-11), 50% were female, and median duration on ART was 6 years (3-8.5). Majority of the children (86%) and their caregivers (85%) were virologically suppressed. The two facility data quality scores were 5 and 8. A higher data quality score was associated with greater viral suppression compared to a lower data quality score (adjusted odds ratio [AOR]=4.24, 95% confidence interval [CI] 1.78-10.11, p=0.011). Increasing time on ART was associated with a lower likelihood of viral suppression (AOR=0.78, 95% CI 0.63-0.98, p=0.03).

CONCLUSIONS: The health facility with stronger EMR data quality demonstrated significantly greater viral suppression in CLHIV. Further research with additional health facilities is needed to explore the association between EMR data quality, other facility characteristics, and clinical outcomes.

HIV AND THE WORKPLACE: POLICIES, RESPONDING TO STIGMA AND/OR DISCRIMINATION, UNEMPLOYMENT, RETURN TO WORK AND REHABILITATION

PED0829

ADDRESSING HIV/AIDS, SEXUAL HARASSMENT, STIGMA, AND DISCRIMINATION TOWARDS WOMEN LIVING WITH HIV AT THE WORKPLACE: THE CASE OF FLOWER FARMS IN UGANDA

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BACKGROUND: In Uganda, young women and girls continue to be disproportionately affected by HIV: 73% of new infections are among girls aged 15-24. This is the same demographic group that does the bulk of the unskilled, low-paid work in the cut flower sector. Flower farms are economical and sociocultural centers that significantly influence the life of people in the country. People live nearby, or on their job, children go to the (sometimes farm-owned) neighboring schools, and the farms provide health services. Stigma, discrimination, and sexual harassment at work remain a significant barrier for women workers.

DESCRIPTION: Three partners have joined forces to address discriminatory practices towards women living with HIV/AIDS in flower farms in Uganda and reduce new HIV infections. We use an area-based approach, focusing on flower farms where the potential for change is huge. By providing quality and stigma-free health information, the project aims to role-model positive behavior around sexual education, HIV/AIDS, and gender equality. Young women and girls facing the HIV/AIDS burden are additionally affected by (partner) violence and unequal gender norms. The program aims to establish mechanisms for reducing sexual harassment, including the adoption and implementation of an HIV and sexual harassment policy and providing sexuality education. We work closely with workers, children, and farm management to sensitize them about the relation between HIV, gender equality, and sexual harassment.

LESSONS LEARNED: Until now, seven flower farms developed mechanisms for reducing sexual harassment and HIV/AIDS issues at the farm. Active involvement of the government, farm owners, and civil society is essential to increase ownership, trust, and sustainability. This includes working with local schools to provide quality sexuality education. Despite progress, due to Uganda's legal framework, it is not possible to provide inclusive and comprehensive sexuality education as the country is increasingly hostile towards the LGBTI+ community.

CONCLUSIONS/NEXT STEPS: An area-based approach has the potential to change local realities. It increases awareness on flower farms, collective action, and improved working conditions. Working at farms allows for close and direct involvement with managers and farm owners. This also enables us to work at different levels and with various members of the community.

PED0830

TARGETING HIV STIGMA AMONG HEALTHCARE PROVIDERS IN A MEDICAL CENTER OF SOUTHERN TAIWAN: TOWARDS ZERO DISCRIMINATION

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BACKGROUND: With the scale-up of antiretroviral therapy coverage, new HIV infection and AIDS-related death are decreasing in the past few years. However, HIV stigma remains a critical issue, even in the medical environment. This project aims to understand the current status of HIV stigma among healthcare workers after the propaganda of "U=U".

DESCRIPTION: A "U = U" propaganda program was conducted in the medical centre in 2018. A standardised questionnaire was utilised to measure HIV stigma and discrimination among health facility staff after the program from December 2018 to January 2019. All staff willing to complete the questionnaire were included regardless of their profession and position. Data was collected with a mobile user interface and was analysed with descriptive statistics.

LESSONS LEARNED: A total of 550 valid questionnaires were collected. The responders are from a variety of departments, and 84% of them are female. Strikingly, 42% of them used to take care of HIV patients in the past years. Regarding the knowledge of HIV, about one-third of them still curious about the reproductive right of HIV-infected women. The anxiety of HIV infection soared while performing invasive procedures, and nearly 40% of them would try not to have body contact with the patients. Besides, approximately 35% of the responders ever saw or heard of any discrimination towards HIV-infected patients. Also, people have much more stigma against

substance users among the various high-risk groups. Lastly, 71% of the responders felt comfortable when working together with a colleague with HIV infection.

CONCLUSIONS/NEXT STEPS: Building a friendly medical environment with zero discrimination is pivotal in providing multidisciplinary holistic care to HIV, especially in the ageing HIV population. This project provides an in-depth understanding of the concern and fear of healthcare providers while taking care of HIV-infected patients. People still had anxious about HIV transmission even with standard personal protective equipment. Understanding the attitude of the frontline staff, providing sufficient skills training and safety measures such as PEP, are at a priority in making the policy of targeting HIV stigma. Further continuing education is necessary, not only to novices but also to those who are already in the field.

PED0831

SECTORIAL PARTNERSHIP AND UP-SCALE OF CAMPAIGN ON VCT@WORK (VOLUNTARY COUNSELLING & TESTING AT WORKPLACES) PAVED THE WAY TO ACHIEVE 90-90-90 IN INDIA

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BACKGROUND: HIV positivity among migrants and informal workers engaged in various occupations in diversified economy is major concern. Non-availability of evidences, insufficient data and inadequate situational analysis in resource constraint work-settings diminishes scope of HIV prevention, early detection and treatment in India.

DESCRIPTION: National HIV testing data for the period of April 2018-March 2019 was done by NACO in collaboration with ILO. This analysis was based on overview of HIV testing among workers engaged in major occupational sector, gender representation and HIV sero-reactivity in different occupations and geographical distribution and used as critical evidence to strengthen sectoral partnership, collaborative action and scale-up VCT@Work campaign. Analysis shown following results;

- 18.12 million People tested for HIV, out of which, 14.57 million were workers (Approx 80%). The participation of male, female and transgender were 54.4%, 45.4% and 0.2% respectively. 0.143 Million people diagnosed with HIV positive and 0.083 million were workers. Of total HIV positive adults, 62 % were male, 37.5 % female, and 0.5 % were TS/TG.
- Overall HIV sero-reactivity for adults is 0.8 %, while for workers it is 0.6%, which is, three times higher than average national HIV prevalence of 0.22%.
- HIV sero-positivity is high among workers engaged in occupational sectors like non-agricultural, self-employed and service sectors.

LESSONS LEARNED: This analysis has given the scope of sectoral partnership and paved way for strategic intervention in 155 high priority districts to achieve target on 90-90-90. Results are as follow;

- Action plan developed for 29 states.
- 1400 industries were approached with campaign on VCT@work to strengthen HIV intervention at workplaces.
- Multi-disease diagnose approach with HIV testing leads high coverage. Messages are established on 'No HIV Stigma at Workplace'.
- Adoption of workplace policy to reduce social stigma & discrimination related to HIV.
- 2500 master trainers and 65,000 Para-medical are trained. HIV related services (Counselling, Testing and treatment) expanded.

CONCLUSIONS/NEXT STEPS: Analysis of national HIV data helped to re-look HIV sero-reactivity among workers engaged in various occupational sectors, VCT@work campaign for prevention, early detection and linkages to achieve target 90-90-90 in 155 high priority districts and further scale- up in 500 more districts in India.

LIVING WITH HIV AND CO-INFECTIONS AND/OR CO-MORBIDITIES

PED0832

TOBACCO USE AND HEALTH-RELATED QUALITY OF LIFE AMONG INDIVIDUALS RECEIVING TREATMENT FOR HIV IN CAPE TOWN, SOUTH AFRICA

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BACKGROUND: Tobacco use is the leading cause of preventable death worldwide, and prevalence rates are high among people living with HIV (PLWH), especially among men. In high-income countries, tobacco use has been linked to low health-related quality of life (HRQOL). Comparatively little research has examined the relationship between tobacco use and HRQOL among PLWH in low and middle-income countries (LMICs), even though LMICs bear the greatest burden of the negative health impacts of both tobacco use and HIV.

METHODS: This study measured associations between habitual tobacco use and HRQOL in a sample of 289 PLWH receiving antiretroviral therapy for HIV in Cape Town, South Africa. Participants were being evaluated for inclusion in a study that sought to increase engagement in HIV care by treating co-morbid clinical depression. Linear regression models measured the effect of gender on tobacco use severity (assessed by the WHO-ASSIST) and on each of the five HRQOL functional impairment domains (assessed by the SF-21). Separate multivariable regression models were used to predict the effects of habitual tobacco use on the HRQOL domains.

RESULTS: The prevalence of habitual tobacco use was 23.9% (48.1% among men, 15.5% among women). Habitual tobacco use was associated with decreased cognitive functioning for the whole sample ($b = -8.99$, $p < .05$) and with lower levels of pain-related impairment for men ($b = 18.1$, $p < .05$). Although men reported more tobacco use ($b = 8.50$, $p < .001$), they reported less pain-related limitations than women ($b = 8.70$, $p < .05$).

CONCLUSIONS: Among smokers living with HIV in our sample, men reported higher rates of habitual tobacco use than women. Habitual tobacco use was associated with cognitive impairment in the whole sample and with less pain-related impairment among men. Future smoking cessation treatments tailored to PWLH may benefit from strategies that consider pain management as one of the pathways to habitual tobacco use and recognize that motivations for use may differ between men and women.

PED0833

HIV AND COMORBIDITIES: THE IMPACT OF COMORBIDITIES ON HEALTH-RELATED QUALITY OF LIFE IN PEOPLE LIVING WITH HIV IN ITALY

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BACKGROUND: The chronic nature of HIV infection and the aging of people living with HIV (PLHIV) are factors contributing to a higher probability of developing comorbidities. The study aims to investigate the impact of comorbidities on Health-Related Quality of Life (HRQoL), in an Italian cohort of 564 PLHIV.

METHODS: Demographics (age and gender) and clinical information (HIV risk factors, presence of comorbidities, CD4 cell count and viral load) were collected. HRQoL, HIV symptoms and depression factors were measured by EQ-5D questionnaire, ISS-QoL scale and CES-D scale, respectively. Adherence to ART was assessed by validated questionnaire. T-test and one-way ANOVA were used to compare the HRQoL across different patient sub-groups. The hierarchical sequential linear regression model was used to explore the determinants of HRQoL. All analyses were conducted with a significant level of 0.05.

RESULTS: The PLHIV assessed had a mean age of 48.5 years old and 80.7% were male. The median follow-up was 3 years. Most PLHIV reported good adherence (91.8%), were virologically suppressed (96.3% with viral load ≤37 copies), and in good immunological status (76.2% with CD4 >500 cells/mm3). Almost half (47.5%, N=268) of the sample presented with comorbidities, HCV co-infection (21.8%), and cardiovascular disease (25.7%) being especially common.

Patients with good immunological status (p=0.031), successful virological suppression (p=0.011), adherence to ART regimen (p <0.001), and presence of mild and moderate HIV symptoms (p<0.001), reported better HRQoL. Moreover, patients with a higher number of comorbidities reported worse HRQoL (p<0.001), particularly in the presence of cardiovascular diseases (p=0.018), diabetes (p=0.028) and neurocognitive impairment (p<0.001).The results of the regression analysis indicated that good adherence (β=-0.104, p=0.031), with mild and moderate HIV symptoms (β=-0.478, p<0.001), absence of HCV infection (β=-0.080, p<0.001) or neurocognitive impairment (β=-0.166, p<0.001) were independent predictors of better HRQoL.

CONCLUSIONS: Results raise awareness of the impact of comorbidities on HRQoL in a real-world setting, supporting the need for additional interventions to promote well-being in the ageing population, HCV eradication prioritization, and evidence-based decision-making process from the policy makers' perspective.

PED0834

TECHNOLOGY BASED EVALUATION FOR NEUROCOGNITIVE IMPAIRMENT FOR PEOPLE LIVING WITH HIV IN PRIMARY CARE SETTINGS IN HARARE, ZIMBABWE

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BACKGROUND: Because many people (~50%) living with HIV also present with associated neurocognitive impairment (NCI), screening for neurocognitive disorders should be an integral part of treatment. However, few cognitive screening tools have been developed for screening for HIV-associated NCI in low-resource settings and none have been developed for use in Zimbabwe. NeuroScreen is an android app based cognitive screener that has been validated to screen for NCI in people living with HIV and takes approximately 20-25 minutes to administer. We assessed lay counselor and patient experience using NeuroScreen to screen for NCI. Our aim was to o establish acceptability and feasibility of routine screening for NCI using NeuroScreen.

METHODS: 138 HIV+ participants were recruited from two primary care clinics in the western townships of Harare, Zimbabwe.The participants completed the NeuroScreen assessment and a Technology Use Questionnaire.In order to gauge whether using NeuroScreen in this setting is feasible, in depth interviews were conducted with three primary care HIV counsellors.To understand patient experience with using NeuroScreen, five HIV+ participants who had completed an assessment were interviewed.

RESULTS: From the Technology Use Questionnaire, 73% (N=101) of the participants had never used a tablet before. However 96% (N=133) of those participants found the Neuroscreen easy to use and interact with. The NeuroScreen was found to be acceptable because it provides simple instructions and the tasks are entertaining to the participants. Participants enjoyed the interactive nature of the tasks and the ability to be in control of the assessment. Using the Neuroscreen was also perceived as a means of improving mental capabilities that would aid in antiretroviral therapy adherence. The counsellors found the NeuroScreen feasible to use due to the short duration of tasks and it's automated scoring.

CONCLUSIONS: Technology based evaluations for NCI are feasible and acceptable in Zimbabwe. Participants viewed the assessment as empowering because they are in control when using the NeuroScreen on an android tablet. Routine assessment of NCI in adults attending primary care clinics using technology based evaluations is therefore possible in this setting. This is key in identifying people with NCI and providing the necessary interventions.

PED0835

ALCOHOL USE ASSOCIATED WITH LOWER CD4 COUNTS AMONG HIV-INFECTED WOMEN IN RUSSIA

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BACKGROUND: In 2014, almost one million people lived with HIV in Russia, with women comprising an increasing proportion of infections. WHO estimates that 5.8% of Russian women are heavy episodic drinkers and 2.6% have an alcohol use disorder. Alcohol use has been associated with decreased antiretroviral (ARV) adherence. In spite of the alcohol and HIV epidemics among Russian women, this population remains understudied. We examined the association of problematic alcohol use with ARV adherence among 250 HIV-infected women, aged 19-35, in St. Petersburg, Russia.

METHODS: Data from participants were collected at baseline via ACASI and medical records review. Problematic alcohol use was measured by the Alcohol Use Disorders Identification Test (AUDIT) with scores summed and dichotomized (Yes ≥8; No 8<). ARV adherence measures included:

1) forgetting to take 1+ ARV in past 7 days;
2) adjusting ARV regime;
3) ARV self-efficacy;
4) perceived benefits of adherence;
5) ARV side-effects and
6) ARV expectancies.

We also tested the association of problematic alcohol use with HIV symptomatology and CD4 count (CD4 count > 325 copies/μL=0; CD4 count ≤ 325 copies/μL=1). Chi-square and t-test analyses examined associations of adherence and health outcomes with alcohol use. Covariate adjusted logistic regression models were performed for each of the ARV adherence outcomes and CD4 count.

RESULTS: Young women with problem drinking behaviors were more likely than those who did not to forget taking ARV medication [Adjusted Odds Ratio (AOR)=6.8, 95% CI=1.5-8.4) and to adjust their medication regime (AOR=1.8, 95% CI 1.2-2.7). Women with problematic drinking also had more burdensome HIV-related symptoms than those without (AOR=1.03, 95% CI=1.0-1.1) and had lower CD4 counts (AOR=2.6, 95% CI=1.0-6.8). No significant differences were found with respect to ARV self-efficacy, ARV expectancies, perceived benefits of adherence, and ARV side effects.

CONCLUSIONS: Problematic drinking was associated with lower ARV medication adherence and CD4 counts, and more HIV-related symptoms. In addition to routine screening and referral for problematic alcohol use, findings underscore the need to develop and deliver alcohol treatment services in HIV care settings in Russia that are acceptable and feasible for HIV-infected women.

PED0836

IMPACT OF PHYSICAL ACTIVITY ON HEALTH OUTCOMES IN PLWH IN CENTRAL AMERICA

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BACKGROUND: Exercise is a strong component of treatment and prevention regimens for hypertension, diabetes, and obesity, and is recommended by the CDC and WHO to promote general health and wellbeing. Data on the positive impacts of exercise is sparse for people living with HIV (PLWH) in Central America. Here we examine the association of exercise with hypertension, diabetes, and obesity in a cohort of PLWH in Guatemala.

METHODS: We performed an analysis of baseline data from PLWH enrolled in a prospective cohort based at a large HIV clinic in Guatemala City between July and December 2019. Demographics, clinical and anthropometric data were collected through interviews and chart review. Total physical activity was determined by summing weekly minutes of moderate and intense physical activity related to work, transportation, and recreational activities. Physical activity groups were defined based on WHO guidelines. Baseline characteristics were compared between groups using chi-squared analysis. Variables with p <0.2 were included in the binary logistic regression models built for each outcome of interest.

RESULTS: Of the 709 PLWH, 402 (56%) were male, and 322 (45.4%) were 40 years of age or older. 37.9% of the cohort reported more than primary education, and a majority (86.3%) reported non-indigenous ethnicity. In total, 112 patients (15.8%) were obese, 63 (8.9%) had hypertension, and 38 (5.4%) had diabetes. In logistic modeling, after adjusting for age and gender, exercise was associated with decreased risk of hypertension (OR=0.46, 95% CI 0.28, 0.78 p =0.003). Physical activity was not associated with outcomes of obesity or diabetes. Age and gender were stronger predictors for these outcomes.

	Active N=437 N(%)	Sedentary N=272 N(%)	OR (95% CI)	p-value
Age ≥ 40 years	131 (30.0%)	191 (70.2%)	0.824 (.608-1.12)	0.212
Male	286 (65.4%)	116 (42.6%)	0.398(.291-.543)	<0.001
Ethnicity (not indigenous)	376 (86.0%)	236 (86.8%)	0.862 (.548-1.36)	0.521
High school education	173 (39.6%)	96 (35.3%)	1.178 (.858-1.617)	0.312
Body mass index >30	67 (15.3%)	45 (16.5%)	0.897 (.594-1.356)	0.607
Current tobacco use	58 (13.3%)	26 (9.6%)	1.448 (0.887-2.363)	0.137
Hypertension	28 (6.4%)	35 (12.9%)	0.464 (0.275-0.781)	0.003
Diabetes	22 (5.0%)	16 (5.9%)	0.848 (0.437-1.645)	0.626

[Table 1: Baseline demographics by exercise group]

CONCLUSIONS: An active lifestyle was associated with lower risk of hypertension but not diabetes or obesity in this cohort. Further analysis is required to determine what other traditional risk factors or HIV related parameters are influencing these outcomes within the cohort.

PED0837

ASSOCIATION OF CONCURRENT DEPRESSION, ANXIETY AND POSTTRAUMATIC STRESS DISORDER WITH HEALTHCARE UTILIZATION AMONG PEOPLE LIVING WITH HIV/AIDS IN FLORIDA

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BACKGROUND: Little is known about the prevalence and risk of concurrent depression, anxiety and posttraumatic stress disorder (PTSD) on healthcare utilization among people living with HIV/AIDS (PLWHA). This study investigated the relationships between these concurrent conditions and HIV clinic visits, overnight hospitalization and emergency/urgent care visits among PLWHA.

METHODS: PLWHA who were 18 years or older in Florida participated in the study from 2014 to 2018. We measured current depression, anxiety and PTSD using the Patient Health Questionnaire (PHQ-8), Generalized Anxiety Disorder scale (GAD-7) and Primary Care PTSD Screen (PC-PTSD), respectively. Participants' HIV clinic visits, overnight hospitalization and emergency/urgent care visits in the past 6 months were collected through survey methods. We used dichotomous variables for missed HIV visits (yes, no), number of overnight hospitalization (0-1, >=2), and number of emergency/urgent care visits (0-1, >=2). We stratified the sample by the number of concurrent depression, anxiety and PTSD and investigated the associations with missed HIV clinic visits, overnight hospitalization and emergency/urgent care visits.

RESULTS: Among 876 participants, 134 (15.3%) had one condition, 130 (14.8%) had two and 142 (16.2%) had all three of depression, anxiety and PTSD. Participants with any one condition showed higher proportions of missed visits, having 2 or more overnight hospitalization and having 2 or more emergency/urgent care visits in the past 6 months. Participants having any one of the three conditions showed significantly worse service utilization outcomes than par-

ticipants having none of them. There is no significant difference in terms of service utilization outcomes between participants who had 1 to 3 mental health conditions. Participants with all three conditions showed the highest odds of missed HIV visits (AOR 2.16, 95% CI 1.34-3.49), having 2 or more overnight hospitalization (AOR 2.85, 95% CI 1.69-4.81), and having 2 or more emergency/urgent care visits (AOR 2.53, 95% CI 1.59-4.04) compared to participants with none of them.
CONCLUSIONS: The study underscores the importance of mental health services in the screening and treatment of PLWHA. People with mental disorders may need additional support and care to improve HIV care, utilization of services and outcomes.

PED0838

EXPERIENCES OF RACISM, HOMOPHOBIA, AND STIGMA IN HEALTHCARE SETTINGS AND MEDICATION ADHERENCE AMONG BLACK SEXUAL MINORITY MEN LIVING WITH HIV IN LOS ANGELES COUNTY, CALIFORNIA

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BACKGROUND: Black, sexual minority men (BSMM) are disproportionately impacted by HIV. Among those living with HIV, medication adherence is a key target of individual-level treatment and population-level HIV prevention. However, BSMM face numerous structural barriers to healthcare engagement, which impact their ability to maintain treatment adherence. We studied structural barriers to HIV medication adherence, including experiences of racism, homophobia, and HIV stigma in healthcare settings.
METHODS: BSMM living with HIV in Los Angeles County, California were recruited via social media and social service organizations (N=115) for an intervention study and completed a baseline survey online that included a previously validated measure of HIV medication adherence. We examined the association between HIV medication adherence and a range of structural barriers, including poverty, housing instability, criminal justice involvement and experiences of racism, homophobia, and HIV stigma in healthcare settings using multivariable logistic regression analysis.
RESULTS: Fifty-eight percent of participants reported living below the federal poverty line; 48% experienced housing instability in the past year; 39% had been involved with the criminal justice system in the past 5 years; and only 7% were employed full-time. Despite these challenges, 98% had been to an HIV medical appointment at least once in the past year; 93% report taking their prescribed medications, and 86% got tested for STIs at least once every 6 months. In multivariable analysis, those with access to healthcare were twice as likely to report excellent HIV medication adherence (aOR=1.95). Experiencing racism in healthcare settings was negatively associated with HIV medication adherence, such that a 1-point increase in experiences of racism was associated with a 40% decrease in the likelihood of excellent HIV medication adherence (aOR=0.60).
CONCLUSIONS: BSMM in our sample reported high levels of HIV medication adherence despite numerous structural barriers to health (e.g., housing instability, criminal justice involvement). After controlling for important structural barriers, experiences of racism in healthcare settings remained negatively associated with HIV medication adherence. To achieve goals of ending the HIV epidemic, policies that go beyond prohibiting discrimination in healthcare settings and seek to shift provider-level practices, including specific interventions to reduce racism in healthcare settings, are warranted.

PAIN MANAGEMENT AND PALLIATIVE CARE

PED0839

PREDICTORS OF THE PYSCHONEUROLOGICAL SYMPTOM CLUSTER IN PEOPLE LIVING WITH HIV

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BACKGROUND: Approximately 70% of persons living with HIV (PLWH) report daily symptoms including, even when their HIV is well controlled, which can negatively impact their quality of life and work life productivity. Symptom prevalence is associated with medication regimen, disease progression, chronic inflammation and immune activation. Symptoms often occur in clusters or patterns because symptoms are highly correlated with each other and they rarely occur alone. The psychoneurological cluster includes depressive symptoms, anxiety, fatigue, sleep disturbance and pain. The purpose of this study is to investigate the predictors of this cluster in order to better address the negative impact and build a foundation for intervention.
METHODS: For this descriptive correlational study we used a de-identified secondary dataset created by the Center for AIDS Research (CFAR) Network of Clinic Systems (CNIS) which includes 8 clinics from around the country. We examined six patient-centered variables and demographics (age, gender, and race/ethnicity, diabetes diagnosis) in the CNICS dataset: the; Alcohol Use Disorder Identification Test (AUDIT) for alcohol use; Lipid Research Center Questionnaire (LRCQ) for physical activity; Adult AIDS Clinical Trials Group (AACTG) for HIV medication adherence; and EuroQol (EQ5D) for QOL. For the outcome variables of psychoneurological cluster, we selected specific symptoms from the HIV Symptom Index. We used logistic regression to examine the predictors of psychoneurological cluster.
RESULTS: Of the 3,131 PLWH included in this study, 12% (389) experienced the psychoneurologic symptom cluster. The logistic regression model explains 11.8% to 20.8% of the variance in having a psychoneurological cluster and correctly classified 85.1% of cases. Medication adherence, QOL, Opioid use, and race/ethnicity influenced the psychoneurological cluster among PLWH. When controlling for other predictors, as medication adherence, QOL, opioid use, or race (reference: white) increases by 1 point, the odds of having psychoneurological cluster increase by 0.995, 0.53, 3.39, and 0.65(black)/0.72 (Latino) respectively. The comorbid condition of diabetes was not a significant predictive.
CONCLUSIONS: The psychoneurological cluster is a group of highly burdensome symptoms for PLWH. These symptoms may be side effects of treatment. However there are differences between race/ethnicity groups. This may speak to differences in symptom expression, or in symptom treatment. Further research is needed.

PED0840

LOOKING GOOD, FEELING BAD: THE IMPACT OF SPIRITUAL CARE ON CLINICAL OUTCOMES OF PEOPLE LIVING WITH HIV IN A PRIMARY HEALTH CENTRE IN COASTAL KENYA

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BACKGROUND: HIV infected individuals may appear physically healthy but may be suffering from significant spiritual pain which impacts on their clinical outcomes and ultimately affects their quality of life. Spiritual pain may manifest as feelings of guilt, anger, worthlessness, hopelessness, helplessness or condemnation. Total pain management addresses the spiritual pain of patients as they cope with chronic diseases. Not many researchers have investigated the relationship between spiritual care and clinical outcomes in Kenya. The aim of this intervention was to offer spiritual care as an integral component of palliative care for people living with HIV (PLWH).
DESCRIPTION: The intervention was implemented in a primary health center in Coastal Kenya. The HIV clinic staff observed that their patients' spiritual pain was largely ignored. In addition, the HIV clinic registered low enrolments of newly diagnosed HIV infected patients and a high defaulter rate among currently registered patients. The clinic staff was trained to use a standardised spiritual assessment tool to screen patients for spiritual distress at the initial visit as part of the social history and at follow-up visits as appropriate. Patients who screened positive were offered targeted spiritual support by trained spiritual counsellors. Monthly debriefing and review meetings were held with the clinic staff to review progress. Patient enrolment, defaulter tracing, uptake of Isoniazid Preventive Therapy (IPT), viral load suppression and adherence to clinic appointment date were monitored on a monthly basis.
LESSONS LEARNED: This intervention offered an opportunity to uncover patients' coping mechanisms and support systems which are important in formulating holistic individualized treatment plans. Over a period of one year, the following improvements were noted:
1. 37% increase in new enrolments of PLWH
2. 80 out of 117 defaulters returned to the clinic (68%)
3. IPT uptake improved from 11% to 79%
4. Viral load suppression improved from 71% to 84%
5. Adherence to clinic appointment dates improved from 67% to 98%

CONCLUSIONS/NEXT STEPS: Spiritual care ought to be considered as an important component for every patient's holistic well-being. Addressing spiritual pain and distress in PLWH might be a cost effective intervention in improving the outcomes of HIV care and treatment programs.

PEER SUPPORT: LESSONS LEARNED, ACCESS TO SERVICES AND HEALTH OUTCOMES

PED0841

PROJECT 100: EVALUATING THE IMPACT OF A UK NATIONAL PEER-SUPPORT PROGRAMME ON ADULT PEER-MENTORS LIVING WITH HIV AND PARTNER AGENCIES

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BACKGROUND: Peer-support helps people living with HIV improve their well-being and clinical outcomes. We aimed to evaluate how a 4-year national peer-support programme impacted the health and well-being of volunteer peer-mentors and identify the barriers and facilitators of engagement in offering peer-support services.
DESCRIPTION: Positively UK's 'Project 100' peer-support programme delivered a 3-day standardised peer-mentor training to >700 adults living with HIV between 2015 and 2019, working with >100 clinical and voluntary sector partners. It provided access to accredited qualifications in peer-support and HIV treatment literacy, alongside organisational support, policies and protocols on how best to implement peer support, in line with UK national standards for HIV peer-support, also developed as part of this project (latterly incorporated within the BHIVA Standards of HIV Care).
Our mixed-method independent evaluation included clinic and programmatic questionnaires, an anonymous online survey, focus group discussions (FGDs) and separate semi-structured telephone interviews (TI) to collect qualitative and quantitative data on the experiences and achievements of peer-mentors and partner organisations.
LESSONS LEARNED: Since becoming peer-mentors, >90% of the online survey respondents stated feeling good about themselves, having increased personal strength, confidence in reaching their goals and access to opportunities in life. 87% and 74% reported being better informed and better able to manage their HIV, health and well-being, respectively. 77% were more open about their HIV status and >70% more comfortable seeking help and happier being themselves around most people.
Participants in TI and FGDs also reported increased confidence and self-esteem, improved organisational, communication and mentoring skills, better knowledge and understanding of HIV and the HIV community and improved mental health, describing their experience as "inspirational" "empowering" and "life changing". >93% would recommend peer mentoring as a peer-mentor or a mentee.
Maintaining accountability and ownership over their own volunteers was essential to regional partners with the training bringing structure and consistency to the delivery of peer-support nationally. The main limitations were engaging and getting referrals from HIV clinical services, although some clinics supported their own volunteers where voluntary sector services were unavailable locally.
CONCLUSIONS/NEXT STEPS: Nationally delivered standardised peer-support training resulted in transformative benefits for individuals, services and the HIV sector.

PED0842

KEY DRIVING FACTORS FOR LATE ART INITIATION AND RISKS FOR GETTING LOST FROM HIV-SERVICE ARE IDENTIFIED IN PEER-BASED PSYCHO-SOCIAL STUDY IN ODESSA, UKRAINE

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BACKGROUND: Ukraine has been scaling up ART since 2004 and is currently covering more than 150 000 patients with ARV treatment that is transferred from GFATM to national and local fundings. However, decades of opened stigma and discrimination in healthcare settings, social marginalization of HIV patients from marginalized groups and remaining verticality of HIV-service resulted in late presenting for ART still in 2019 with median CD4 cell rate below 150 cells. Such situation does not allow to fully benefit from ART access both on individual and community level.Most of "late-breakers" are also not visiting AIDSW-centers since HIV diagnose and presenting on treminal stages - in Odessa region only there are up to 4000 patients in the database that have not been visiting clinic for significant period of time (from1 to 7 years).

METHODS: Our study identified key risk factors for late presenting for treatment and for being lost from HIV-service. Our organization has access to HIV+ people who are withdrawn from HIV service for multiple reasons. We have provided 100 in-depth interviews with respondents that: - just started ART on 3-4 Stage of duisease progression (incl. TB co-infection); - avoiding HIV clinic and reject HIV treatment. All respondents have been randomized by age, social status, education and specific anamnesis features. Quality of Life score has been assessed in all respondents using WHO QOL assessment tool.

RESULTS: We have identified following risk factors: - poor/absence of counselling after HIV test and stigma in AIDS center; - demonization of ART in the community; - being a women is identified as a risk factor for quitting ART. Inprisonment, shift to "stimulant and alcohol" use are driving factors for getting lost. All respondents have shown extremely low QoL index (less than 30 in transformed score).

CONCLUSIONS: Comprehensive analysis and development of psychosocial portraite of "late-presenter" gave us striking picture of multiple factors that lead to failure of effectiev ART utilization. In order to address these scope of problems there is an urgent need to design and implement specific program for "patients with special needs"to address their problems and ensure full benefit from ART and high quality of life.

PED0843

PROMOTING VIRAL LOAD SUPPRESSION AMONG FEMALE SEX WORKERS LIVING WITH HIV IN MALAWI THROUGH COMMUNITY-LED SOLUTIONS: LESSONS FROM LINKAGES PROJECT IN ZOMBA AND MACHINGA DISTRICTS, MALAWI

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BACKGROUND: The 2015-2016 Malawi Population-Based HIV Impact Assessment estimates 62.3% of female sex workers (FSW) in Malawi are HIV positive. Through the USAID/PEPFAR-funded LINKAGES project, FHI 360 supports the country's response to the epidemic by working with volunteer peer educators (PEs) and peer navigators (PNs) from the FSW community to deliver HIV services. We describe the FSW-led strategies the project implemented to facilitate adherence to antiretroviral therapy (ART) among FSWs living with HIV and their impact on viral load outcomes.

METHODS: Between October 2016 to September 2018, LINKAGES established 48 support groups for FSWs living with HIV in 56 clustered hotspots in Machinga and Zomba districts. HIV Positive Key Population selected leaders amongst themselves in each cluster to be trained as Peer Navigators (PNs). PNs are medication-adherent role models living with HIV who are trained to provide HIV services that increase linkage and medication adherence to ART at community level. PN work in collaboration with community ART support group peers to promote positive living, ART adherence, creating demand for viral load (VL) and index testing, nutrition counselling, psychosocial support, screening for tuberculosis and sexually transmitted infections, gender-based violence screening and reporting.

RESULTS: As of September 2018, a total of 923 FSWs living with HIV and on ART were linked to support groups. Of these, 328 FSWs were eligible for VL testing with 265 having their dry blood spot samples collected for VL testing with the support of PNs. Of these 265, 88.8 % (235/265) received their results and 88.9% (233/265), including 29 FSWs who defaulted on ART and were identified by their peers and re-initiated on treatment, were virally suppressed (<1000 copies/ml). During this period, no death was recorded among the HIV-positive cohort.

CONCLUSIONS: Programmes providing care and treatment services for FSWs should consider recruiting and involving PNs to maximize the benefits of ART, especially viral suppression. The involvement of PNs with the collaboration of ART support groups enhance sustained adherence to ART to improve viral load outcomes.

PED0844

SUSTAINING TREATMENT ADHERENCE AND VIRAL SUPPRESSION AMONG HIV POSITIVE WOMEN THROUGH A ROBUST PEER APPROACH

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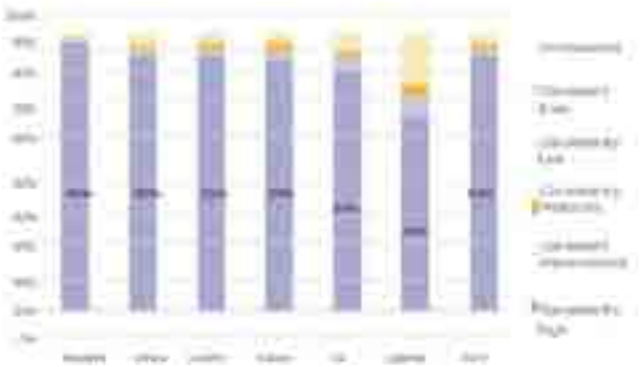
BACKGROUND: Supporting clients living with HIV to adhere to their antiretroviral therapy (ART) is necessary to maintain good health and achieving viral suppression. Through peer led Mentor Mother Model, each one-on-one interaction with a client includes conducting an adherence assessment. Clients identified as having poor adherence to ART or un-suppressed viral load are provided with intensified education and enhanced support. The Mentor Mothers actively link eligible clients to a viral load test and assist clients to interpret the viral load result

METHODS: A retrospective cohort analysis was conducted among a sample of 5,372 pregnant women and new mothers who enrolled in the m2m programme between 1 January and 30 June 2016 in Eswatini, Kenya, Lesotho, Malawi, South Africa, and Uganda. The 7-day recall and 5-point adherence behaviour and efficacy scale were used to assess adherence to ART during all interactions with a Mentor Mother from enrolment until the end of 2018.

RESULTS: Measured as the percentage of days in the past week that a client took medication, averaged over multiple measurements, 94% of the multi-country sample had an average adherence rate of >95% (n=5,372). Over 92% of the multi-country sample displayed con-

sistently high levels of remaining adherent to ART, aggregated, only South Africa and Uganda achieved below 90% on this measure. A total of 1470 women had at least one viral load test recorded. Of these women, 92% achieved viral suppression, defined by the World Health Organization as a viral load below 1000 copies/ml.



[Figure. Consistency in maintaining adherence to ART by country in the m2m programme]

CONCLUSIONS: m2m's peer model is effective in supporting adherence to antiretroviral therapy. The available viral load test data indicate that most of m2m's HIV positive clients achieve viral suppression, thereby significantly reducing the risk of morbidity and mortality, greatly contributing to the prevention of HIV transmission from mother to child.

PED0845

BENEFITS OF EMPOWERING PARENTS OF CHILDREN LIVING WITH HIV & AIDS TO OVERCOME STIGMA WITHIN RURAL COMMUNITIES IN UGANDA: LESSONS FROM NYAKAGYEME IN RUKUNGIRI

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BACKGROUND: There is overwhelming evidence that early initiation of antiretroviral therapy can lead to positive treatment outcomes. The ministry of health of Uganda introduced the policy test and in 2016. However, about 33% of children living with in Uganda are not on treatment. One of the major reasons is stigma. Alliance for Community Health Initiative is reducing stigma through conducting focused community dialogues.

DESCRIPTION: We formed 12 groups of ten people with five of them people living with HIV. The groups were encouraged to freely discuss about effects of stigma among children with a HIV with a view of finding ways of supporting parents with children living with HIV to access ART. The facilitators helped groups appreciate the benefits of early treatment for children by sharing facts. The discussions were conducted twice a moths for each group for a period of two years. As a result of this intervention, the enrollment of children living with HIV on ART increased from 20% to 70% within Kiyaga Health Centre IV. School attendance rate of children living with HIV increased from 15% to 58% within Nyakagyeme Sub County in Rungiri

LESSONS LEARNED: Providing a forum for members of the community with special needs is like parents with children with HIV & AIDS is critical in improving access to services. Providing convenient timings for the focus groups was very important for ensuring maximum attendance and participation in the focus groups. Best practices from one community can spread to other communities with limited structural support. Above all parents have a big role to play in ensuring access to treatment by children living with HIV and AIDS.

CONCLUSIONS/NEXT STEPS: Parents with children with HIV face a lot of challenges in ensuring that their children access treatment due to high stigma rates within the community. However, with good structured interventions like community focus groups, can help parents overcome such challenges with enormous benefits to both the children and the rest of the community members. The lessons gained will be shared by partners and other communities

PED0846

EXPERIENCES OF USING MENTOR MOTHERS TO INTEGRATE ECD COMPONENTS INTO PMTCT PROGRAMME IN HIGH BURDEN SETTING IN MALAWI

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BACKGROUND: Malawi was the first country to conceive and implement Option B+ in 2011. The government of Malawi launched a 2018-23 National Strategic Plan for Integrated Early Childhood Development (ECD), but the emphasis has been on children who are over 3 years old and attending Community Based Child Care Centres. There has been a gap in advocacy to ensure that the 0-3 age group receives the necessary stimulation and proper support for development. Prevention of mother-to-child transmission of HIV (PMTCT) programmes present an opportunity for motivating mothers to stimulate children for healthy milestone development. Yet, there is limited evidence on the impact of ECD interventions in Malawi in relation to PMTCT programming. [111]

DESCRIPTION: In 2018, mothers2mothers (m2m) launched a programme integrating ECD and nurturing care support into its PMTCT programme at facility and community levels. Mentor Mothers are employed in the facility and in the community to ensure linkage of clients (pregnant and lactating women) between facility and community for close follow up and retention in care, at the same time supporting and tracking parents' care for and stimulation of infants through regular interactions and assessment of developmental milestones. Upon testing HIV positive, clients are registered by the facility Mentor Mothers using a customized mHealth application, and then linked to Community Mentor Mothers for regular household visits. [103]

LESSONS LEARNED: In the period between September 2018 to August 2019. 2,049 children, both HIV positive and negative, were assessed on their developmental milestones, 441 at 3 months, 419 at 6 months, 377 at 9 months, 433 at 12 months, 233 at 18 months, 121 at 24 months and 15 at 36 months. Children on track for their developmental milestones included 86% of the children at 3 months, 83% at 6 months, 82% at 9 months, 90% at 12 months, 75% at 18 months, 92% at 24 months, and 65% at 36 months. [109]

CONCLUSIONS/NEXT STEPS: The findings were encouraging, suggesting that mothers appear to be learning new skills in stimulating HIV-exposed infants which lead to positive attainment of appropriate developmental milestones. [26]

PED0847

SEGMENTED WHATSAPP HIV SUPPORT GROUPS FOR KPS IN CENTRAL AMERICA

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BACKGROUND: Once patients have received a positive diagnose for HIV the main challenges are to overcome personal and environmental barriers to remain adherent. The life expectancy of a person living with HIV increases significantly when they are in treatment and constant support. Support groups are an important tool to maintain linkage and adherence to treatment but the main barrier is having the time and space to conduct sessions periodically. Social networks are now an indispensable communication tool in any area of our life, allowing us to take advantage of immediate connectivity by reducing the time and distance gaps to communicate. WhatsApp offers ease, speed and versatility to be used from friendship to business purposes.

DESCRIPTION: In 2018, the Pan-American Social Marketing Organization (PASMO), through the USAID-funded Combined Prevention program started a WhatsApp support group strategy. Segmented by age, interests and time elapsed since diagnosis, groups of 6 to 10 participants were structured, to share information, answer common questions and to meet once a week. It also includes comprehensive care staff moderators (doctors, psychologists, nutritionists), to generate more interest from the participants.

LESSONS LEARNED: Promoted at integral care clinics, among users of the Program and in social networks through Facebook advertising, 22 groups of different profiles of men who have sex with men, women, newly diagnosed people, people with adherence problems and even participants from countries outside the region were created.

On average, 16 sessions were held per group to cover the structured curricula of the program and also include their needs, doubts and objectives set by the group. Three of each four member groups successfully completed the process and established long-term support and communication links.

CONCLUSIONS/NEXT STEPS: The WhatsApp support group strategy has allowed HIV positive people to have holystic support from a simple, safe and accessible tool that contributes to adherence when carrying out specific interventions and strengthen support networks by eliminating the gaps related to time and distance.

The next step is to use the Whatsapp strategy to contact HIV partners (index testing) for notification, referrals and HIV testings.

PED0848

CASA LA RED, UN ESPACIO SALUDABLE - CENTRO CULTURAL- (CAFE TEMATICO. BIBLIOTECA. CENTRO DE TESTEO. ACONDICIONAMIENTO FISICO)

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BACKGROUND: "House the net" Es un espacio saludable, libre de estigma y discriminación, pensado, desarrollado y ejecutado por personas que viven con el VIH, con el objetivo de contenernos, desarrollar y generar políticas de cambio a nivel local, nacional e internacional.

DESCRIPTION: Casa de la red. Es un proyecto que comenzó en 2005 cuando la Red se toma para recuperar y llevar a cabo sus actividades, una antigua casa de 115 años en el centro histórico de la ciudad de Mar del Plata, que busca generar un lugar libre de estigma y discriminación donde Contenernos y organizarnos para luchar por los derechos humanos de las personas con VIH, acceso a la salud, trabajo, vivienda, alimentación saludable, acceso a terapias complementarias, tener la mejor calidad de vida posible y poder mostrar el rostro positivo de las personas con VIH .

LESSONS LEARNED: Hemos aprendido que somos los más interesados en generar políticas de apoyo y cuidado para las personas con vih / sida, generando espacios para desarrollar y mostrar el rostro positivo de las personas con vih, favoreciendo disminuir más rápidamente el estigma y la discriminación asociada al vih y Mejorar Nuestra Calidad de Vida.

Para este, hemos creado un centro de asesoramiento integral, con confirmación de confianza rápida y gratuita, con asesoramiento previo y posterior a la prueba, apoyo y seguimiento a aquellos que dan positivo hasta que se inserta en el sistema de salud. donde las personas pueden acceder y socializar en el café, restauran la temática de las comidas saludables, que funcionan en el comedor y el parque de la casa, rodeadas de murales y controles en un marco de cordialidad, donde se aconseja a las personas sobre alimentos específicamente y aceite de cannabis. Una terapia complementaria a los antirretrovirales y la disminución de la polifarmacia. Los asistentes pueden asistir y participar en el cultivo y procesamiento del aceite de cannabis.

CONCLUSIONS/NEXT STEPS: Hemos logrado un lugar único en la ciudad, una referencia para todas las personas con VIH y la sociedad en general, donde puede desarrollar habilidades, generar debates, cambiar políticas y desarrollar modelos más allá de los vigentes en atención, asesoramiento y apoyo.

POSITIVE HEALTH, DIGNITY, PSYCHOLOGICAL WELL-BEING AND MENTAL HEALTH

PED0849

FACTORS ASSOCIATED WITH RESILIENCE AMONG OLDER PEOPLE LIVING WITH HIV

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BACKGROUND: Resilience, the ability to bounce back from stressful circumstances, may be important in helping older people (age 50+) living with HIV (PLWH) age successfully, but limited data exist regarding factors that contribute to resilience.

METHODS: Data were utilized from the Aging with Dignity, Health, Optimism and Community (ADHOC) cohort, an observational study that collects patient-reported outcomes (PROs) on socioeconomic, psychosocial, and health factors among older PLWH from ten clinics across the U.S. Resilience was measured using the Connor-Davidson Resilience Scale 2 (CD-RISC), a validated instrument where higher scores indicate greater resilience. Bivariate analyses were performed to determine the associations between resilience and PROs. Factors significantly associated with resilience at the $p<0.2$ level were then included in a multivariate model.

RESULTS: Of 1,051 participants, 896 (86%) were male and the mean age was 59 years (SD 6.1 years). Scores on the CD-RISC ranged from 0-8, with a mean of 6.35 (SD 1.49). Factors positively associated with resilience in bivariate analyses (p<0.05) included age, education level, current employment, income, being married or in a long-term relationship, number of close family and friends, and social support. Factors negatively associated with resilience (p<0.05) included internalized stigma, depression and anxiety. Years since HIV diagnosis, being male, and being gay were positively associated with resilience at the p<0.2 level. In the linear regression model, current employment and higher levels of social support were associated with greater resilience (p<0.05), whereas depression and anxiety were associated with lower resilience (Table 1). Higher income was marginally associated with greater resilience (p = 0.06).

Characteristic	β	(SE β)	p-value
Currently employed	0.22	0.10	0.03
Income level	0.04	0.03	0.06
Interpersonal support	0.37	0.09	< 0.01
Depression score	-0.13	0.04	< 0.01
Anxiety score	-0.18	0.04	< 0.01
Adjusted R^2=0.25, F = 23.63, p<0.001			

[Table 1: Multivariable regression results for factors significantly associated with resilience among older PLWH.]

CONCLUSIONS: To increase resilience, some factors identified in this study (e.g., employment and socioeconomic status) require community-wide interventions, while other factors (e.g., depression and anxiety) are treatable by medical providers. All of these factors represent targets for interventions to increase resilience among older PLWH.

PED0850

EFFECT MEASURE MODIFICATION OF SOCIAL SUPPORT IN THE ASSOCIATION BETWEEN HAZARDOUS DRINKING AND DEPRESSION SYMPTOMS AMONG ART CLIENTS IN VIETNAM

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BACKGROUND: In Vietnam, hazardous drinking is a widespread behavior among people living with HIV (PWH), and this population is also vulnerable to depression due to social stigma and discrimination. Research on the association between hazardous drinking and depression symptoms among PWH in Vietnam remains scarce, and no studies have explored how social support changes this association. This study aims to evaluate the association between hazardous drinking and depression symptoms among PWH in Thai Nguyen, Vietnam and to examine the role of social support as an effect modifier in this association.

METHODS: This is a secondary analysis using baseline data from a three-arm randomized controlled trial of two interventions aiming to reduce alcohol use among hazardous drinking HIV-positive ART clinic patients in Thai Nguyen, Vietnam. The screening survey administered to determine enrollment eligibility was used for the analysis. A score of 8 or more on the Alcohol Use Disorders Identification Test (AUDIT) and a score of 5 or more on the Patient Health Questionnaire-9 indicated hazardous drinking and having depression symptoms, respectively. Social support was measured with a 5-question version of the Medical Outcomes Study Social Support Instrument. Crude and adjusted prevalence ratios (cPRs; aPRs) of the association between hazardous drinking and depression symptoms stratified by level social support were calculated.

RESULTS: More than a quarter of participants had symptoms indicative of depression (26.2%), and the prevalence of hazardous alcohol use was 38.3%. Overall, hazardous drinking was significantly associated with increased likelihood of having depression symptoms (cPR=1.19 (95% CI 1.00-1.43); aPR=1.25 (95%CI 1.04-1.51)). Social support was a significant effect modifier: Hazardous drinking and depression symptoms were not associated among those with high social support (aPR=0.99; 95%CI 0.74-1.33), but were associated among those with medium (aPR=1.24; 95%CI 0.92-1.69) and low social support (aPR=1.71; 95%CI 1.25-2.35).

CONCLUSIONS: The associations between hazardous drinking and depression symptoms among PWH in Vietnam differed significantly depending on level of social support. Future interventions for hazardous drinking PWH in Vietnam and in other low-resource settings focus on the most vulnerable group of PWH with low levels of social support and incorporate components of social support from family, friends or peers of PWH.

PED0851

POSITIVELY SPEAKING - A PODCAST EXPLORING THE EXPERIENCES OF PEOPLE LIVING WITH HIV/AIDS

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BACKGROUND: Casey House is Canada's first and only stand-alone hospital for people with HIV/AIDS providing inpatient and outpatient programs to people with complex physical and psychosocial challenges. Positively Speaking, a 6-episode podcast, was created to build trust within a healthcare environment and give voice to peoples' lived experience. The project offered an avenue to engage the broader community and challenge stigma through the power of narrative and the reach of the podcast medium.

DESCRIPTION: The concept, topics and content of this podcast project were client driven, based on the principles of GIPA/MEPA. Thirty-Four clients participated in the project through: engagement sessions, advisory committee meetings and collaborative tools such as dotmotcracy. The development and production of season one started in September 2018, culminating in a launch and appreciation event in November 2019, with the first episode going online in December 2019. The topics chosen by clients were long-term survivors, relationships, mental health, housing, isolation and living positively with HIV.

The podcast was supported by Casey House Hospital and Foundation and developed by three staff: peer manager, volunteer manager and a social worker. Production was by the RTA School of Media at Ryerson University.

LESSONS LEARNED: Clients who participated reported a greater sense of purpose and engagement. Hospital staff and community identified the podcast as an important teaching tool to challenge

stereotypes within healthcare. Broadcast quality podcasts can be produced in a community setting, offering multiple benefits for participants. However, high-quality productions are time intensive and require dedicated staff and professional support. Clients benefited from practice sessions and were more comfortable being interviewed by someone, and in a place, that was familiar.

CONCLUSIONS/NEXT STEPS: The podcast project strengthened the connection between clients and the hospital. Our clients appreciated, and were empowered by, the opportunity to share their stories and some saw it as their legacy to future generations. Casey House unconditionally supported this initiative as a client engagement tool and will continue to do so with the development of future seasons by providing greater resources and dedicated staff time, continued partnership with media experts, and an integrated evaluation strategy.

PED0852

MENTAL HEALTH PROBLEMS IMPACT ADHERENCE MORE IN MALE THAN FEMALE ADOLESCENTS WITH HIV IN MOZAMBIQUE

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BACKGROUND: Despite the importance of mental health (MH) for HIV health outcomes and the growing numbers of adolescents living with HIV (ALHIV) globally who are at risk for poor outcomes, few studies have examined the MH needs of this population and gender differences in low resource contexts.

METHODS: Using data from a survey conducted with 208 ALHIV, ages 15-19 living in Nampula, Mozambique, we examined the relationship between MH and ART adherence. Participants were screened for anxiety (GAD-7), depression (PHQ-9), and trauma and PTSD symptoms (CPSS-V). Self-reported ART adherence was measured using a validated scale (Wilson, 2016); suboptimal adherence was defined as <90%. Differences in anxiety, depression, and adherence by gender were each assessed using chi-squared tests; differences in mean number of traumas and PTSD symptoms were each assessed using t-tests. The association between MH outcomes and adherence<90% was estimated using logistic regression, controlling for age and allowing for interaction by gender.

RESULTS: Relatively few screened positive for depression (12%) or anxiety (12%). Participants reported many traumatic events (mean: 11), with limited PTSD symptoms. Nearly half (44%) reported adherence between 80-90%, though only 35% reported adherence ≥90% and 46% missed ≥1 dose in the past month. There were no gender differences in MH or ART adherence but the association of MH with adherence was greater for males compared to females. Among males, higher anxiety (odds ratio [OR]=1.32, 95% confidence interval [CI]: 1.07-1.62), depression (OR=1.27, 95% CI: 1.05-1.54), trauma (OR=1.11, 95% CI: 1.02-1.20), and PTSD symptom (OR=1.85 95% CI: 1.17-2.93) scores were all associated with significantly greater odds of adherence<90%; in contrast, MH was not associated with adherence among females (Table).

	Odds ratios (OR) and 95% confidence intervals (CI) for the association between mental health and self-reported adherence <90%		
	Overall (controlling for age and sex)	Males (controlling for age)	Females (controlling for age)
Anxiety (assessed using the GAD-7, modeled as a continuous variable)	1.11 (1.01, 1.21)	1.32 (1.07, 1.62)	1.05 (0.95, 1.16)
Depression (assessed using the PHQ-9 modified for adolescents, modeled as a continuous variable)	1.13 (1.04, 1.22)	1.27 (1.05, 1.54)	1.08 (0.99, 1.19)
Trauma (assessed using the CPSS-V, trauma and PTSD symptoms, modeled as continuous variables)	1.03 (1.00, 1.07)	1.11 (1.02, 1.20)	1.00 (0.97, 1.04)
PTSD symptoms (assessed using the CPSS-V, trauma and PTSD symptoms, modeled as continuous variables)	1.24 (1.00, 1.54)	1.85 (1.17, 2.93)	0.97 (0.75, 1.26)

[Table.]

CONCLUSIONS: Despite growing up with significant adversity, including a highly stigmatized illness, these ALHIV demonstrated resilience, with relatively few screening positive for MH challenges. However, MH was a significant barrier to high ART adherence among young men, highlighting the urgent need for tailored mental health interventions for this vulnerable population.

PED0853

COUNTERING THE NARRATIVE: EXPLORING THE RELATIONSHIP BETWEEN WELLNESS AND RESILIENCE WITHIN BLACK MEN WHO HAVE SEX WITH MEN WHO ARE LIVING WITH HIV (BMSM+)

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BACKGROUND: In the United States, 1 in 2 men who have sex with men with African ancestry (BMSM) will be diagnosed with HIV in their lifetime; and studies suggest that resilience serves as a protective factor against the transmission of HIV. Still little is known about the role of resilience among BMSM already living with HIV (BMSM+), especially in the context of overall wellness. The aim of this study was to examine if measured resilience could predict wellness, a holistic psychological measurement of well-being.

METHODS: A descriptive, correlational research design was used to analyze the association between resilience and wellness (using a multi-dimensional assessment) within a nationally represented sample (N = 249). Multi-factor ANOVAs were run as post-hoc analyses to examine how resilience and wellness varied given demographic variables.

RESULTS: Descriptive statistics indicated that BMSM+ have lower levels of resilience, and similar overall wellness when compared to the assessments' norming samples. Though, BMSM+ statistically significantly differ in the dimensions of physical, social, and spiritual wellness. This study established that resilience predicts wellness in BMSM+, where for every one-point increase in resilience there would be a .49 increase in wellness.

Furthermore, there were significant differences in resilience and wellness given demographic variables. Participants with an undetectable HIV viral load (n = 188) had higher levels of resilience and wellness. Additionally, more formal education was associated with higher levels of resilience and wellness. Participants who: contracted HIV via mother-to-child (n = 8); were very religious (n = 20) or not at all religious (n = 89); or were partnered (n = 52) had lower levels of wellness when compared to their counterparts within the sample.

CONCLUSIONS: These results suggest that care continuum stakeholders missioned with improving the wellness and well-being of BMSM+ should consider including resilience within their interventions. Along with prior research, this study highlighted the complex role of religion in regard to the wellness of BMSM+, necessitating individualized application. Contrary to prior research, in the context of BMSM+ wellness the type of social support matters, where romantic relationships may not be equivalent to other types of social support among BMSM+.

PED0854

MENTAL HEALTH WELL-BEING IS ASSOCIATED WITH HIGHER LEVELS OF ANTIRETROVIRAL DRUG CONCENTRATIONS IN HAIR AMONG A COHORT OF WOMEN LIVING WITH HIV IN THE UNITED STATES

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BACKGROUND: Mental health status is an established determinant of self-reported antiretroviral therapy (ART) adherence, but limited research has studied this association using objective measures of adherence. We examined the association of a global measure of mental health well-being with ART concentrations in hair, an objective and validated measure of drug adherence and exposure, among women living with HIV (WLHIV) in the United States.

METHODS: We analyzed longitudinal data collected semiannually from 2013 through 2015 from the Women's Interagency HIV Study, a multisite, prospective cohort study of WLHIV and HIV-negative controls. The sample comprised 998 person-visits from 566 WLHIV reporting ART use. We assessed mental health using the validated Medical Outcome Study HIV Health Survey (MOS-HIV) mental health summary scale, which captures mental health domains of health-related quality of life. Scores range from 0-100 with higher scores indicating better mental health. ART concentration in hair was measured using high-performance liquid chromatography with mass spectrometry detection for regimens including darunavir, atazanavir, raltegravir, or dolutegravir. We conducted multivariable three-level linear regressions accounting for repeated measures and the ART medication(s) taken at each visit, adjusting for sociodemographic characteristics (age, race/ethnicity, income, and education) and kidney function.

RESULTS: At baseline, mean age was 48 (standard deviation (SD): 9), and 67% of participants were virally suppressed with a mean of 10 years on ART (SD: 6). The median score of the MOS-HIV mental health summary score was 56 (interquartile range: 49-63). In the multivariable model, each one point higher score in mental health well-being was associated with a 1.12-fold higher ART concentration in hair (95% confidence interval: 1.01, 1.23; p<0.05).

CONCLUSIONS: In a longitudinal study, mental health well-being was associated with higher ART concentrations in hair, suggesting that better mental health is associated with better ART adherence and/or drug absorption. The direction and pathways for this relationship should be examined and interventions seeking to improve ART adherence among WLHIV should consider and address the role of mental health.

PED0855

CLINIC-PSYCHO-BEHAVIORAL DETERMINANTS OF HEALTH RELATED QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV: THE ROLE OF RESILIENCE

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BACKGROUND: With the availability of antiretroviral therapy (ART), HIV infection has subsequently evolved to a chronic condition. As the life expectancy increases among people living with HIV (PLWH), perceived health-related quality of life (HRQoL) is becoming a prominent and important patient-reported outcome in HIV care. Prior research demonstrated CD4 counts, depression, and ART adherence were the conventional clinic-psycho-behavioral determinants of HRQoL. However, data regarding the role of resilience were limited. Therefore, this study aimed to explore the influence of resilience on HRQoL.

METHODS: Data was derived from a prospective cohort study which was conducted from November 2016 to January 2018 in Guangxi, China. PLWH who were receiving ART were selected as the study sample. Participants were assessed on their socio-demographic characteristics, HRQoL, CD4 counts, depression, ART adherence, and resilience at baseline, 6-month, and 12-month follow-ups. CD4 counts were categorized as <350, 350~500, and ≥500 cells/μl. Hierarchical multiple linear mixed effect models were employed to assess the association of HRQoL with CD4 counts, depression, ART adherence, and resilience with adjusting for the repeated measures and covariates (e.g., socioeconomic status [SES], BMI, age).

RESULTS: Among the 414 participants who were receiving ART, mean values of their HRQoL were 121.1 (±17.6), 121.9 (±15.4), and 105.2 (±14.6) at baseline, 6-month, and 12-month follow-ups, respectively. Hierarchical regression analyses indicated that the proportion of variance explained by the model is 6% (R^2) while adjusting for the repeated measures and covariates. After the conventional clinic-psycho-behavioral determinants of HRQoL were added, the proportion of variance explained by the model increased by 24%. The final model in which resilience was added, the proportion of variance explained by the model increased by 5%. Age (β=-0.11, p=0.03) and depression (β=-1.64, p=0.04) were negatively associated with HRQoL while BMI (β=0.49, p<0.01) and SES (β=1.34, p<0.01) were positively related to HRQoL. Resilience surpassed conventional clinic-psycho-behavioral determinants and could significantly improve HRQoL (β=0.48, p<0.01).

CONCLUSIONS: PLWH experienced worse HRQoL with time increase. Resilience surpassed conventional clinic-psycho-behavioral determinants and positively influence HRQoL among PLWH. To improve HRQoL and prolong survival of PLWH, resilience-based approach is needed to help them cope with stressful conditions of HIV infection.

PED0856

HIGH RATES OF SUICIDAL THOUGHTS AND ATTEMPTS AMONG TRANS WOMEN IN SÃO PAULO, BRAZIL

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BACKGROUND: Trans women are among the populations most highly affected by HIV globally. In Brazil, trans women experience severe social, economic, and health care discrimination, making them one of the most marginalized and under-served communities in the country. We hypothesize that factors leading to marginalization and HIV risk also affect mental health. We examined suicidal thoughts and attempts among trans women at high risk of HIV in São Paulo, the largest city in the Western Hemisphere.

METHODS: Data are from the DIVAS Project, a cross-sectional study conducted among trans women via RDS between 2016-2017 in São Paulo, Brazil. Procedures included a structured questionnaire and HIV testing. Descriptive analysis and factors associated with suicidal thoughts and attempts were examined.

RESULTS: Of the 386 eligible participants, half identified as "travesti" (51.6%), while others identified as trans women (35.2%) or woman (12.7%). One third were Catholic (35.2%), most were non-white (72.2%), >25 years (74.4%), and with an incomplete secondary education (55.1%). HIV prevalence was 35.2%, and 32.7% engaged in sex work in the past month. About half (n= 205; 53.1%) had suicidal thoughts; of these, 63.4% attempted suicide, including 22.9% in the past year. Lifetime suicidal thoughts were associated with having no religious affiliation (aOR 3.87, 95%CI 2.04-7.37), being in a relationship (aOR 3.96; 95%CI 1.83-8.57), being married (aOR 3.50, 95%CI 1.78-6.86), and social support (β: -0.02, p<0.01). Suicide attempt in the last year was associated with "woman" gender identity vs. "transwoman" (aOR 8.89, 95%CI 1.80-43.78), having no religious affiliation (aOR 4.37, 95%CI 1.27-15.05), recent sex work (aOR 2.79, 95%CI 1.03-7.57) and age (β: -0.02, p<0.01).

CONCLUSIONS: Trans women in São Paulo have a high prevalence of suicidal thoughts and attempts, predicting very high mortality risk over their lifetimes. Over one-third also tested HIV+, which may be related to having unmet mental health needs. Personal as well as structural factors may explain the rates of suicidal thoughs and suicidal attempts among transgender people. Meeting the unmet mental health needs and other supportive services and policies should be prioritized for this population that also bears a disproportionate burden of HIV in Brazil and the world.

PED0857

THE POSITIVE EMOTIONS AMONG SEROPOSITIVE MEN WHO HAVE SEX WITH MEN IN HIGH DENSE STIGMA CITY'S OF INDONESIA: A QUALITATIVE STUDY

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BACKGROUND: Indonesia is facing a rapid growth in the intensity of stigma during this decade, with the effects of past efforts to break down the stigma starting to fade. The socio culture and religious strictness only straiten the dynamic of the progress of HIV acceptance within the community. Men who Have Sex with Men (MSM) doubtlessly have to hold down the double burden of a stigma which further impacts upon their life choices. It is very crucial to develop inner strength among seropositive MSM to help them to tackle the destructive social environment which surrounds them. This study explores the positive emotions experienced by seropositive MSM who adhered to their medication in most stigmatized environment city in Indonesia.

METHODS: The study was conducted by carrying out phenomenological research. In-depth interviews were conducted with 22 seropositive MSM who adhered their medication. The data analysis in this study used the Stevick-Colaizzi-Keen data analytical method.

RESULTS: Three significant themes were found to represent the positive emotions among seropositive MSM. The themes were mindful acceptance of the disease, HIV progress optimism and spiritual guidance enforcement. Seropositive MSM acknowledge self-acceptance is essential to start to stand up against the disease. Seropositive MSM would feel much comfortable with their life if they felt accepted by themselves. HIV progress until now also boosts their optimism to live longer. Seropositive MSM believe the fights against the disease will never end but they believe there are people who are striving to eliminate the disease forever. They also feel relieved that what they have now is better compared to what they were expecting before getting to know the disease. Seropositive MSM also feel that being spiritual makes them feel better. They believe their God will always be beside them and that this only a test to make them a better person.

CONCLUSIONS: Positive emotions marked by inner strength would impact seropositive MSMs' self-determination. It is important to support the HIV affected population to gain more their inner strengths to fight against the negativity of the disease. It also reminds us of the need for well evidenced strategies to boost affected popoulations involvement to themselves.

PED0858

GENDER DIFFERENCES IN PERCEPTIONS OF HEALTH AND WELL-BEING AMONG ADULTS ON ART IN MALAWI

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BACKGROUND: Antiretroviral therapy (ART) has drastically improved lifespan -- however few studies have been conducted about the well-being of individuals as they age with HIV, or explored gender differences in well-being, particularly in resource-limited settings such as Malawi.

METHODS: We conducted a survey at a large, free ART clinic in Lilongwe, Malawi. Eligible participants were ≥30 years old, experienced on ART, and not acutely ill. The survey was adapted from validated tools including the WHO Disability Assessment Scale (WHODAS). Viral load results were extracted from medical records (suppressed: <200 copies/mL). Data were collected between June-August 2019. Differences between men and women were assessed using t-tests. Multivariable models included covariates for age, household wealth and education.

RESULTS: We surveyed 134 adults: 49% women, median age 51 years (IQR 42, 58), median 9 years on ART (IQR 6, 11). A higher proportion of women demonstrated viral suppression compared to men (89.2%

versus 78.1%, aOR 0.32 for suppression among men vs. women, p-value <0.05, 95% CI 0.11, 0.97); median 4.5 months since most recent viral load). Men had significantly higher self-rated health (5.3 versus 4.6 on a scale of 0-8, p-value <0.001), lower rates of disability as assessed by WHODAS (2.5 versus 6.7 on a scale of 0-48, p<0.001) with a particular difference in the domain of functioning (i.e., standing, walking, learning and concentration) (Table 1). These relationships persisted in multivariable models.

	Among all (n= 134)	Among females (n= 66)	Among males (n= 68)	Multivariable model OLS coefficient (β) on male gender (95% CI)
General health, mean (median)	4.9 (5)	4.6 (5)	5.3 (5)***	0.78*** (0.39, 1.18)
Social isolation, mean (median)	4.4 (5)	4.4 (4.5)	4.4 (5)	-0.01 (-0.54, 0,56)
Feelings of stigma, mean (median)	3.3 (4)	3.4 (4)	3.3 (3)	-0.13 (-0.52, 0.25)
WHODAS total, mean (median)	4.6 (3)	6.7 (6)	2.5 (2)***	-3.97*** (-5.41, -2.52)
WHODAS functioning domain, mean (median)	2.4 (1.5)	3.8 (3)	1.0 (0)***	-2.56*** (-3.49, -1.63)
WHODAS tasks domain, mean (median)	0.4 (0)	0.8 (0)	0.1 (0)**	-0.71*** (-1.09, -0.33)
WHODAS relationships domain, mean (median)	1.8 (2)	2.2 (2)	1.4 (0)*	-0.71† (-1.41, 0.003)

General health scored 0 (worst) to 8 (best), includes: perceived health today, health today versus 1 year ago
Social isolation scored 0 (worst) to 6 (best), includes level of agreement with: lacking companionship, feeling left out, feeling lonely
Feelings of stigma scored 0 (worst) to 6 (best), includes level of agreement with: If people knew my HIV status, they wouldn't give me a job, Sometimes I feel worthless because I am HIV positive
WHODAS total scored 0 (no disability) to 48 (most disability), includes: difficulties with standing for long periods of time (F), walking long distances (F), learning new tasks (F), concentration (F), difficulties with taking care of household responsibilities (T), bathing (T), getting dressed (T), difficulties with day-to-day activities (T), difficulties with joining in community activities (R), dealing with or talking to strangers (R), maintaining friendships (R), being emotionally affected by health problems (R)
WHODAS functioning domain scored 0 (no disability) to 16 (most disability) includes items noted with (F) above
WHODAS tasks scored 0 (no disability) to 16 (most disability) includes items noted with (T) above
WHODAS relationships scored 0 (no disability) to 16 (most disability) includes items noted with (R) above

Asterisks indicate level of significance for comparison of difference between females and males: †p<0.1, *p < 0.05, **p < 0.01, ***p < 0.001
Bivariate analyses use t-test for means. Multivariable models specified as OLS, and contain covariates for age (continuous), household wealth (quintile based on asset index) and level of educational attainment (categorical: no formal education, some primary, finished primary, some secondary, finished secondary, beyond secondary).

[Table 1: Wellbeing factors of men and women]

CONCLUSIONS: These pilot data suggest that there may be important sex differences in perceptions of health and wellbeing, with men reporting themselves as healthier and having higher functional status as compared to women, despite lower rates of viral suppression. More research should be done on gender-sensitive approaches to measuring wellbeing and health, and how to leverage such information to ensure holistic care for men and women in ART programs.

PED0859

HOW MENTAL HEALTH SHAPES ART INITIATION AMONG HETEROSEXUAL AND GAY OLDER ADULTS NEWLY DIAGNOSED WITH HIV IN UKRAINE

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BACKGROUND: Ukraine has the worst HIV epidemic in Eastern Europe and Central Asia, the only world region with increasing HIV incidence and mortality. Adults ≥50 years constitute 37% of Ukrainians and 15% of all new HIV diagnoses. As older people with HIV (OPWH) (defined as ≥50 years) in Ukraine present with later stage HIV and multiple morbidities, antiretroviral therapy (ART) as soon as possible is essential for preserving long-term clinical outcomes. In 2018 less than 30% of OPWH were linked to ART within 6 months of diagnosis, with same-year mortality 3-11 times higher than the age-matched general population. As LGBQT stigma persists in older generations in Ukraine, we qualitatively explored how mental health in diverse OPWH may shape ART initiation.
METHODS: In 2018-2019, we conducted in-depth interviews with 16 male (3 MSM) and 14 female OPWH within 6 months of diagnosis, as well as two male-only, and two female-only focus groups (6-8 OPWH in each, 4 MSM) in Kyiv. Audio-recorded and transcribed data were inductively analyzed for themes.
RESULTS: In Ukrainian OPWH accounts, HIV diagnosis was the most traumatic event of their life, threatening their "decent woman" or "strong man" identity, their essential social and family roles, and their (hetero)sexual status. OPWH experienced severe anxiety and depressive symptoms including fear, loss of sleep and appetite, hopelessness, apathy, and suicidal ideation, leading to self-destructive behaviors like heavy drinking. While older MSM described wider networks of acquaintances than heterosexual men, all older men preferred self-reliance in coping with the diagnosis, and were more vulnerable to mental health problems and delayed ART in the absence of one close confidante (often a female relative but never a child; seldom a male mate). Conversely, older women reported seeking and receiving emotional support to manage mental stress and instrumental help to link to ART, often from female friends and more rarely from family members (including children).
CONCLUSIONS: As Ukraine strives to achieve the 95-95-95 HIV care goals by 2030, understanding mental health implications of HIV diagnosis and coping strategies among diverse OPWH is crucial for developing evidence-based peer-led programs to reduce time to ART and improve mental health among OPWH.

PED0860

MENTAL HEALTH EVALUATION AND PSYCHOLOGICAL FOLLOW-UP IN HOSPITALIZED PEOPLE LIVING WITH HIV

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BACKGROUND: Mental Health (MH) problems are more common among people living with HIV (PLWH) than in the general population. It is important to timely detect MH problems and carry out an

adequate psychological follow-up since poor MH may contribute to suboptimal patterns of antiretroviral treatment adherence, loss to follow up, and, as a consequence, worse health outcomes and higher morbidity/mortality. The objective of this study was to evaluate MH symptoms and psychological follow-up in hospitalized PLWH in a third-level hospital in Mexico City.

METHODS: Observational, retrospective, cross-sectional study. Mental health evaluation was performed with a semi-structured interview and the Hospital Anxiety and Depression Scale (HADS). The psychological follow-up evaluation was carried out with the review of assisted appointments to the hospital's outpatient mental health service. PLWH who were hospitalized between October 2018 and November 2019 were included in the study.

RESULTS: 121 PLWH hospitalized received a MH evaluation during the study period. Of these, 90.1% (n=109) were males, the mean age was 36.5 years (SD=9.5) and 42.1% (n=51) had recent HIV diagnosis (≤4 months). Regarding psychological symptoms, 23.9% (n=29) showed depressive symptoms and 36.6% (n=44) anxiety symptoms; 57.9% (n=70) reported trouble sleeping, 32.2% (n=39) loss/increased appetite and 18.2% (n=22) suicidal ideation. Regarding psychological follow-up, only 30.6% (n=37) had at least one assisted MH appointment as outpatient. PLWH with a recent HIV diagnosis (≤4 months) had more probability of continuing MH care as outpatients (41.2% vs. 22.9%, p=0.031).

CONCLUSIONS: We identified an important frequency of mental health problems in hospitalized PLWH. We also observed a low rate (30%) of attendance to MH appointments after hospitalization. An adequate and timely MH intervention (psychological and/or psychiatric) is key to manage mental health problems and strengthen medical follow-up, and adherence to antiretroviral treatment resulting in HIV control. A better integration of MH care services must be warranted, especially in hospitalized patients in third level care facilities.

PED0861

OUTCOMES OF A RANDOMIZED CONTROLLED CLINICAL TRIAL OF "FUERTES" AN INTERVENTION TO IMPROVE ART ADHERENCE AMONG MSM LIVING WITH HIV IN MEXICO

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BACKGROUND: Worldwide optimal adherence to antiretroviral therapy (ART) among men who have sex with men (MSM) living with HIV is still a challenge to reduce HIV transmission. Mental health problems are one of the most significant barriers to ART adherence among MSM living with HIV. Although multiple interventions have been implemented around the world, almost none have shown consistent effects in the long term.

METHODS: From November 2017 to January 2020, we implemented a multicenter, parallel, randomized controlled trial of the intervention "FUERTES" with 151 MSM receiving ART in three HIV clinics in Mexico. The objective of the intervention was to improve ART adherence among MSM initiating treatment and measure health outcomes at one, four, and ten months. The intervention group received FUERTES for a maximum of six months. We evaluated adherence using medication possession ratio, self-report through the AACTG questionnaire, CD4 count, and viral load. We assessed mental health using various questionnaires: the PHQ-9 for depression, the AUDIT for alcohol abuse, and the DAST-10 for addiction to drugs. We performed a descriptive analysis. Baseline and follow up characteristics were compared between the two groups applying t-test and chi-square test as appropriate. Mental health outcomes were expressed as percentages and described the trends over the study period.

RESULTS: We found no differences regarding ART adherence between groups. However, at four months, 20.55% of the control group participants reported having a moderate to severe depression compared to 5.6% of the intervention group (p=0.008), and 18.84% vs. 7.35% respectively at ten months (p=0.047). Regarding drug abuse, 10.96% of the control group participants reported having a considerable high drug consumption at four months, compared to 1.41% of the intervention group (p=0.018). We did not find any differences in baseline CD4 count, viral load, or socioeconomic characteristics.

CONCLUSIONS: FUERTES has the potential to improve medium-term mental health and substance abuse outcomes of MSM living with HIV in Mexico. Although our intervention did not have a direct impact on adherence outcomes, its effect on the participant's mental health might influence adherence in the long-term. Therefore, we will measure adherence in three years to identify any differences between groups.

PED0862

MEETING THE FOURTH 90: EVALUATING THE MENTAL HEALTH OF AN URBAN POPULATION OF PEOPLE LIVING WITH HIV IN A GREATER LONDON CLINIC

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BACKGROUND: Looking beyond achieving an undetectable viral load as the goal of therapy has been iterated in recent international targets for HIV management: the so-called 'fourth 90' encompassing working towards a better quality of life for people living with HIV (PLWH). It is well documented that PLWH, especially women, have a disproportionate burden of mental health problems and improving the identification and treatment of mental health problems in PLWH has been identified as a priority. Annual screening for mental health problems is recommended by the British HIV Association Standards of Care 2018. We prospectively studied and evaluated mental health problems in a greater London HIV clinic using validated self-report questionnaires.

METHODS: Clinic attenders at Croydon University Hospital from June 2019 to January 2020 were asked to complete the Insomnia Severity Index (ISI), Generalised Anxiety Disorder Assessment (GAD-7) and Patient Health Questionnaire 9 (PHQ9). Scores were recorded along with patient demographics, drug history and social behaviours.

RESULTS: Of the 265 clinic attenders over the period, 135 (51%) identified as black African, 29 (11%) as black Caribbean and 131 (51%) were women. 259 (97%) were offered the questionnaires, only 1 declined. 86 (33%) of the 258 who completed the questionnaires had scores consistent with at least moderate depression, with 50 (19%) scoring

for severe depression. 92 (36%) scored for at least moderate anxiety with 46 (18%) scoring for moderately-severe anxiety. 39 (15%) had scores consistent with clinical insomnia. Further analysis is continuing to look for associations between mental distress and gender, ethnicity, sexuality, highly-active-antiretroviral-therapy (HAART) regimen and drug and alcohol use.

CONCLUSIONS: High rates of depression and anxiety were identified reflecting the challenges in achieving good emotional health to meet the 'fourth 90' target in this population. Routine screening using mental health questionnaires was found to be feasible and acceptable to patients. Where specific antiretroviral agents were thought to be contributing to poor mental health these patients were offered alternative therapies where appropriate. Further investigation into existing services is ongoing to identify unmet needs and look into opportunities to improve support with psychiatric interventions to improve emotional well being.

PED0863

INSOMNIA AND CD4 COUNT IN HIV POSITIVE PATIENTS

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BACKGROUND: Patients with AIDS experience higher prevalence of insomnia. Insomnia could affect patients' quality of life. Limited epidemiological information about insomnia in HIV positive patients is available in Iran. In this study, we aimed to assess prevalence of insomnia and its association with CD4 count in a HIV positive population.

METHODS: A cross-sectional study was performed among HIV patients referred to Voluntary Counselling and Testing (VCT) centers, Tehran, Iran. A total of 84 HIV positive patients were enrolled in the study. Validated Persian version of Insomnia Severity Index (ISI) questionnaire was used by interviewers. ISI>8 was defined as insomnia. The data was analyzed by independent T-test and descriptive statistics.

RESULTS: Among a total of 84 patients, 69(82%) were men. Participants' mean (SD) of age and BMI were 39.8(9.6) years and 24(4.1) kg/m2, respectively. Mean ISI score was 7.2. Thirty-nine percent (n=33) reported insomnia. Insomniac participants were more likely to have less CD4 count compared to non-insomniacs (469(264) for non-insomniacs vs. 550(335) for insomniacs). However, the trend was not statistically significant.

CONCLUSIONS: Patients with HIV and concomitant insomnia were more likely to have lower count of CD4. This important possible association needs more investigation in larger population of HIV positive patients. Further investigation of insomnia and the possible association with CD4 count would be useful in our future trends for AIDS management and prognosis.

PREVENTION INTERVENTIONS AND THEIR EFFECTS ON THE LIVES AND RELATIONSHIPS OF PEOPLE LIVING WITH HIV

PED0864

ATTITUDES TOWARD AND EXPERIENCES WITH DISCUSSING PRE-EXPOSURE PROPHYLAXIS (PREP) WITH SEXUAL PARTNERS AMONG HIV-INFECTED ADOLESCENTS AND YOUNG ADULTS IN THE U.S.

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BACKGROUND: Sexual partners of HIV-infected youth are a key population for pre-exposure prophylaxis (PrEP). However, little is known about whether HIV-infected youth in the U.S. are aware of PrEP and willing to discuss it with partners. We examined the attitudes and experiences of HIV-infected youth engaged in HIV medical care toward discussing PrEP with sexual partners.

METHODS: Fifteen individual, in-depth, semi-structured interviews were conducted between 4/2019 and 12/2019 with 15-24-year-olds recruited from an outpatient HIV clinic. Interviews assessed demographics, PrEP knowledge, sexual behaviors, and constructs from the Theory of Planned Behavior as related to discussing PrEP with partners: barriers, facilitating factors, and experiences with and intentions toward discussing PrEP with partners. Past disclosure of HIV status was not assessed: failure to disclose to a partner is a felony under state law. Transcripts were analyzed using framework analysis. The study was IRB approved.

RESULTS: Mean age was 18.2 years (SD1.7). Eight participants were cis-female, 5 cis-male, and 2 transgender female. Twelve acquired HIV sexually and 3 perinatally. The majority were sexually active (14/15); most of those had opposite sex partners only (9/14), and 5/14 reported recent condomless sex. Most youth (12/15) were aware of PrEP. Barriers to discussing PrEP with partners included participant-related factors (n=10; i.e., discomfort disclosing HIV status, concerns about partners' negative reactions), partner-related factors (n=5; i.e., not open to PrEP, unfamiliar with PrEP), and relationship factors (n=4; i.e., lack of trust, new relationship). Facilitating factors included educating partners about PrEP (n=6), partners meeting with the participant's clinician (n=2), and framing PrEP as a desire to protect partners (n=2). Seven participants had discussed PrEP with a partner; these conversations often occurred when disclosing HIV status. Ten participants reported comfort with disclosing HIV status to future partners; 8 participants reported high intention to discuss PrEP with future partners.

CONCLUSIONS: Although many HIV-infected youth had some knowledge about PrEP, only half of sexually active youth had discussed PrEP with a partner. Uptake by sexual partners of HIV-infected youth may be improved by interventions to educate all youth about PrEP and offering opportunities for partners of HIV-infected youth to meet with clinicians to discuss PrEP.

PED0865

FACTORS ASSOCIATED WITH THE PERCEPTION OF A NEGATIVE IMAGE THAT USING PREP REFLECTS TO OTHERS: RESULTS OF THE ANRS-PREVENIR STUDY

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BACKGROUND: Effectiveness of HIV pre-exposure prophylaxis (PrEP) strongly depends on adherence. Psychosocial factors have been identified as barriers to the use of PrEP. However, little is known about the intrinsic barriers to its use, such as the individual representations of PrEP. We aimed identifying the factors associated to the perception of a negative image that using PrEP reflects to others.

METHODS: The ANRS-Prevenir study started in 2017, offers prevention based on daily or on-demand PrEP to seronegative volunteers at high risk of HIV infection in the Ile-de-France region. Participants provided information about PrEP representations in a self-administered questionnaire at enrolment. The outcome was constructed with the answer to the following statement: "In your opinion, PrEP can make you look bad/reflect a negative image to others". "Completely agree" and "Tend to agree" were grouped in "yes"=1; "Completely disagree" and "Tend to disagree" in "no"=0. Logistic regression was implemented. Covariates included socioeconomic, behavioral, psychosocial, and clinical characteristics (STIs at enrolment and/or a score of past STIs) as well as PrEP status at enrolment (PrEP-experienced vs. PrEP-beginners).

RESULTS: Among 3067 participants, 2657 completed the enrolment questionnaire. The outcome was constructed for 2563 (96.5%). For 32.6%, using PrEP may them look bad/reflect a negative image to others. The probability of perceiving that a negative image is reflected to others by the use of PrEP decreases with age [aOR=0.98, p<0.001] and self-esteem [aOR=0.97, p=0.019]. Participants stimulated by their main partner to use PrEP [aOR=0.65, p<0,001] and those using daily PrEP [aOR=0.98, p<0,001] are less likely to perceive that using PrEP reflects a negative image to others. However, the probability of this perception increases with depression [aOR=1.02, p=0.007]. No association was found for STIs (at enrolment (p=0.166)/score of past STIs (p=0.254)), and PrEP status (p=0.317).

CONCLUSIONS: For the youngest and those psychologically vulnerable, the perception of a negative image that using PrEP reflects to others could become a barrier for its use. Understanding the factors associated to this negative image is crucial for targeting support for these users. Our results should be confronted with participants' follow-up. They suggest ways to strengthen the use of PrEP among high-risk populations.

PED0866

PREP TALK: ATTITUDES AND EXPERIENCES OF HIV-INFECTED ADOLESCENTS AND YOUNG ADULTS TOWARD DISCUSSING PRE-EXPOSURE PROPHYLAXIS (PREP) FOR SEXUAL PARTNERS WITH CLINICIANS

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BACKGROUND: Maximizing uptake of pre-exposure prophylaxis (PrEP) by sexual partners of HIV-infected youth depends upon these youth being aware of and educated about the role of PrEP in HIV prevention. Thus, we explored the attitudes and experiences of HIV-infected youth engaged in HIV medical care toward discussing PrEP for sexual partners with their clinicians.

METHODS: Between April and December 2019, we recruited fifteen youth 15-24-years-old from appointments at an HIV clinic for individual, in-depth, semi-structured interviews. Interviews based on the Theory of Planned Behavior assessed demographics, sexual behaviors, and constructs related to discussing PrEP for partners with clinicians: perceived barriers, facilitating factors, and experiences with and intentions toward discussing PrEP for partners with clinicians. Transcripts were analyzed using team-based framework analysis. The study was IRB approved.

RESULTS: Mean age was 18.2 years (SD1.7). Most (n=8) were cis-female, 5 were cis-male, and 2 were transgender female. Twelve acquired HIV sexually and 3 perinatally. The majority were sexually experienced (14/15); of these, 5 reported sex without a condom in the prior 6 months. Although most participants reported no barriers to discussing PrEP with their clinicians (n=11), other participants reported barriers including discomfort discussing sex (n=1) and desire to have another person present to start the PrEP conversation (n=1). Facilitating factors around clinician behaviors included initiating conversations about PrEP (n=2), strategizing with the patient about how to discuss PrEP with a partner (n=1), and discussing PrEP with the partner at participant medical visits (n=1). Thirteen participants had discussed PrEP with a clinician; 9 reported that the clinician provided education about PrEP, 8 reported that the conversation was comfortable, and 6 reported that the clinician started the conversation. Fourteen participants reported being very or somewhat likely to discuss PrEP for partners with a clinician in the future.

CONCLUSIONS: Most HIV-infected youth in our sample reported no barriers to discussing PrEP with clinicians and had participated in such conversations. However, the occurrence of conversations about PrEP can be optimized by clinicians in several ways, including initiating conversations about PrEP, strategizing with patients about how to discuss PrEP with partners, and being willing to discuss PrEP directly with partners.

PED0867

BEYOND HIV PREVENTION: MOTIVATIONS, CHALLENGES, AND BENEFITS OF SAFER CONCEPTION CARE AMONG MEN LIVING WITH HIV SEEKING TO FULFILL REPRODUCTIVE GOALS IN RURAL UGANDA

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BACKGROUND: In Uganda, an estimated 30-50% of men living with HIV (MLWH) desire children, and half have an HIV-uninfected pregnancy partner. Yet, men are poorly engaged in HIV care and reproductive health programming. Among MLWH enrolled in a pilot program in rural Uganda, we examined motivations, challenges, and benefits of safer conception care.

METHODS: We recruited MLWH (≥18 years) who desired a child in the next year with an HIV-uninfected female partner (Nov 2018-Sept 2019). At enrollment, participants (and partners if present) were offered safer conception counselling (which supports reproductive goals while minimizing HIV risks) with 3- and 6-month follow-up. Participants completed a questionnaire and testing for STIs and HIV-RNA. Female partners were tested for pregnancy and HIV. We conducted 40 individual semi-structured exit interviews with a subset of male participants (n=20) and female partners (n=20) to explore experiences of engaging in safer conception care. Data were analysed using thematic analysis.

RESULTS: Among 20 enrolled men, median age was 33 [IQR:28-35], number of children was 3 [IQR: 2-5], all were on ART, and 85% were virally suppressed (<40 copies/mL).

Primary motivations for engaging in safer conception care included a desire to increase family size and/or gender composition; a desire for an HIV-uninfected baby; and to protect female partners from HIV acquisition. Few participants were previously aware of or used any safer conception strategies but were eager to adopt these practices, including partner PrEP.

Challenges included fears about HIV disclosure; uncertainty about the effectiveness of ART for HIV prevention; frustration about delays in conceiving; and navigating power inequities in couple decision-making.

Benefits included gaining knowledge and support for realizing reproductive goals; eliminating HIV transmission risk worries; accessing other sexual and reproductive health services (e.g., STI testing/treatment); and improving marital relationship and sexual intimacy.

CONCLUSIONS: MLWH are eager to engage in novel HIV care that incorporates family building goals. The challenges and benefits of safer conception care extend beyond the HIV prevention messaging of Undetectable=Untransmittable to include gendered couple-dynamics and opportunities to enhance sexual intimacy. Attending to these contextual factors presents opportunity to better engage men and their partners in safer conception and HIV care.

PED0868

DIS-EASE WITH TRAUMA: REFLECTIONS ON THE SYSTEMIC INTEGRATION OF TRAUMA-INFORMED HIV CARE

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BACKGROUND: People living with HIV (PLWH) experience disproportionate rates of trauma compared to the general population and trauma among PLWH is associated with poor treatment adherence, co-occurring health issues and increased risk behavior. Trauma-informed care (TIC) is an innovative healthcare model that recognizes trauma exists, responds to trauma appropriately, and resists re-traumatizing clients. Our research sought to better understand California's progress in integrating TIC practices throughout its system of HIV care.

METHODS: Community-based participatory research (CBPR) methods were used to recruit a sample of Ryan White-funded HIV service providers familiar with TIC (N=20). Participants completed a qualitative, semi-structured interview through Zoom, an online conferencing platform. Interview topics included participants' experiences with TIC and facilitators/barriers they experienced in delivering TIC in diverse settings. Interviews were audio recorded, transcribed verbatim, and analyzed initially using a rapid assessment process (RAP) in conjunction with community partners. Finally, researchers coded transcripts using an iterative process to identify core themes across transcripts.

RESULTS: Participants were diverse in terms of geographic area, services offered and size of organization. While participants clearly demonstrated awareness of TIC, its basic elements and how TIC is implemented within their organizations, most participants indicated such practices were implemented in the absence of a formal policy to integrate such practices into their agency's operations. Invested leadership to sustain TIC practices was presented as a facilitator to TIC integration, particularly in light of the many competing interests faced by HIV service organizations. Participants identified that funding is needed for programmatic changes that facilitate safety for clients and provide capacity building trainings for providers across disciplines and organizations.

CONCLUSIONS: Findings indicate that systemic integration of trauma-informed HIV care has yet to make significant progress in California, and implementation is highly dependent on individual-level skill and capacity. Given our understanding of the role trauma plays in the lives of PLWH, systemic integration of trauma-informed HIV care is fundamental to ensuring that all people have access to appropriate and competent care. Future policies supporting systemic integration of TIC may include cultivating champions of TIC within agencies, developing funding, and providing on-site trainings.

SEXUAL AND REPRODUCTIVE HEALTH, FERTILITY, FAMILY PLANNING, PREGNANCY AND ABORTION

PED0869

ATTITUDES TOWARD PREGNANCY AMONG WOMEN ENROLLED IN PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV (PMTCT) SERVICES IN MOSHI, TANZANIA

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BACKGROUND: Attitudes toward pregnancy may impact health seeking behavior and therefore health outcomes. For pregnant women living with HIV, feelings about being pregnant may be influenced by their HIV status. This study examined attitudes toward the current pregnancy among pregnant women enrolled in prevention of mother-to-child transmission of HIV (PMTCT) services in Moshi, Tanzania.

METHODS: 200 pregnant women living with HIV were enrolled in an observational cohort. Participants completed a baseline survey during their second or third trimester of pregnancy. Attitudes toward pregnancy were measured using an eight-item scale with questions about pregnancy intention and feelings about the current pregnancy (α=0.913). Univariable and multivariable regression models examined factors associated with attitudes toward pregnancy, including interpersonal factors, emotional well-being, and pertinent demographic variables.

RESULTS: Attitudes toward the current pregnancy were generally positive, with 87% of participants reporting feeling happy about being pregnant. 71% of participants reported that their pregnancy was intended. Pregnancy intention was significantly higher among women diagnosed with HIV during the index pregnancy (n=74; 78.7%), compared to women with an established HIV diagnosis (n=68; 64.2%). Univariable analyses indicated participants who were in stable relationships, had higher levels of partner and social support, and had disclosed their HIV status had more positive attitudes toward their pregnancy; participants who were older, had more children, had an established HIV diagnosis, and had higher levels of depression and food insecurity had less positive attitudes toward their pregnancy. In the final multivariable model, having higher levels of partner support (B=.168; 95% CI: .051, .285) was significantly associated with more positive attitudes toward the current pregnancy; having an established HIV diagnosis (B=-2.087; 95% CI: -3.811, -.362) and more children (B=-1.962; 95% CI: -2.818, -1.106) were significantly associated with less positive attitudes.

CONCLUSIONS: Women in PMTCT programs require psychosocial support to process their feelings toward pregnancy in the context of their HIV status. Programs should meaningfully engage women's partners to encourage support. Comprehensive family planning services for women living with HIV, including strategies for safe conception and access to contraceptives, is necessary.

PED0870

DISCUSSING REPRODUCTIVE PLANS WITH HEALTHCARE PROVIDERS AMONG SEXUALLY ACTIVE WOMEN LIVING WITH HIV

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BACKGROUND: Discussing reproductive plans with healthcare providers among women living with HIV (WLHIV) can assist in promoting safe reproductive health practices, but little research has been undertaken in this area.

METHODS: A facility-based cross-sectional survey was conducted in western Ethiopia from March to June 2018 using systematic random sampling. A total of 475 sexually active WLHIV aged 18-49 years were interviewed. Descriptive and multivariate logistic regression analyses were conducted.

RESULTS: One hundred twenty seven (26.8%) participants reported becoming pregnant in the last five years after being aware of their HIV-positive status; 33.6% reported they intended to have children in the future, 26.9% were ambivalent about having children.

Only 30.7% reported having had a general discussion with healthcare providers at the HIV clinics and 16.8% had a personalized discussion regarding their reproductive plans. WLHIV accessing health centers for antiretroviral therapy (ART) were less likely to report both general (AOR=0.26; 95%CI 0.15–0.46) and personalized (AOR=0.29; 95%CI 0.14–0.61) discussions compared with women who accessed ART through hospitals.

Unmarried sexually active women were less likely to report both general (AOR=0.47; 95%CI 0.24–0.92) and personalized (AOR=0.27; 95%CI 0.11–0.67) discussions than married women.

CONCLUSIONS: WLHIV are both having and intending to have children, highlighting the need for safe conception practices. Discussions with healthcare providers can deliver support that reduces the risk of vertical and horizontal HIV transmission.

Our findings indicate that delivery of safe conception discussions occur inconsistently and underscore the need for policy and provider-training regarding inclusive (married and unmarried) discussions at all health facilities providing ART.

PED0871

CONDOMLESS SEX AMONG ADOLESCENTS AND YOUNG ADULTS WITH PERINATALLY-ACQUIRED HIV OR PERINATAL HIV-EXPOSURE IN AN ERA OF U=U AND PREP

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BACKGROUND: Even with PrEP available and knowledge that undetectable=uninfectious, condomless sex among adolescents and young adults (AYA) is a persistent concern in HIV-prevalent communities with rising rates of STIs, unplanned pregnancy, and treatment non-adherence. In a longitudinal cohort study (CASAH) of AYA with perinatally-acquired HIV (AYAPHIV) or perinatal HIV-exposure,

but uninfected (AYAPHEU), we examined longitudinally condomless sex and its association with HIV-status, sociodemographics, psychiatric disorders, and viral load (VL).

METHODS: Participants included 340 New York City-based AYAPHIV and AYAPHEU, primarily Black and Latinx, recruited at ages 9-16 years, and re-interviewed every 12-18 months over six follow-up (FU) visits (ages 19-28 at FU6). At each visit, sociodemographics, psychiatric disorder (DISC), recent condomless sex (past 3 months), PrEP (at FU6) and) VL (PHIV only) data were collected. Using linear regression, we examined differences in percentage of visits with condomless sex by HIV-status, gender, race/ethnicity, and psychiatric burden over time. Among AYAPHIV, we assessed the relationship between condomless sex and VL>400 copies/mL by FU using GEE. Analyses controlled for age.

RESULTS: Both groups reported condomless sex: 56% at one or more visits; 39% at 2 or more visits, and 16% at ≥50% of visits. The mean proportion of total visits with condomless sex did not differ by gender or race, but was higher among AYAPHEU vs AYAPHIV (24% vs 19%, p=0.015), Latinx vs not-Latinx (0.25 vs. 0.17 p=.013), and AYA with increasing psychiatric comorbidities (0.44) or persistent anxiety (0.23) vs AYA with low-levels of psychiatric disorder (0.17; p<0.05) over time. Among AYAPHIV, condomless sex was not associated with VL (p=.305); however, 75% of AYAPHIV had VL>400 at more than half of visits. Among AYAPHEU, few (.02%) had ever taken PrEP.

CONCLUSIONS: Frequent condomless sex leaves AYAPHIV and AYAPHEU at risk for STIs and pregnancy. Latinx AYA and AYA with increased psychiatric burden may also be vulnerable to sexual risk-taking. Limited viral suppression, limited PrEP use, and condomless sex in this cohort suggest potential for health risks, including HIV transmission/infection. Culturally-tailored, combination interventions focused on sexual health, mental health, viral suppression, and prevention tools (including PrEP) are urgently needed for these populations in vulnerable communities to promote well-being.

PED0872

FERTILITY DESIRE AND ASSOCIATED FACTORS AMONG WOMEN RECEIVING ANTIRETROVIRAL THERAPY IN YOGYAKARTA, INDONESIA

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BACKGROUND: Women living with HIV/AIDS (WLWHA) in Indonesia face a lot of stigma in their community and healthcare settings, and their desire to have their own biological children was suppressed. However, some positive changes in desire to have children may be apparent with the introduction of antiretroviral therapy (ART) and fertility desire may also have implications for unprotected sexual intercourse. There is limited knowledge on fertility desire of WLWHA receiving HIV care in Yogyakarta, Indonesia. Hence, the present study seeks to explore the extent of fertility desire and its associated factors among WLWHA in the area.

METHODS: This is a cross-sectional quantitative research. Participants were 303 WLWHA on ART in 5 districts of Yogyakarta between March to August 2019. WLWHA with hysterectomy and permanent contraception were excluded. Data were collected using a questionnaire. Descriptive statistics, chi square and logistic regression were employed in analyzing the data.

RESULTS: More than half of the participants (50.8%) desire to have at least one biological child without gender preference. Bi-variate correlations showed that reproductive age (younger women), formal employment, and not having a living biological child were correlated with greater fertility desire (p<.05). Logistic regression further indicated that reproductive age (p=.032; AOR: 9.44;95%CI: 1.21 to 73.75) and a smaller number of living children (p=.000; AOR: .09;95%CI: .04 to .23) were the strongest factors associated with fertility desire among WLWHA in Yogyakarta.

CONCLUSIONS: We found that WLWHA with ART in Yogyakarta desire to have their own biological children. Since fertility concerns are an integral part of HIV patient care, health workers can help the groups of WLWHA who desire to have biological children in making the right reproductive decisions by letting them know the benefits and risks of childbirth, as well as measures to prevent the spread of HIV.

PED0873

BEYOND PREVENTION: RECOGNIZING THE CONCERNS ABOUT SEXUAL WELLBEING AMONG WOMEN POST HIV DIAGNOSIS

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BACKGROUND: The sexual wellbeing of women living with HIV (WLWH) has largely been overlooked in public health research. We assessed the prevalence and correlates of experiencing concerns and distress about sexual wellbeing among women post HIV diagnosis.

METHODS: We analyzed national, cross-sectional survey data from the Canadian HIV Women's Sexual and Reproductive Health Cohort Study. WLWH (cis and trans, n=1154) were asked, "Since knowing your HIV status, have you ever experienced any concerns about your sexual wellbeing?" Concerns included sexual self-esteem (e.g., feeling sexually unattractive), emotional aspects of sex (e.g., sexual dissatisfaction), physical aspects of sex (e.g., sexual practices), sexual function (e.g., orgasm difficulties), and relationships (e.g., abusive partners). Women reporting any concerns were asked, "How much distress, if any, did this concern cause you?" Responses were no, mild/moderate, or severe distress. Two logistic regression models identified correlates of

(1) ever experiencing a sexual concern and;

(2) experiencing severe distress about a sexual concern.

RESULTS: 56% reported sexual concerns post-diagnosis, related to sexual self-esteem (42%), emotional (38%) and physical aspects of sex (28%), sexual functioning (32%), and relationships (37%). Among those who had concerns, 92% described any distress. Reports of severe distress were highest for relationships (31%), but prevalent across all areas of concern (21–22%). The first model revealed higher adjusted odds of having a sexual concern among women reporting violence as an adult, a recent intimate relationship, or an 'unsatisfactory' current sex life. Lower adjusted odds were observed for Indigenous women, married/partnered women, women reporting that sex was 'neither an important nor unimportant' part of their lives, and women with higher resilience and mental health scores. In the sec-

ond model, women reporting higher HIV-related stigma, older age, sexual dissatisfaction, or knowing >20 WLWH had higher adjusted odds of severe distress due to a sexual concern, while peer support was protective. Only 34% had talked to anyone about the impact of HIV on their sexual wellbeing beyond preventing transmission.

CONCLUSIONS: Multi-level sexual wellbeing promotion initiatives—including sexual concern assessment, violence against women services, stigma reduction strategies, and peer support programs that build resiliency and mental health—could advance women's sexual health.

PED0874

POSTPARTUM CHALLENGES TO SUSTAINED HIV VIRAL LOAD SUPPRESSION: THE ROLE OF HOUSEHOLD STRUCTURE IN KAZAKHSTAN

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BACKGROUND: Routine HIV screening of pregnant women, and antiretroviral treatment for those infected, has dramatic reduced mother-to-child transmission. However, after delivery viral load among women living with HIV commonly spikes. Programs specifically design to assist new mothers in maintaining their own health are largely lacking. The purpose of this study was to determine the challenges women face during the postpartum period that could guide program development to improve treatment adherence and quality of life.

METHODS: Adult women seeking treatment at the Almaty AIDS Center between May and September 2018, during research periods, were invited to participate in a cross-sectional study. The questionnaire modules focused on the month immediately after the most recent live birth. Factors studied included household structure, support on tasks related to housework, and support for care of the newborn. Descriptive statistics (e.g., percentages) and tests of association (e.g., Fisher's Exact Tests) were computed. The study was approved by the research ethics committee of the Asfendiyarov Kazakh National Medical University.

RESULTS: The 212 women who had a recent live delivery were included in this analysis. During the 30 days after delivery, women reported they always or most of the time responded to the baby crying (98.5%), changed diapers (95.9%), fed the baby (82.1%), cooked meals (72.6%) and cleaned the house (70.4%). Women living with the baby's father reported receiving less help compared to women living apart from the baby's father ($p<0.01$); this finding held true regardless of whether someone else (e.g., grandparent, parent, friend) was in the household. In general, women were not enthusiastic to visiting nurses providing support at the home. Only 30% of women stated they welcomed a visiting nurse to support medical needs (e.g., education, deliver medications).

CONCLUSIONS: In areas of Central Asia where women are primarily HIV infected by their male partners, developing services to support new mothers is complex. Simple fixes, such as providing visiting nurses to support medication adherence are unlikely to be successful without education on the functions of support services and pilot programs to develop culturally acceptable approaches.

PED0876

CONTRACEPTIVE DECISION-MAKING AMONG WOMEN LIVING WITH HIV IN GHANA AND KENYA

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BACKGROUND: With increased availability of antiretroviral therapy and improved survival for people living with HIV, more HIV-positive women are leading full reproductive lives. Little is currently known about the contraceptive decision-making process among women living with HIV (WLWH) in Ghana and Kenya.

METHODS: This cross-sectional study was conducted at HIV treatment and care clinics from June – August 2014 in Kenya and from December 2015 – February 2016 in Ghana. A convenience sample of 600 WLWH and aged 15-39 years were enrolled (Ghana, N=300; Kenya, N=300).

RESULTS: Ghanaian and Kenyan women differed significantly in their knowledge and use of family planning (FP) methods. More Ghanaian women were aware of FP methods when compared with their Kenyan counterparts ($p<0.001$ and $p = 0.03$). Kenyan women used hormonal methods such as injectables and implants more than Ghanaians ($p<0.001$). The majority of women in both Ghana and Kenya thought that it was important for a FP method to prevent pregnancy (99.3% and 97.0%), prevent sexually transmitted infections (93.0% and 84.3%), have no risks or side effects (98.0% and 97.3%), have health benefits (99.3% and 98.33%), and need not to be taken daily (92.3% and 50.3%). Ghanaian and Kenyan women differed significantly with regard to wanting a method that prevents pregnancy ($p=0.03$), protects against sexually transmitted infections ($p <0.001$), does not need to be taken daily ($p<0.001$), and can be taken without family, partners, or friends knowing (80.7% vs. 14.0%, $p<0.001$). In both Ghana and Kenya, only 8 (of 600) women had complete agreement between FP characteristics deemed important and the features of the method they indicated that they were most likely to use.

CONCLUSIONS: Characteristics deemed important by WLWH in Ghana and Kenya are not in agreement with the characteristics of the contraceptive method that they indicate they are most likely to use. Previous use of a family planning method was significantly positively associated with identifying that method as the most likely to be used. Lack of integration of family planning into HIV care and treatment is the likely driver of differences in findings between Ghana and Kenya.

PED0877

CERVICAL CANCER SCREENING AMONG WOMEN LIVING WITH HIV IN METRO VANCOUVER: IMPLICATIONS FOR SCALE UP OF ACCESS TO INTEGRATED WOMEN-CENTRED AND TRAUMA-INFORMED HIV CARE AND PRACTICE

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BACKGROUND: While women living with HIV (WLWH) have greater risk of acquiring human papilloma virus (HPV) and developing cervical cancer compared to the general population, there remains limited research on drivers of annual cervical cancer (ACC) screening,

particularly in the context of universal health care and resource-rich settings. The objective of this study was to examine the correlates of and barriers to ACC screening among WLWH in Metro Vancouver.

METHODS: Data were drawn from a longitudinal community-based open cohort of 350+ cisgender and trans WLWH (14+ years) who lived and/or accessed care in Metro Vancouver, Canada (2014-present) (Sexual Health and HIV/AIDS: Women's Longitudinal Needs Assessment "SHAWNA"). Participants completed baseline and six-monthly follow-up interviews. Our sample was restricted to cisgender participants, age 21 and older. Bivariate and multivariable logistic regression with generalized estimating equations (GEE) was performed to identify the longitudinal correlates of ACC screening, as recommended by Canadian cervical cancer guidelines.

RESULTS: Overall, 266 WLWH were included (932 observations, 2014-2018), with 69.2% reporting cervical cancer screening in the last year at baseline. The median age of participants was 45 years, and over half (52.3%; N=139) were Indigenous. Over the study period, 24.8% (66) reported any sexual/reproductive health testing barriers, with 9.0% (24) reporting systems-level factors (e.g., geographic barriers, difficulty making appointments), 7.9% (21) reporting anticipated negative experiences associated with cervical cancer screening (including past trauma/discomfort) and 7.5% (20) reporting provider-level factors (e.g., lack of provider of preferred gender), among other barriers. In multivariable analysis, accessing women-centred HIV care (i.e., Oak Tree Clinic, the only HIV practice in our setting providing women-centred, trauma-informed specialized clinical care to women, children and their families living with HIV)(adjusted odds ratio (AOR):2.65;95% confidence interval(CI):1.83-3.85), and inconsistent condom use (AOR:1.76;95%CI:1.15-2.69) were associated with increased odds of ACC screening. Reporting any sexual/reproductive health testing barriers was associated with reduced odds of ACC screening (AOR:0.38;95%CI:0.24-0.59).

CONCLUSIONS: Cervical screening among WLWH in our setting was low compared to women in the general population, with approximately one-third not meeting recommendations for annual cervical cancer testing. These findings highlight the need for increased access to women-centred, trauma-informed integrated sexual and reproductive health care for WLWH.

CONCEPTUALIZING SOCIAL AND STRUCTURAL FACTORS AND THEIR IMPACTS

PED0878

EMPOWERING OR RACIST? SHARING INFORMATION ABOUT HIV-RELATED HEALTH INEQUITIES AND STRUCTURAL RISK FACTORS FOR HIV ACQUISITION WITH WOMEN IN THE U.S.

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BACKGROUND: Cisgender Black women have a 1 in 48 lifetime risk of acquiring HIV in the U.S., and Black women in the South are disproportionately affected. Black women use pre-exposure prophylaxis (PrEP) significantly less than their white counterparts due to many factors, including lack of awareness of HIV risk and vulnerabilities and access to PrEP. Further, Black women's historic and continued subjugation in society – intersectional oppressions of race and gender - increase HIV vulnerability. This study explored how women respond to information about structural determinants of HIV risk when offered universal HIV prevention education.

METHODS: Focus groups and interviews were conducted in Jacksonville, Florida and San Francisco, California to obtain feedback on a decision support tool about HIV prevention. Participants provided feedback on information presented on a tablet describing structural determinants of HIV risk including racism, discrimination, and limited access to resources. Local HIV epidemiology was presented by zip code, gender, and race/ethnicity. Data were analyzed thematically.

RESULTS: Eight focus groups (n=43) and 20 interviews were conducted with predominantly cisgender women of reproductive age. Participants self-identified as Black (47%), white (32%), Hispanic (10%), and other race/ethnicity (10%). Two-thirds completed at least some college education. Two central themes emerged: empowerment and discrimination. Participants who viewed the HIV inequities and structural determinants information favorably described feeling "empowered" by accessing information specific to their communities. These participants, who tended to be younger and in California, appreciated identification of racism and discrimination as contributing causes. For others, particularly older respondents in Florida, identifying higher HIV rates among already marginalized communities was perceived as "singling out" these groups; some even described naming structural determinants as "racist." When exploring ways to convey information about structural vulnerabilities to HIV, a minority of respondents preferred talking with a provider rather than independently reading about sensitive information.

CONCLUSIONS: Participants had differential reactions to information about structural determinants of HIV inequities, ranging from empowering to harmful. In general, respondents appreciated local data specific to their communities. To reduce harm, information must be presented in a trauma-informed manner, and providers must be prepared to continue conversations about structural determinants during clinic visits.

PED0879

INTERSECTING EXPERIENCES OF FOOD INSECURITY, VIOLENCE, SUBSTANCE USE AND POOR MENTAL HEALTH MAY INFLUENCE HIV PREVENTION AND TREATMENT BEHAVIORS AMONG US WOMEN: EVIDENCE OF A SYNDEMIC IN NEED OF ATTENTION

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BACKGROUND: Food insecurity and gender based violence (GBV) are associated with increased risk for HIV and suboptimal engagement in care. Limited research has explored how syndemic factors such as food insecurity and GBV intersect to influence HIV-related behaviors. To fill this gap, we conducted a qualitative study with women living with or at risk of HIV in the US.

METHODS: We conducted 24 in-depth interviews with women enrolled in the San Francisco and Atlanta sites of the Women's Interagency HIV study (WIHS), an ongoing cohort study of women living

with and at risk of HIV. Participants were purposively sampled so that half were living with HIV and all reported experiencing food insecurity and physical, sexual or emotional GBV in the past year. Semi-structured interviews asked about women's experiences with food insecurity and GBV, perspectives on how food insecurity and GBV are related, and how such experiences impact behaviors including condomless sex and treatment adherence. Interviews were audio recorded, transcribed and analyzed using an inductive-deductive approach.

RESULTS: A predominant theme that emerged centered on how food insecurity and violence co-occur with substance use and poor mental health to influence HIV-related behaviors. Women described how co-occurring experiences of food insecurity and violence negatively impacted their mental health, with many noting how substances were used to "feel no pain." Substance use was described to perpetuate experiences of food insecurity, GBV, and poor mental health in a vicious cycle. Further, women noted that these intersecting experiences led them to engage in risky behaviors including exchanging sex for drugs or food and condomless sex and prevented women living with HIV from accessing their HIV appointments and adhering to HIV treatment.

CONCLUSIONS: Our findings revealed that food insecurity, GBV, substance use, and poor mental health co-occur in important ways to negatively influence HIV prevention and treatment behaviors. These findings provide preliminary evidence of a syndemic that goes beyond the more widely-studied "SAVA" (substance use, AIDS, and violence) syndemic, warranting new attention. Future quantitative research is needed to elucidate the synergistic effects of multiple factors including food insecurity, GBV, substance use, and mental health, on HIV-related behaviors.

PED0880

RETHINKING HOW 'SEX-FOR-FISH' SHAPES HIV VULNERABILITY: OCCUPATIONAL HIERARCHIES IN UGANDAN FISHING VILLAGES

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BACKGROUND: The fishing villages surrounding Lake Victoria have become HIV "hot spots" with HIV prevalence rates as high as 40% for women and 20% for men. These high prevalence rates are commonly attributed to labor mobility and quick access to cash among fisherfolk; in combination, those two phenomena are thought to normalize and facilitate transactional sexual arrangements and increase unprotected, commercial, and cross-generational sex. Research to date has illuminated how East Africa's lucrative fishing industry produces unique socio-economic dynamics that shape fisherfolks' sexual health; this research has overlooked heterogeneity within fishing communities. Addressing that gap, this paper examines the various gendered, generational, and occupational hierarchies that produce differential vulnerabilities to HIV within Lake Victoria's fishing villages.

METHODS: Ethnographic data were collected from two fishing villages in Uganda's Rakai district, including 8 focus group discussions and 12 in-depth interviews with sixty community members (young men ages 17-24, young women ages 17-24, older women ages 35-70, older men ages 35-70) and key informant interviews with twenty community leaders.

RESULTS: Our analysis reveal a nuanced, locally salient set of occupational hierarchies that affect fishing village residents' labor mobility, social lives, and sexual engagements. For example, young men (17-24) at the lakeshores work as "boat-pushers," "net-detanglers," or "boat managers," yet only older fishermen earn enough money to provide for their households, wives, and children. The younger men who work at the lakeshores are not "fishermen" and cannot afford to establish independent households.

Therefore they either buy sex from sex workers or engage in "sugar mommy" relationships with older women (35+) who own small bars and restaurants in the area. Other gendered, generational, and occupational differences in the landing sites may also deferentially shape HIV vulnerability.

For example, recent national regulations limiting fishing have made it more difficult for young men to earn incomes, which may encourage them to exchange sex for money.

CONCLUSIONS: In addition to the need to target Lake Victoria's fishing villages for HIV prevention and treatment interventions, our analyses suggest a need to tailor policies and programs to respond to residents' differential social, gendered, and generational positionings and associated HIV risk.

PED0881

INTERPERSONAL PATIENT SATISFACTION FACTORS MORE STRONGLY CORRELATED WITH RETENTION IN CARE THAN STRUCTURAL FACTORS AMONG ADULTS RECEIVING HIV SERVICES IN RURAL MOZAMBIQUE

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BACKGROUND: Retention in care is compromised by multiple factors. Patient satisfaction, reflecting service quality, potentially acts as a covariate influencing retention. The study aimed to assess satisfaction among adults receiving HIV services in Zambézia Province, Mozambique, and its association with 6-month retention.

METHODS: Exit-interviews with HIV-positive adults were completed between December 2017 and February 2019 in 20 health facilities. Satisfaction surveys, using a 4-tiered Likert scale, assessed eight components: wait time, health professionals' availability, respect, attention received, information received, opportunity to ask questions, usefulness of providers, and overall evaluation. Clinical data were extracted from electronic patient files. Regression analyses assessed the effect of combined satisfaction scores on retention (defined as having an antiretroviral therapy pick-up in the period between 5.5-8.5 months from interview date), using restricted cubic splines, adjusting for age, sex, education and health facility type. Individual logistic regressions measured the impact of individual satisfaction questions on retention, adjusting for the same factors.

RESULTS: Among 2,749 interviewed adults, mean age was 33 years (sd 10yrs); 2,036 (74%) were female, 305 (11%) had no formal education. Overall mean satisfaction score was 69% (sd 19%). By varying the satisfaction score from first to third quartile, the odds of being retained was 2.01 (95%CI:1.56–2.60) for women and 1.76 (95%CI:1.18–2.61) for men. A weak correlation existed between satisfaction regarding wait time and 6-month retention, while the odds of being retained was positively correlated with a higher satisfaction regarding the information received, the opportunity to ask questions, and being cared for with respect (Table 1).

Satisfaction Score	Respect OR (95% CI)	Attention given to patient concerns OR (95% CI)	Information received about your disease OR (95% CI)	Opportunity to ask questions and receive responses OR (95% CI)	Time spent with provider to talk about concerns OR (95% CI)	Wait time OR (95% CI)	Opinion on overall service quality OR (95% CI)	Overall helpfulness of providers OR (95% CI)
Not satisfied	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Somewhat satisfied	0.99 (0.68–1.44)	0.85 (0.53–1.34)	1.32 (0.87–2.00)	1.72 (1.09–2.71)	0.85 (0.64–1.12)	1.20 (0.97–1.49)	1.26 (0.64-2.49)	0.90 (0.45–1.78)
Satisfied	2.06 (1.38–3.06)	1.62 (1.02–2.57)	2.52 (1.61–3.96)	3.14 (1.94–5.08)	1.02 (0.75–1.38)	1.35 (1.02–1.78)	2.44 (1.22-4.89)	1.41 (0.71–2.79)
Very satisfied	2.10 (1.35–3.27)	1.85 (1.10–3.11)	2.56 (1.55–4.23)	3.22 (1.92–5.41)	1.55 (1.21–2.00)	1.13 (0.91–1.40)	1.67 (0.80-3.50)	1.82 (0.90–3.69)

[Table 1. Probability of being retained, for each individual question (compared to baseline score), adjusted for sex, age, education level, and type of health facility]

CONCLUSIONS: While patient satisfaction regarding wait time was weakly correlated with retention, interpersonal factors related to provider-patient interaction appeared to be the main drivers of retention. A positive health worker's attitude, provision of undivided attention towards patients, and delivering accurate information about the patient's health increased satisfaction and retention to care. In order to promote empathetic care, clinical mentoring should be directed towards improvement of interpersonal communication skills.

PED0882

COMMUNITY-LEVEL IMPACT OF ART ON ORPHANHOOD AMONG ADOLESCENTS, RAKAI COMMUNITY COHORT STUDY 2000-2018

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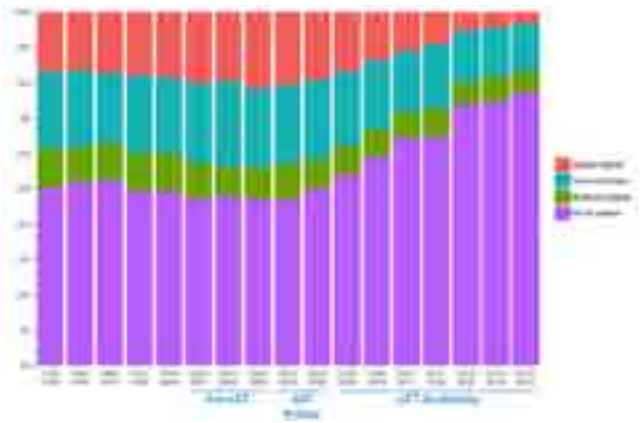
BACKGROUND: Orphanhood increased in the 1980s and 1990s in sub Saharan Africa (SSA) due to HIV-related mortality among parents. Thus, increasing access to antiretroviral treatment (ART) in SSA should reduce orphanhood. In Rakai District, Uganda, ART was introduced in 2004. We examined longitudinal trends in reported orphanhood in the Rakai Community Cohort Study (RCCS) and we compared HIV prevalence and use of ART among communities, attempted to ascribe declines in orphanhood to HIV-related factors.
METHODS: We used data from the RCCS from 30 communities followed continuously from 2000 to 2018. We examined trends in maternal, paternal and double orphanhood among adolescents 15-19 years before and after 2004. We assessed the association of community-level HIV prevalence and self-reported ever use of ART with orphanhood using multivariable multinomial logistic regression which controlled for age and used a cluster-robust sandwich estimator of variance to account for within-community correlation.
RESULTS: Orphanhood in Rakai declined from about half of adolescents before 2004 to only one quarter by 2018 (test for trend p<0.001). Ever use of ART among HIV+ residents rose from 11% in 2004 to 78% in 2018. In regression models, a 10% higher community HIV prevalence (Relative Risk Ratio=1.03, 95% CI 1.01-1.06) and a 10% lower ART use among women (RRR=1.10, 95% CI 1.07-1.13) were associated with higher risk of maternal orphanhood. Similar results were found for paternal orphanhood. Use of ART by women had a larger effect than ART use by men. An absolute increase of 10% in ART usage among HIV+ women was associated with a 17% decrease in risk of double orphanhood, while an absolute increase of 10% in ART usage among HIV+ men was associated with a 9% decrease in risk of double orphanhood.



[Figure. Orphanhood, adolescents, Rakai community cohort study, 1994-2018]

CONCLUSIONS: Availability of ART in Rakai, Uganda since 2004 has substantially reduced orphanhood among adolescents.

PED0883

FACTORS AFFECTING ART RETENTION AMONG PLHIV IN HIGHLANDS PAPUA, INDONESIA

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BACKGROUND: Papua province, Indonesia has an estimated HIV prevalence of 2.3% compared to 0.6% in the rest of the country. In three Papua highlands districts (Jayawijaya, Yalimo, and Lanny Jaya), attrition rates of people living with HIV (PLHIV) on antiretroviral therapy (ART) are similarly high, with up to 67% of total ART patients failing to return to HIV treatment services after three months on treatment. The LINKAGES project, funded by USAID and PEPFAR and led by FHI 360, conducted a qualitative study in 2019 to explore cultural beliefs around health and sickness and to identify barriers and facilitators affecting HIV treatment retention.
METHODS: A qualitative descriptive analysis was conducted through focus group discussions (FGDs) among community members and in-depth interviews (IDIs) of PLHIV and key informants.

Overall, 13 FGDs were conducted (total of 96 participants) as well as 38 IDIs with PLHIV and 29 with key informants. Data analysis using NVIVO 12.

RESULTS: Participants described a sick person as someone who is incapacitated and bedridden; as such, a person living with HIV will typically not avail HIV treatment services in Papua until they present with physical symptoms, and they may stop treatment as soon as they feel well. Traditional healing methods were cited as typically used before biomedical medicine—or in conjunction with ART—with participants highlighting "effective" traditional treatments such as herbal therapies. Stigma and discrimination against people who are HIV positive were found to affect both ART uptake and retention, as participants described feeling afraid of being scolded or abandoned by family and community. Individuals who dropped out of care or missed ARV doses described feeling better, having transportation issues or work commitments, and/or not accepted by family as the main reasons for treatment stoppage. Those retained or re-engaged in treatment highlighted their desire to stay alive and to remain healthy so as to get married or have children.

CONCLUSIONS: Newly decentralized ART services in the Papua highlands will not optimize ART initiation and retention without community engagement strategies that mobilize religious and community leaders, traditional healers, and PLHIV "role models" in ART socialization and retention efforts.

PED0884

SYNDEMIC PSYCHOSOCIAL FACTORS ARE BARRIERS TO THE HIV CARE CONTINUUM AMONG TRANS WOMEN IN SAN FRANCISCO

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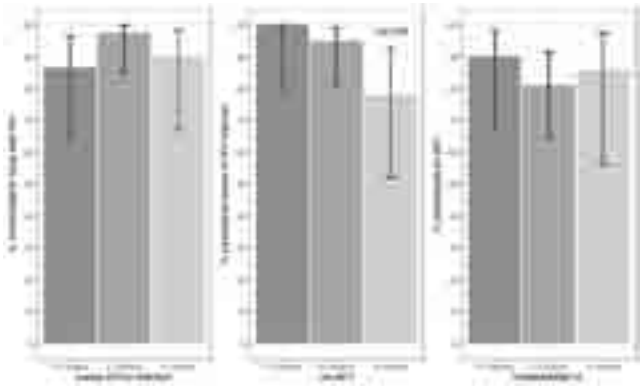
BACKGROUND: Syndemic psychosocial factors (encompassing multiple adverse individual, social, and structural conditions) synergistically produce negative health outcomes for vulnerable populations. The objective of the present analysis is to determine if syndemic factors adversely affect the HIV care continuum among trans women – the population most severely affected by HIV worldwide.

METHODS: We assessed the association of syndemic factors on steps of the HIV care continuum in a community-recruited sample of trans women in San Francisco (2018-2019), including:
(1) HIV infection awareness,
(2) ART uptake, and;
(3) virologic suppression (self-report).
A syndemic score was created using history in last year of suicide attempt or plan, binge drinking, drug use (injection/non-injection), violence (intimate partner violence, physical abuse, sexual abuse), imprisonment, homelessness, and sex work. HIV care continuum endpoints were assessed for their association with increasing number of syndemic factors in logistic regression analysis.

RESULTS: Of 82 transgender women living with HIV, 77 (93%) were aware of their infection, 70 (85%) were using ART, and 59 (72%) were virally suppressed. Most (82%) trans women experienced at least one syndemic factor, with the most common being drug use (66%), homelessness (56%), and binge drinking (46%). Having 4 or more syndemic factors was associated with lower ART uptake (aOR 0.39, 95%CI 0.16, 0.77), but not with infection awareness or viral suppression. Injection drug use (aOR 0.10, 95%CI 0.01, 0.70) and imprisonment (aOR 0.11, 95%CI 0.01, 0.86) were independently associated with lower ART use. All participants (100%) who were not using ART were homeless compared to 54% of those using ART (p=0.04).



[Figure.]

CONCLUSIONS: Experiencing multiple syndemic factors was associated with poor ART use among trans women in San Francisco. Homelessness, injection drug use, and history of imprisonment were individually associated with ART use and should be priorities for interventions.

PED0885

DECOMPOSING SOCIOECONOMIC INEQUALITIES IN HIV TESTING IN 16 SUB-SAHARAN AFRICAN COUNTRIES: THE ROLE OF EPIDEMIOLOGICAL AND MACRO-ECONOMIC FACTORS

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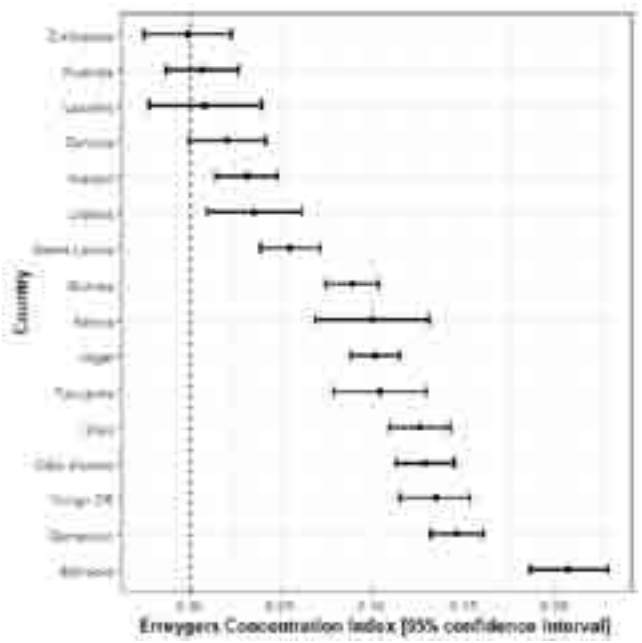
BACKGROUND: Although socioeconomic inequalities in the uptake of HIV testing have been widely reported, their drivers remain poorly understood. For instance, it is unclear whether the epidemiological or the macro-economic factors are acting as the main drivers of inequalities. To address this issue, we measured and decomposed socioeconomic inequalities in HIV testing in sub-Saharan Africa (SSA).

METHODS: We used data from recent Demographic and Health Surveys conducted between 2008 and 2016 in 16 SSA countries. We calculated the country-specific Erreygers Concentration Index (values range from -1 to 1 with 0 indicating equality) to estimate socioeconomic inequalities in recent (<12 months) HIV testing. Inequalities were decomposed using the Recentered Influence Function (RIF) regression method to assess which country-level factors (between GDP per capita and HIV prevalence) contributed most to these disparities.

RESULTS: We analyzed 16 surveys conducted among 315,847 participants (≥15 years old). Significant positive ECI values ranging from 0.03 [95% CI 0.01; 0.05] to 0.21 [0.19; 0.23] (Figure), indicating concentration of HIV testing among the wealthier, were observed in 12 out of 16 countries. No inequalities were seen in Zimbabwe, Rwanda, Lesotho and Zambia. Decomposition analysis showed that an increase

in HIV prevalence decreased inequality in recent testing (Coefficient -0.006 [-0.011; -0.002]); while, GDP per capita had no apparent effect on inequality (Coefficient 0.025x10^{-3} [-0.033x10^{-3}; 0.084x10^{-3}]).



[Figure.]

CONCLUSIONS: Despite the overall increase in testing in recent years, important socioeconomic inequalities in its access remained in majority of SSA countries. Preliminary results suggest that the level of HIV epidemic, which also drives the response level of HIV programs, is associated with inequalities in HIV testing. Meanwhile, GDP per capita (a national indicator of economic development) is not. Next steps of this research will integrate a wider range of epidemiological and socioeconomic variables. These results may help understand the underlying mechanism generating socioeconomic inequalities in health.

PED0886

MEDIATORS OF THE RELATIONSHIP BETWEEN ADOLESCENT MOTHERHOOD AND INCIDENT HIV INFECTION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN SOUTH AFRICA (HPTN 068)

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BACKGROUND: Adolescent girls and young women (AGYW) who become mothers before the age of 19 face additional social and economic strains that may increase their likelihood of engaging in high risk sexual partnership and subsequent vulnerability to HIV infection. Yet, limited evidence exists regarding how early childbearing may affect HIV risk. We hypothesize that adolescent mothers have a higher incidence of HIV because they are more likely to engage in high risk sexual partnerships that are associated with HIV infection including having transactional sex and age-disparate partnerships (>5 years).

METHODS: We used data from the HIV Prevention Trials Network (HPTN) 068 study in rural South Africa (2011-2017). AGYW, aged 13-20, were followed approximately annually for up to 6 years. We use the parametric g-formula to estimate the total effect of time-varying, early motherhood (having a live birth before age 19) on incident HIV infection and the controlled direct effect for mediation through partner characteristics. The controlled direct effect represents the effect of adolescent motherhood on HIV not operating through transactional sex and age-disparate partnerships. We calculated hazard ratios (HR) and risk ratios (RR) over the study period. Confidence intervals were calculated using the standard deviation of results from 200 bootstrap samples.

RESULTS: Early mothers were more likely to be engaged in transactional sex (RR 2.14; 95% CI 1.08, 4.22), have age-disparate partnerships (2.05; 95% CI 1.09, 3.86) and a higher incidence of HIV infection over the study period (HR 1.41; 95% CI 1.34, 1.45). The hazard ratio for HIV incidence was 1.23 (95% CI: 1.17, 1.29) when holding both partner age and transactional sex constant, showing attenuation from the total effect (HR 1.41) and indicating partial mediation.

CONCLUSIONS: Age-disparate partnerships and transactional sex were associated with early motherhood and partially mediated the relationship between early motherhood and HIV incidence. Young mothers are more likely to engage in risky partnerships putting them at increased risk of HIV. However, risky partnerships explain only a portion of the effect of early motherhood on HIV infection, suggesting that other structural and social factors may also work to increase their HIV risk.

PED0887

POLICING PRACTICES AND HIV RISK AMONG FEMALE SEX WORKERS WHO USE DRUGS IN KAZAKHSTAN

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BACKGROUND: Transactional sex to support drug habits provides an important link between women who use drugs and the general population. Female sex workers who use drugs (FSW-UD) in Eastern Europe and Central Asia continue to experience one of the highest rates of HIV incidence globally. A major challenge to HIV prevention efforts in the region include policing practices. Therefore, we examined associations between police violence, detention and several HIV risk factors among FSW-UD.

METHODS: Findings were drawn from baseline interviews of Project Nova, a combination HIV risk reduction and microfinance intervention. Study participants were women who used drugs, engaged in sex work and were recruited from two cities in Kazakhstan. Four-hundred women were enrolled and completed computer-assisted self-interviews between February 2015 and May 2017. Interviews assessed sociodemographic and sex work characteristics, criminal justice history, substance use and police violence. Associations between police violence and detention, and HIV, sexually transmitted infection (STI), number of clients, needle sharing, and condom use was examined using multivariate logistic regression.

RESULTS: Ninety-six (24%) reported experiencing police violence, and 116 (29%) reported being detained by the police in the past 90 days. Ninety-three (23%) reported living with HIV, and 85 (21%) re-

ported a STI in past 90 days. Women reported 20.7 (SD: 39.8) different clients, on average, 125 (31%) reported at least one instance of condomless sex, and 36 (9%) reported sharing needles. Logistic regression analyses showed that police violence was associated with greater odds of having more clients (aOR: 2.54, 95% CI: 1.48, 4.35), needle sharing (aOR: 4.52, 95% CI: 2.00, 10.23) and STIs (aOR: 2.39, 95% CI: 1.36, 4.22). Recent detention was associated with a greater odds of needle sharing (aOR: 3.44, 95% CI: 1.56, 7.57) and STIs (aOR: 1.94, 95% CI: 1.14, 3.32).

CONCLUSIONS: Police violence and detention are associated with HIV risk factors including a greater number of clients, needle sharing, and STIs. The integration of policing and public health has been successfully implemented in other settings and may be a novel approach to HIV prevention among FSW-UD in Kazakhstan. Interventions to increase police accountability through sensitization workshops, advocacy and institutional accountability are a recommended strategy.

PED0888

PERCEIVED SOCIAL SUPPORT AMONG ADOLESCENTS AND YOUNG ADULTS LIVING WITH HIV

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BACKGROUND: Adolescents and young adults living with HIV (ALHIV) have poorer retention in care and medication adherence than adults. Social support among ALHIV is not well characterized and may influence medication adherence, engagement in care, and clinical outcomes.

METHODS: The Data-informed Stepped Care to Improve Adolescent Outcomes (DiSC) cohort includes ALHIV 10-24 years receiving HIV care at nine health facilities in Western Kenya. The 12-item Multidimensional Scale of Perceived Social Support (MSPSS) was used to assess perceived social support from family, friends, and significant others (4 items each). Response options for each item were on a 5-point Likert-type scale. Means and t-tests were used to compare older (15-24 years) and younger (10-14 years) ALHIV.

RESULTS: Among 1,144 ALHIV, median age was 17 years (interquartile range: 14-20); 26% were younger (10-14 years) and 74% were older (15-24 years). Thirty-four percent were male and 70% were enrolled in school. The overall mean MSPSS score was 3.46 (range: 1-5; standard deviation [SD]=0.61); 3.86 (SD=0.79) for family, 3.34 (SD=0.94) for friends, 3.24 (SD=1.13) for significant other subscales.

Mean MSPSS scores did not differ between males and females. Compared to younger ALHIV (mean overall MSPSS: 3.28), older ALHIV had higher mean overall MSPSS scores (3.53; p<0.001). Compared to older ALHIV, younger ALHIV reported higher perceived family support (3.96 vs. 3.82; p=0.010) but lower friend (3.23 vs. 3.37; p=0.019) and significant other support (2.59 vs. 3.47; p<0.001).

School enrollment was associated with higher mean MSPSS scores among ALHIV 20-24 years (3.79 vs 3.55; p=0.004), driven by more support from friends and family. Secondary and college education was associated with higher MSPSS scores among ALHIV 15-24 years compared to primary education (3.64 and 3.83 vs. 3.37, respectively; p<0.001 for both).

MSPSS scores were associated with resilience scores in ALHIV (β: 0.083; p<0.001 after adjusting for age), and were not associated with depression.

CONCLUSIONS: Older, educated, and more resilient ALHIV have higher perceived social support. While family support is higher in younger than older ALHIV; as ALHIV age, friends play a critical role in providing support. Leveraging social support or addressing under-supported ALHIV could improve ALHIV health outcomes.

PED0889

FROM SOCIAL TO SELF-REGULATION: THE PREVALENCE AND IMPACT OF SOCIAL NETWORK CONTROL ON ART ADHERENCE AMONG TRANS WOMEN LIVING WITH HIV

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BACKGROUND: Despite an increased focus on HIV disparities among trans women, information on the social networks of seropositive trans women is scarce. Social control describes the tactics that network members use to directly influence others. Though the effects of social control on self-regulation in areas ranging from diet to diabetes are well-documented, more remains to be known about social control among trans women living with HIV.

This study seeks to contribute knowledge by exploring how different methods might impact trans women's adherence to anti-retroviral therapy.

METHODS: From February to August 2019, 231 trans women living with HIV in the US took a 20-30-minute egocentric survey asking about the tactics that their social network members used to promote ART adherence. Descriptive statistics were calculated to determine the prevalence and sources of social control methods. Relationships between social control variables and ART adherence were examined via hierarchical logistic regression.

RESULTS: On average, participants were 32 years old and had been diagnosed for nearly 5 years. Over half were White (62%), employed (68%), stably housed (71%), and were optimally ART adherent (69%). Most of the network members who were aware of participants' HIV status persuaded or encouraged them to adhere to their medication (83%), while less than half (41%) pressured them. Among various network members, most chosen family (75%), friends (87%), and partners (92%) used persuasive tactics, while a lesser percentage pressured them (chosen family = 18%, friends = 40%, partners = 65%). Most providers used persuasive (88%) and/or pressuring tactics (81%). After adjusting for co-variates, analyses showed that a higher proportion of network pressure was associated with lower odds of adherence (aOR = .97, p < .01) while increased persuasion was marginally associated with increased adherence odds (aOR = 1.02, p = .01).

CONCLUSIONS: Findings suggest that the tone and delivery of treatment support messages may have implications for HIV treatment. While positively encouraging tactics from social network members may promote ART adherence, critical messages may have the op-

posite effect. More expansive research is needed to understand the short- and long-term impacts of social regulation on self-regulation among trans women living with HIV.

PED0890

DIFFERENTIAL ROLES OF STIGMA AND DEPRESSION ON HIV CARE CONTINUUM OUTCOMES AMONG MSM AND PWID IN INDIA

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BACKGROUND: We previously demonstrated that MSM fared significantly better across the HIV care continuum compared to PWID in a large multi-city study across India. In this analysis, we assessed whether stigma and depression impacted care continuum outcomes differently in men who have sex with men (MSM) and people who inject drugs (PWID) in India to potentially explain these differences.

METHODS: Between 2016 and 2017, we recruited 10,005 MSM and 11,721 PWID using respondent-driven sampling (RDS) across 21 Indian cities. Multilevel Poisson regression models using scaled RDS-II weights were used to explore the association between depression, 4 stigma indices (enacted, vicarious, felt/normative, internalized) and care continuum outcomes among HIV-infected participants. Models assessed whether associations of depression (using the PHQ-10 tool) and each stigma index (modeled separately) with care continuum outcomes differed for MSM vs. PWID using adjustment and interaction terms. Models were adjusted for age, gender, recent substance use, recent incarceration, and region.

RESULTS: We recruited 1,713 HIV-infected MSM (median age: 33 years) and 2,517 HIV-infected PWID (median age: 36 years; 87% male). Compared to MSM, PWID reported higher moderate/severe depression (25% vs. 11% MSM), enacted stigma (42% vs. 36% MSM), felt/normative stigma (85% vs. 69% MSM), and internalized stigma (88% vs. 68% MSM). Adjustment for depression, stigma and other covariates, did not appreciably attenuate associations between MSM vs. PWID and engagement in HIV care (adjusted prevalence ratio for MSM vs. PWID [APR]: 1.68; 95% CI: 1.05, 2.68), ART use (APR: 1.82; 95% CI: 1.23, 2.70) or viral suppression (APR, 1.64; 95% CI, 0.96, 2.80). In adjusted models, statistically significant interactions were observed between MSM/PWID status and enacted stigma and ART use (p=0.04) and community stigma and engagement in HIV care (p=0.01). No differences were observed in the association between depression and any HIV care outcome among MSM and PWID.

CONCLUSIONS: While PWID report higher levels of stigma and depression than MSM, differences in stigma and depression did not appear to fully explain differences in engagement across the HIV care continuum. However, given the high burden and impact on HIV care outcomes, incorporating population-specific, psychosocial interventions may improve HIV clinical outcomes.

PED0891

CONCEPTUALISING THE "CORE" PACKAGE OF SERVICES FOR ORPHANED AND VULNERABLE CHILDREN IN SOUTH AFRICA ABSTRACT

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BACKGROUND: Social and structural barriers continue to undermine the biomedical advances of ARV treatment in South Africa. Despite having the world's largest ARV treatment program, orphaned and vulnerable children and adolescents remain highly vulnerable: 14% of children are orphaned, 500 000 children live with HIV, adolescent girls and boys enter sexual debut early, 1 in 3 children are exposed to sexual violence, 27% of children are stunted, and only 1 in 2 children matriculate.

DESCRIPTION: Addressing these drivers is a necessity to ensure better outcomes for children and to reach epidemic control. The Department of Social Development launched a "core" package of services that draws on an ecological approach to mobilise protective resources to build a resilient system supportive of the community, family and child. It operationalises services for sustained change across 7 domains:

- Child care & protection: addressing exposure to violence, substance abuse and neglect.
- Psychosocial support: improving mental health.
- HIV/Aids support: promoting known status, ART uptake and adherence, mitigating sexual and substance risk-taking behaviour.
- Health promotion: promoting access to health care, general and sexual reproductive health, targeting support for children with disabilities.
- Food & Nutrition: strengthening adequate nutrition, tracking growth to address stunting.
- Economic strengthening: linking adolescents and families to social-protection and government incentives for job creation
- Educational support: improving access and supporting participation in schooling and linking school leavers with training opportunities.

LESSONS LEARNED: The pilot indicates that the Core package is effective in identifying and linking hard-to-reach and highly vulnerable children to services. The Core package achieved improved management and tracking of HIV related concerns as a result of taking an ecological rather than health only approach. Specifically, this approach proved effective in promoting ‚known status' and supporting HIV testing for at-risk children. Lastly, integrating case management and evaluation practice in the operational planning from the onset improved data quality and short-term outcomes of improved linkages.

CONCLUSIONS/NEXT STEPS: The implementation of integrated services across sectoral boundaries is a bold departure form a pure welfare or health approach. The continued implementation of the Core Package will be critical to securing longer-term gains in reducing the effect of engrained social and structural barriers.

PED0892

HOUSING INSTABILITY AND HIV RISK: EXPANDING OUR UNDERSTANDING OF THE IMPACT OF EVICTION AND OTHER FORCED MOVES

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BACKGROUND: Housing instability is a well-established social determinant of health, and some attention has been paid to eviction as an abrupt and disruptive event. However, no studies have examined the impact of forced moves conceptualized more broadly (i.e., inclusive of both official and other forced moves by landlords) on HIV risk, even though forced moves may fragment social networks, affect economic vulnerabilities and increase likelihood of unsafe sexual practices. The study purpose is to comprehensively measure forced moves, and to examine the association between forced moves and HIV risk.

METHODS: Data are from baseline survey interviews with 400 low-income New Haven residents in a study about criminal justice involvement, housing, and HIV risk. We used bivariate and multivariate logistic regression analyses to examine associations between experiencing a forced move in the past two years (i.e., eviction and other landlord-related factors such as threats of eviction, foreclosure, increasing rent) and HIV risk in the past six months (i.e., unprotected sex, concurrency, exchange of sex for a place to live and selling sex), while adjusting for confounding.

RESULTS: One-fifth of participants reported a forced move (of these, 21% reported a formal eviction, 56% reported an informal eviction and 23% reported both). Forced move was associated with higher odds of unprotected sex (AOR: 2.09, 95%CI: 1.23-3.55), concurrency (AOR: 2.59. 95% CI:1.48-4.52), exchange of sex for a place to live (AOR: 5.40 95% CI: 1.94-15.02), and selling sex (AOR: 3.72, 95% CI:1.70-8.18), after adjustment for other covariates.

CONCLUSIONS: Housing instability, including both formal evictions and other types of forced moves, is associated with unsafe sexual practices. Our results highlight the importance of broadening conceptualization of forced moves to fully capture its impact on HIV risk. Longitudinal, mixed-methods research is needed to further assess the mechanisms through which forced moves impact sexual practice. While the current strategic plan to Ending AIDS in America by 2030 focuses primarily on biomedical approaches to prevent, diagnose and treat HIV; the potential impact of structural interventions on HIV prevention, and in particular, those which promote access to stable and affordable housing, should not be overlooked.

PED0893

THE IMPACT OF STRESSFUL LIFE EVENTS ON DEPRESSION AMONG THAI YOUTH LIVING WITH PERINATALLY-ACQUIRED HIV: FINDINGS OF BOTH RESILIENCE AND RISK

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BACKGROUND: Adolescents and young adults living with perinatally-acquired HIV (AYA-PHIV) must manage the daily challenges of living with a chronic, highly-stigmatized, transmittable illness, while also navigating the same developmental pressures as their peers. In addition to HIV-specific concerns (e.g., daily medication-taking), AYA-PHIV also report high rates of non-HIV-specific stressful life events (SLEs; e.g., social/environmental stressors) and depression. This study examined the relationship between non-HIV-specific SLEs and depression among AYA-PHIV and uninfected peers (perinatally HIV-exposed-and-uninfected; HIV-unexposed-and-uninfected).

METHODS: One hundred Thai AYA (50 PHIV, 50 uninfected; mean age=18.24) – two-thirds from the RESILIENCE Study – completed items on social/environmental stressors (i.e., SLEs) experienced over the last 12 months (e.g., family death, loss of health insurance) and the Children's Depression Inventory (CDI: 13-17 years) or Center for Epidemiological Studies-Depression Scale (CES-D: ≥18 years). CDI and CES-D scores ≥17 and ≥16, respectively, indicated clinically significant depressive symptoms. A two-way ANOVA tested interaction effects of HIV Status and SLEs on depression. Chi-square and odds ratios were conducted to assess group differences.

RESULTS: AYA-PHIV had higher rates of 1≥ SLEs than uninfected peers (44% vs. 26%) and significantly higher odds of ≥2 SLEs (OR 4.42; 22% vs. 6%). Among all participants, the most prevalent SLEs were having a very sick (23%) or hospitalized (14%) family member. ANOVA results indicated a significant interaction effect (HIV Status x SLEs) on depression. AYA-PHIV and uninfected peers with 0 SLEs reported similar rates of depression (18% vs. 19%). However, AYA-PHIV with ≥1 SLEs endorsed significantly higher rates of depression than uninfected peers with ≥1 SLEs (59.1% vs. 23.1%). Among AYA-PHIV, those with ≥1 SLEs had 6.64 times the odds of having clinically significant depressive symptoms compared to those with none.

CONCLUSIONS: Growing up with HIV is stressful on its own. Without additional stressors, many AYA-PHIV effectively manage their mental health and report similar rates of depression as their uninfected peers. However, when faced with additional, non-HIV-specific stressors, AYA-PHIV may experience depressive symptoms at higher rates than their uninfected peers. The high burden and impact of non-HIV-specific stressors on AYA-PHIV necessitate additional efforts to monitor and mitigate, such as interventions that support stress management.

PED0894

RETENTION IN CARE AND REASONS FOR TRANSFER OR STOPPING CARE AMONG HIV-INFECTED PATIENTS ON ART IN KISUMU COUNTY, KENYA

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BACKGROUND: Retention into HIV treatment is an important factor in epidemic control efforts. However, significant retention losses continue to occur. Despite the importance of retention, little is known about the current HIV care status of living patients no longer retained in care and the reasons why.

METHODS: We used a retrospective study design involving 12 health facilities in Kisumu County, Kenya where demographic and clinical variables were collected from adults 18 years and older. Eligible patients had at least one clinic visit between September 2016 and August 2018 and were lost to follow-up (LTFU) defined as 90 days late for their last scheduled visit. Reasons for being not in care or a silent transfer to another facility were classified as structural (e.g. transportation costs, work schedule), clinic-based (e.g. long waiting times, staff attitude) or psychosocial reasons (i.e. stigma, disclosure).

RESULTS: Of 778 LTFU patients selected for intensive tracing, 495 (63.6%) were female and the median age was 31 (26,38). Outcomes were ascertained from 640 (82%) of which 591 (92%) were alive including 434 (73%) with care status determined: 189 (44%) had stopped care and 245 (56%) were silent transfers. Of those that stopped care, psychosocial reasons accounted for 51% of the barriers, led by feeling well/don't need treatment (22%) and disclosure (8%). Structural reasons accounted for 20% of the barriers and led by work interference (14%) and family obligations (5%). Of those that silently transferred, structural reasons accounted for 79% of the barriers, led by new clinic proximity (62%) and moving (9%). Psychosocial reasons, specifically disclosure concerns, accounted for 7% of barriers.

CONCLUSIONS: After accounting for outcomes among traced patients, over half of patients who were considered LTFU were actually in care at other clinics. Psychosocial and structural barriers contribute significantly towards stopping care or transferring out silently, respectively, and need to be addressed to facilitate improved care engagement, along with intensive tracing to determine actual outcomes of LTFU patients.

PED0895

ADDRESSING LOSS TO FOLLOW UP: REASONS FOR DIS-ENGAGEMENT AND RE-ENGAGEMENT IN CARE BY PATIENTS AT A LARGE HIV CARE PROGRAM IN KENYA

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BACKGROUND: Long term retention in care is critical to achieving lifesaving benefits of anti-retroviral therapy (ART). While remaining engaged in care is critical to achieving viral suppression, studies in sub-Saharan Africa note that up to 30% of people living with HIV (PLHIV) cycle in and out of care. We sought to characterize reasons patients dis-engaged from care at a large program in Kenya.

DESCRIPTION: We reviewed program data from USAID-funded AMPATH-plus program, that works in 10 counties and represents 10% of PLHIV on treatment in Kenya. We included patients who had missed their appointments and not returned to care between October 2018-September 2019. Patients who had missed at least 1 visit > 28days were included in the analysis. Patients who returned to care less than 28 days after missed appointments were excluded. We analyzed client tracing outcomes from defaulter tracking registers. Outcomes and reasons for LTFU were extracted from client files. A pareto analysis was conducted for the most common reasons for disengagement of care.

LESSONS LEARNED: Of 4532 loss to follow up (LTFU) identified, 3067 (67.7%) were female and 1465 (32.3%) were males. Slightly over a half (56%) had been lost for a period of less than 6 months and 44% between 6 -12 months. Over a quarter, 1,007 (28%) of the PLHIV who were LTFU had been on ART for less than a year. Close to two thirds, 2875 (63%) of patients were traced; 1584 (34%) returned to care, 114 (2.5%) were identified to be self-transferred out and 20 (0.5%) found to be deceased. Amongst the PLHIV's who returned to care majority (34%) reported distance as a reason for missing their appointment, 25% reported work commitments and 10% reported financial constraints. Other reasons for LTFU included institutionalization e.g. prison or school, stigma and poor provider-patient communication.

CONCLUSIONS/NEXT STEPS: Most reasons for failure to return to care can be addressed by patient centered approaches mainly differentiated care models, patient literacy, and improved work flows by the health care workers. Despite the highest risk of LTFU being among newly ART initiated clients, long-term retention strategies are necessary for treatment experienced clients.

PED0896

KNOWLEDGE, ATTITUDE AND BEHAVIOURAL RISK FOR HIV/AIDS AMONG IN-SCHOOL ADOLESCENTS IN SOUTH-WESTERN NIGERIA: A MIXED-METHODS APPROACH

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BACKGROUND: Over 4% of young people in Nigeria are living with HIV A curriculum of education on HIV prevention is already in use in many Nigerian schools. The need therefore arises to assess the knowledge, attitude and behavioural risk for HIV/AIDS among these adolescents in order to develop a meaningful method to scale up preventive strategies among the adolescents. The aim of the study was to assess the knowledge, attitude and behavioural risk regarding HIV/AIDS among in-school adolescents in Ipokia Local Government Area in Ogun State Nigeria.

METHODS: A cross-sectional descriptive study was carried out in schools from May to August of 2018 among 400 senior secondary school students (133 males, 267 females) selected by multistage sampling, using mixed methods of data collection. The quantitative data was collected using a semi-structured, pre-tested questionnaire while the qualitative data was collected through Focus Group Discussions. Data was analysed using SPSS 25.0. The chi-square and T test were used to test associations. The level of significance was set at $p<0.05$. The qualitative data analysis was done using the thematic method.

RESULTS: Majority (84.8%) of students had heard about HIV/AIDS, but about one third of them (37.5%) had poor knowledge about HIV/AIDS, 65.0% of them had positive attitudes towards HIV/AIDS and a lower proportion (23.8%) engaged in behaviour that put them at risk of HIV/AIDS (multiple sexual partners, unprotected sex, alcohol and

drug abuse etc.). Poor knowledge was significantly associated with negative attitudes towards HIV/AIDS (p=0.053) and increased risky behaviour (p=0.020). A positive attitude was also associated with low behavioural risk (p=0.036). Having at least one parent in the adolescent's life significantly influenced knowledge (p=0.004) and attitude (p=0.002), whereas having an empowered mother (educated and employed) was associated with reduced behavioural risk (p=0.035).

CONCLUSIONS: The adolescents in this study lacked the detailed knowledge necessary to help the prevention of HIV/ infection. However, they had mostly positive attitudes probably due to the influence of culture, but this did not translate into avoiding risky behaviour. If their behaviour is to improve, better effort should be made at improving adolescent health education, strengthening families and empowering mothers.

PED0897

THE OUTCOME OF PERSONS LIVING WITH HIV ON ANTI-RETROVIRAL THERAPY REPORTED AS LOST-TO-FOLLOW-UP

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BACKGROUND: Loss of persons living with HIV on antiretroviral treatment (ART) is a major challenge to achieving the global HIV treatment goal of retaining 90% of clients in care. The retention in care is fundamental towards achieving viral suppression and breaking the chain of HIV transmission. This study was undertaken to determine the actual statuses of people living with HIV (PLHIV) who dropped out of ART in Nigeria.

METHODS: It is a cross-sectional study with multi-staged sampling design that used probability proportionate to size of PLHIV loss to follow up (LTFU) for selection of 22 health facilities across 12 states in Nigeria. Study participants were selected using computer generated random numbers. The study was conducted in January 2019.

RESULTS: There were 4,979 PLHIV reported as LTFU that participated in the study. Majority of them were females 3,318 (67%), while males were about a third (1,661). About half of the clients assessed were married (55%), a third had no formal education and two-thirds were unemployed. Efforts to contact the study participants was successful in approximately 60% (3,005) of the clients. Of the 1,974 (40%) participants not reached for interview, majority (73%) could not be traced due to wrong or absence of contact information. However, a small proportion 3% (56) of 1,974 declined interview and 19% although listed in the facility register did not have matching folders. Of the clients contacted (3,005), a third were dead 1,063 (35%), one-quarter discontinued ART but alive in the community 740 (25%), 23% self-transferred to other facilities while 17% (524) were still active on treatment in the study facilities.

CONCLUSIONS: To curb the menace of LTFU in HIV program, active clients tracking, operationalizing options of differentiated service delivery models, optional clinic days on weekends and public holidays, periodic conduct know-your-client exercises, client clinic appoint reminder mechanism should be fully instituted.

PED0898

DESCRIBING THE STRUCTURE AND CHARACTERISTICS OF TRANS WOMEN LIVING WITH HIV'S PERSONAL NETWORKS

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BACKGROUND: Though a few recent studies have analyzed the networks of cis people living with HIV, very little is known about those of trans people living with HIV. The present study seeks to address this gap by exploring the structure, composition, and interconnectedness of the egocentric networks of trans women living with HIV, in addition to, exploring how they construct and navigate their networks for different issues.

METHODS: 231 trans women living with HIV in the US took a 20-30 survey asking them to describe the characteristics of up to 21 people within their social circle. Data collection via an online instrument took place from February to August 2019. Network data were divided according to the people with whom participants confided in about important, HIV, and gender-related issues. Descriptive statistics and bivariate analyses were used to characterize the types of people, resources, and relationships within each network, as well as, to enumerate the size and degree of interconnectedness of each network.

RESULTS: Participants were a mean age of 32 and had been diagnosed for 5 years. Overall, their networks consisted of an average of 5 people. Participants confided in about half of the people within their networks about multiple issues. They were significantly more likely to confide in cis males and trans females ($p = .02$) about multiple issues. Chosen family ($p<.01$), spouses ($p<.01$) and friends ($p<.01$) were also identified as salient confidants, whereas health providers ($p<.01$) were not. HIV disclosure, perceived support, and gender affirmation were high across all networks (≥70%, ~80%, ~70%), yet significantly greater support ($p < .01$) and affirmation ($p < .01$) were perceived from confidants for multiple issues. Additional data highlight significant differences in HIV disclosure, communication, and conflict with network members.

CONCLUSIONS: Findings indicate this sample of trans women living with HIV were embedded within diverse communities with social resources which have been linked to resilience, such as, support and affirmation. Notable differences between network members highlight potential change agents who may be pivotal to reducing population disparities and improving health outcomes. Additional research is needed to develop network-level interventions which capitalize on community strengths.

PED0899

PATHWAYS TO HOUSING STABILITY AND VIRAL SUPPRESSION FOR PEOPLE LIVING WITH CO-OCCURRING HIV, MENTAL HEALTH AND SUBSTANCE USE DISORDERS

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BACKGROUND: People living with HIV (PLWH) with co-occurring substance use or mental health diagnoses who are homeless have poorer health outcomes compared to other HIV populations. Navigation models may be an effective intervention to achieve more stable housing, improve retention in care, and reach viral suppression. This study examines the mechanisms by which navigation works to achieve housing stability and health outcomes for this vulnerable population.

METHODS: This was a prospective study of 700 unstably housed PLWH enrolled in a patient navigation intervention across nine sites in the United Stated from 2013-2017. Data were collected via interview and medical chart review at baseline, post 6 and 12 months. Type and dose of patient navigation activities were collected via a standardized encounter form. We used a path analysis with housing stability at 6 months as the mediator to examine the direct and indirect effects of socio-demographics and risk factors and patient navigation on viral suppression and retention in care at 12 months.

RESULTS: Housing stability was associated with male gender, younger age, virally suppression at baseline, having a lower risk for opiate use, fewer years experiencing homelessness, being food secure, increased self-efficacy to obtain resources, and a longer length of time living with HIV. Stable housing, fewer unmet needs, being at moderate to high risk for opiate use, and being virally suppressed at baseline had a direct effect on being virally suppressed at 12 months. The intensity of patient navigation contact did not have a direct effect on housing stability and had a negative relationship with viral suppression. Recent diagnosis with HIV, women, better social support, and higher intensity of patient navigation contact had a direct effect on better retention in HIV primary care at 12 months.

CONCLUSIONS: In this sample of PLWH who experience homelessness, housing stability had a significant direct effect to viral suppression. Patient navigation activities did not have a direct effect on housing stability and viral suppression but they were directly related to retention in care. These results identify key populations and factors to target resources for clinics and policymakers to achieve housing stability and improve HIV health outcomes.

DYNAMICS OF SOCIAL STATUS AND POWER: SEX, GENDER, AGE, RACE/ETHNICITY, SEXUAL ORIENTATION AND DISABILITY

PED0900

BEYOND INTERPRETATION: A CASE FOR CULTURALLY TAILORED MODELS OF CARE AND PEER SUPPORT FOR SPANISH-DOMINANT LATINXS LIVING WITH HIV IN THE SOUTH

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BACKGROUND: Latinx people living with HIV(PLWH) experience worse health outcomes. Challenges to care, including language barriers, discrimination, and concerns about immigration status, are exacerbated by the current anti-immigration climate. We aimed to explore the lived experience of Spanish-speaking Latinx PLWH in the South to better understand how to improve care for this vulnerable population.

METHODS: We conducted semi-structured interviews in Spanish to explore participants' lived experience. Participants were Spanish-speaking Latinx patients recruited from a Ryan White HIV/AIDS Program clinic or a community-based organization in a region with a low density of Spanish-speaking PLWH. Interviews were analyzed using the grounded theory approach.

Theme	Example Quote
Language Barrier	"I can't be myself with the doctor for the simple reason that she doesn't speak Spanish well, [and] I don't speak English well…She's not going to understand me. I'm better off not telling her anything."
Cultural Barrier	"Even though [my doctor] speaks Spanish, she doesn't understand a lot of things the way I am expressing them to her. So, that's a limitation because it doesn't allow for good communication, or fluid communication, with her."
Stigma related to Spanish language	"Sometimes you can't communicate and there are also people who don't like it when we speak Spanish. It bothers them…And you feel like you don't have a right to say anything because you're receiving assistance, and this is the only thing that should matter – no matter how they treat you. But this is false – it's the language barrier."
Inaccurate Interpretive Services	"The interpreter didn't use the correct words and there was a misunderstanding, so my friend got frustrated. The information was not correctly given [and] my friend got more stressed. And, when he wants to reply to a doctor, [the interpreter] may change a word or verb, so the message is not as strong, not as powerful."
Insensitive behavior by an Interpreter	"The [clinic interpreter] who told me [about my HIV diagnosis], she said to me, "Listen, girl! You're going to die." And it was very hard. I think they should have told me some other way…I was alone."
Isolation of Spanish-speaking PLWH	"Not many people who speak Spanish talk about their illness; not that I know of anyway – especially in this clinic, I don't know anyone. So, no; I don't believe I have a support network."
Peer support as a positive example of living well with HIV	"When I was depressed, I talked to someone who was specialized in that…but what really did help me a lot was when I spoke with [a peer with HIV] because he was in my same situation and I saw him in such good spirits. I said to myself, "He doesn't look sick [laughter]. He's moving a thousand miles an hour!" I'd say, "No. I can do it, too," and it helped me a lot to talk to him."

[Table.]

RESULTS: Twenty-two participants completed interviews, including 10 men, 10 women, and 2 transgender women with mean age of 41.1(SD 11.6) years. All were foreign born. Language was the most commonly identified barrier to care. Participants described a lack of support and separation between patients and clinicians due to language and cultural barriers. Contributing factors related to interpretation included:
(1) underutilization of available services,
(2) errors by inadequately trained interpreters,
(3) concerns regarding confidentiality due to presence of in-person interpreters,

(4) cultural differences in expression and understanding of illness, and;
(5) insensitive behavior by interpreters.
Participants identified relationships with care team members and especially with Spanish-speaking PLWH to be a source of positive reinforcement and a way to overcome feelings of stigma and isolation.
CONCLUSIONS: Spanish-speaking Latinx PLWH report concerns about HIV care rooted primarily in language barriers resulting in isolation, lack of support, and hesitancy to confide in clinicians. These barriers may contribute to disparities in outcomes for Latinx PLWH. New interventions are needed to overcome barriers, to foster community, and ensure culturally tailored models of care. Potential interventions include training specialized interpreters in HIV care, ensuring proper credentialing, and increasing access to peer support. mHealth interventions may allow for expansion of peer support in communities with less dense populations of Latinx PLWH.

PED0901

SUBJECTIVE SOCIAL STATUS IN RELATION TO INTERNALIZED HOMOPHOBIA, HIV SELF-STIGMA, AND MISSED HIV APPOINTMENTS AMONG MSM LIVING WITH HIV AND PROBLEMATIC SUBSTANCE USE IN THE UNITED STATES

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BACKGROUND: Internalized homophobia and HIV self-stigma have been associated with sub-optimal engagement in HIV care among men who have sex with men (MSM). While the definition of stigma has been debated, it consistently involves beliefs that specific identities are of lower social status than others. The role of subjective social status, or an individual's perception of their hierarchical rank in society, may account for the relationships between internalized homophobia and HIV self-stigma and sub-optimal engagement in HIV care.
METHODS: In a sampled 202 MSM living with HIV and problematic substance use in the United States, we used logistic and linear regression and bootstrapping techniques to investigate direct and indirect relationships between internalized homophobia, HIV self-stigma, subjective social status, and missing one or more HIV appointments in the past 6 months that were not rescheduled.
RESULTS: The sample was 22% Black, 69% White, 29% Hispanic, 61% reported ≤$20,000 annual income, and 8% reported current detectable viral load. Both internalized homophobia and HIV self-stigma were associated with greater odds of missing one or more HIV appointment (OR=1.33, 95%CI:1.01,1.75 and OR=1.24, 95%CI: 1.06,1.46, respectively). Subjective social status was associated with internalized homophobia (b=0.295, p<0.001) and HIV self-stigma (b=0.492, p<0.001). Additionally, subjective social status was associated with greater odds of missing one or more HIV appointments (OR=1.24, 95%CI: 1.06,1.46).
While detectable viral load was underrepresented in this sample, results indicated a potential relationship between subjective social status and odds of viral detectability (OR=1.26, 95%CI: 0.99,1.61). Notably, we found full indirect effects of subjective social status on the association between internalized homophobia and both HIV self-stigma and missing any HIV appointments.
CONCLUSIONS: Our findings indicate that subjective social status may account for the relationships between internalized homophobia and both HIV self-stigma and sub-optimal engagement in HIV care among a sample of MSM living with HIV and problematic substance use in the United States. While longitudinal work is needed to assess these pathways, additional clinical focus on perceptions of low social status may benefit individuals living with HIV who are sub-optimally engaged in care and experience internalized stigma related to their sexual orientation and HIV-status.

PED0902

MALE PERSPECTIVE ON THEIR ROLE IN RETENTION OF WOMEN IN HIV CARE IN MALAWI: PRELIMINARY RESULTS OF QUALITATIVE STUDY

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BACKGROUND: HIV positive women report that low support of male partners is a barrier to adherence and retention to HIV care. Our aim is to unpack the role, impact and context of male partner engagement with women's HIV care access.
METHODS: A qualitative study involving semi-structured focus group discussions (FGDs) and in-depth interviews (IDIs) accessing care at DREAM facilities in Southern Malawi were performed. We recruited 41 participants for FGDs and 9 for IDIs from January 2019 to July 2019. We conducted 6 FGDs, one with concordant couples, one with discordant couples, three with HIV positive men and one with HIV positive women. We conducted 5 IDIs with HIV positive patients and 4 IDIs with expert clients as key informants. All data were digitally recorded, transcribed verbatim and analyzed using grounded theory approach.
RESULTS: Our preliminary findings confirm that men have a significant role towards supporting women to access and remain in care in very specific areas. These include provision of transport and other material needs like food; and providing verbal support on drug adherence and appointment scheduling and reminders. Issues around disclosure, attitudes to women, condom use and family planning followed gender orders that were found to be barriers to retention. Gender relations at household and system level were found to impact women's retention in health systems.
CONCLUSIONS: The study highlights the significance of gender determinants of retention of HIV positive women in health care systems. The engagement of male partners in specific support roles, including transport and other actions in maintaining appointments are considered beneficial and effective. We recommend both community and facility-based interventions including peer-to-peer support through expert clients, men-centered activities at the clinic and community reach-outs through popular places like the chief, church, village banks.
1. DREAM: Drug Resource Enhancement against AIDS and Malnutrition - a Programme that aims to control the HIV/AIDS epidemic and malnutrition in Sub Saharan Africa.

PED0903

RELATIONSHIP POWER, ANTIRETROVIRAL ADHERENCE, AND PHYSICAL AND MENTAL HEALTH AMONG HIV-POSITIVE WOMEN IN RURAL KENYA

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BACKGROUND: Gender-based power imbalance is a known risk factor for intimate partner violence but little is known of its association with HIV treatment outcomes, mental health, and physical health. We aimed to understand the impact of sexual relationship power on adherence to antiretroviral therapy (ART), and physical and mental health status among HIV-infected women in the Nyanza region in Kenya.

METHODS: As part of a cluster-randomized controlled trial of a multisectoral agricultural and financial intervention to improve health outcomes among HIV-infected farmers in western Kenya (NCT02815579), we performed a cross-sectional analysis at baseline to determine the association of sexual relationship power with ART adherence and physical and mental health. We analyzed 382 HIV-positive women. Relationship power was measured using the Sexual Relationship Power Scale (SRPS), a validated measure consisting of two subscales: relationship control and decision-making dominance. The overall scale and each subscale were divided into tertiles for analysis. Our primary outcomes were excellent ART adherence (>95%), measured using the visual analogue scale; physical and mental health status using the Medical Outcomes Study (MOS)-HIV Survey physical health score and mental health score (continuous, range 0-100); and dichotomous depression using the Hopkins Symptom Check-List. We used multivariable regression to test for associations between the SRPS and subscales adjusting for sociodemographic and social factors.

RESULTS: Participants had a median age of 38 years, 60.7% were married, and 20.4% had some secondary education. Relationship control was associated with depression and MOS-HIV mental health, but not with ART adherence. There was a non-significant trend towards improved physical health. Women with the highest and middle tertiles for relationship control had a 4.70 point (p=0.041) and 5.17 point (p=0.014) greater mental health score, respectively, compared to women in the lowest tertile. Women with the highest and middle tertiles for relationship control had a 0.37 (p=0.0017) and 0.55 (p=0.071) lower odds of depression, respectively, compared to women in the lowest tertile.

CONCLUSIONS: Low sexual relationship power, specifically low relationship control, may contribute to poor mental health among HIV-infected women. Longitudinal studies are needed to understand how these factors are related over time to guide intervention development among women living with HIV.

PED0904

UNDERSTANDING HIV VULNERABILITY IN A US POPULATION OF DOMINICAN AMERICAN WOMEN AGES 50 AND OVER

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BACKGROUND: Women in vulnerable populations, face a multitude of adverse life experiences that contribute to HIV risk including poverty, racism, ageism, violence and unemployment. HIV risk and transmission factors amongst these populations, including Latinos, are associated with cultural perceptions and traditional gender roles. Although interventions exist, efforts have mainly focused on the intrapersonal aspects of HIV risk without much attention to interpersonal, social or environmental factors. In fact, rates are declining for almost all women except those over 50. For these reasons, the current study sought to understanding the beliefs and perceptions of HIV risk for older Dominican women (N=60) as the US-CDC calls for country-specific HIV risk profiles for Latino communities to support prevention efforts.

METHODS: Focus group discussions were conducted and guided by the Theory of Gender and Power (TGP) constructs of: 1) Affective influences/social norms; 2) Gender-specific norms and 3) Power and Authority. Natural language processing (NLP) was also conducted to identify and depict topics in focus group data. Topics were detected and summarized through descriptive statistics, classification, visualization, and clustering.

RESULTS: Topic Clusters identified through NLP were: 1) Violence; 2) interpersonal relationship dynamics; 3) sexual relationship dynamics; 4) Financial Constraints; 5) Condom/Sex Negations; 6) STDs/STIs; 7) Substance Abuse; 8) Community Engagement and Support; and 9) Food Insecurity.

CONCLUSIONS: The steadily changing factors associated with the demographic profile of the AIDS epidemic, challenges HIV prevention strategies to remain relevant and up-to-date, particularly in populations of women over 50, where the understanding of risk remains under explored. Our findings confirm previous findings of risk perceptions and provide additional insight into aging-related aspects of HIV risk for older Latino women.

ECONOMIC TRANSITIONS AND SOCIAL AND CULTURAL CHANGES AFFECTING HIV AND THE HIV RESPONSE

PED0905

ECONOMIC PRIVATIZATION AND WOMEN'S HIV VULNERABILITY IN UGANDA

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BACKGROUND: The privatization of Uganda's coffee industry the in the 1990s may have contributed to socioeconomic circumstances that left women disproportionately vulnerable to HIV in the fol-

lowing decades. In the rural Masaka area of south-central Uganda, which was devastated by the HIV epidemic in the 1990s, coffee had long been the sole industry, and therefore the region's primary source of cash wages. From 1950-1990, coffee processing – farming, hulling, sorting, and grading – was organized by a series of state-backed, collectively controlled cooperatives that bought and sold coffee at a fixed price. In 1990, following decades of political turbulence and facing foreign debt repayment to the World Bank and IMF under structural adjustment, the Ugandan government ended support for the coffee cooperatives, which were unable to compete with multinational private buyers and collapsed. In the years following, thousands of people, especially women, faced unemployment; women had outnumbered men as workers in large cooperative-owned factories.

METHODS: This paper draws from 28 key informant interviews and one focus group discussion with men and women formerly employed by Uganda's coffee cooperatives as managers, administrators, farmers, and casual laborers. We also draw from archives of national newspapers documenting increasing crime and sex work in the Masaka region following the collapse of the coffee industry.

RESULTS: Our analysis suggests that the collapse of Uganda's coffee industry led to gendered imbalances in the cash economy, which may have exacerbated women's HIV vulnerability in two ways. First, many formerly employed female laborers were forced into marriages or sex work in order to afford rent and school fees for their children. Second, others migrated to nearby trading centers and fishing villages around Lake Victoria, where foreign and national investments in the fishing industry were beginning to yield returns and where sex work was rampant.

CONCLUSIONS: The Masaka area case study demonstrates the importance of understanding how political economic change shapes health behavior and how the gendered social organization of the labor market may exacerbate disparities in HIV vulnerability. We further argue that economic policies must be evaluated for their impacts on health inequality.

PED0906

SOCIAL CONTRACTING: A WAY FORWARD IN HIV PREVENTION AMONG THE FEMALE SEX WORKERS IN GUYANA

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BACKGROUND: The Key population in Guyana is disproportionately affected by HIV and AIDS. This community is classified as; Men Who have Sex with Men, Female Sex Workers (FSWs), Transgender persons, Miners and Loggers. The HIV prevalence among the group is between 3-6 times higher than the general population. Over the years, the National Programme has depended heavily on civil society organizations (CSOs) for the delivery of a defined package of HIV prevention services to reach these groups. In 2017 the local Sustainability Plan prioritized the continued engagement of CSOs, and identified this as critical for a sustainable and effective HIV response.

DESCRIPTION: In June 2019 the National AIDS Programme contracted a sex worker led organization to deliver a defined package of services to FSWs in region 4.This organization was asked to reached 1000 FSW with said services and test 90% for HIV, Syphilis and Hepatitis B. Peer educators visited traditional and nontraditional hotspots four times weekly to deliver services. The outreach team included peer educators and HIV Peer counselors/Tester. Deliverables and funding were assigned in phases.

LESSONS LEARNED: The HIV prevention package of services was delivered to 1066 female sex workers. The acceptance rate for HIV testing was 100%. Between July –December 2019, with a monthly target of 200 FSWs, an average of 177 FSWs were reached monthly. Each reached benefited from risk assessment in HIV testing, Sexual Risk, Substance Abuse, mental health and violence screening. Further, prevention commodities such as condoms and lubricants were given along with BCC materials. Referral and navigation to care, treatment and support services were also offered to those who were interested. The beneficiaries included migrant populations, however the language presented a challenge in service delivery.

CONCLUSIONS/NEXT STEPS: The results of this pilot have proven to be successful in reaching female sex workers in region 4 with a defined package of services. The pilot also highlighted the importance of ensuring our outreach tools are compatible to ensure migrant populations can benefit from the same level and quality of services.

HUMANITARIAN CRISES AND HIV

PED0907

INTEGRATED CARE FOR VENEZUELAN MIGRANTS IN THE BORDERLANDS: A MODEL OF CLIENT-CENTERED APPROACH IN CUCUTA AND BUCARAMANGA, COLOMBIA

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BACKGROUND: Due to a humanitarian crisis, 3.8 million refugees have left Venezuela. Over 1.4 million have crossed into Colombia. Most migrants cannot access the Colombian health care system. Since 2018, AIDS Healthcare Foundation (AHF) is the only organization providing access to free HIV care in Cucuta and Bucaramanga, two major border crossing cities in Colombia. This study describes how a client-centered approach and integrated care model are being used to serve migrants.

METHODS: On the same day, our clinics provide diagnosis, professional multidisciplinary care, opportunistic infections care, antenatal care including prophylaxis to exposed infants, vaccinations, condom distribution, nutritional support and ART. Data from November 2018 to October 2019 were collected in both clinics. This is a descriptive cross-sectional study for clients enrolled in the two clinics.

RESULTS: A total of 7,282 clients were tested for HIV, among them 4,408 (60.5%) were Venezuelans. In the Venezuelan cohort, 23.9% (1,055) had an HIV positive result, however only 158 (15%) were newly diagnosed as positive. 2,038 Venezuelan pregnant women were tested for HIV, of whom 27 (1.32%) were HIV positive. 3 (13%) HIV exposed infants tested positive. 957 (91%) positive clients linked to the AHF clinics, while the rest were linked to the Colombian health system. Of the clients linked to AHF, 892 (93%) are in care, and 856 (96%) are on ART. All clients initiated ART in less than 14 days; 779 (91.2%) initiated within 7 days. For the clients in care, the CD4 counts were as follows:

24.5% had CD4<200/mL; 22.3% had CD4 of 201- 350/mL; 91% achieved viral suppression (VL<1000 cp/mL) within two months on ART. The mortality rate was 1.6%, of which 11.8% was attributed to TB.

CONCLUSIONS: Despite vulnerabilities faced by Venezuelans, the AHF model achieved high adherence and a low mortality. This model has proven effective in reaching displaced people. It demonstrates how government agencies and non-governmental organizations can work together to overcome challenges associated with migration. The model could be replicated in other parts of the world facing humanitarian crises and population displacement.

PED0908

PATHWAYS BETWEEN INTERSECTIONAL STIGMA, GENDER EQUITABLE NORMS, AND CONDOM OUTCOMES AMONG URBAN REFUGEE AND DISPLACED YOUTH IN KAMPALA, UGANDA

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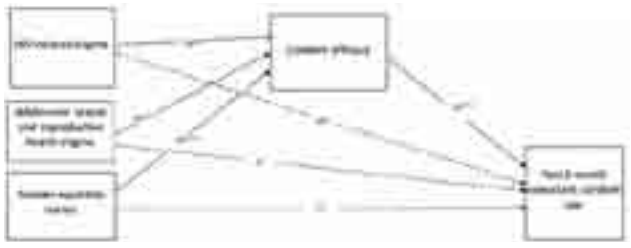
BACKGROUND: Social inequities elevate HIV vulnerabilities among youth in humanitarian contexts. Condom efficacy—knowledge, intention, and relationship dynamics that facilitate condom negotiation—is understudied among refugee youth. We examined social-ecological factors (stigma, gender equitable norms [GEN], depression) associated with condom efficacy and use among urban refugee youth in Kampala, Uganda.

METHODS: We conducted a cross-sectional survey with refugee youth aged 16-24 in Kampala's informal settlements. In multivariable regression analyses we examined associations between adolescent sexual and reproductive health (SRH)-related stigma, HIV-related stigma, and GEN with condom efficacy and recent (past 3-month) consistent condom use among sexually active participants. In path analyses we tested: direct effects of stigma (adolescent SRH-related, HIV-related) and GEN on condom efficacy, and indirect effects via depression; and direct effects of stigma (adolescent SRH-related, HIV-related) and GEN on recent consistent condom use, and indirect effects via condom efficacy.



*[Figure. Pathways from stigma and gender equitable norms to recent consistent condom use via condom efficacy among sexually active urban refugee youth aged 16-24 in Kampala, Uganda (N=251) Note: *p<0.05, **p<0.01, ***p<0.001]*

RESULTS: Among participants (mean age: 19.59, SD: 2.59; women: n=333, men: n=112), 62.5% were sexually active. Of these, 53.3% reported consistent condom use. In multivariable analyses, lower adolescent SRH-related (β= -0.18, p<0.001) and HIV-related (β= -0.18, p<0.001) stigma and higher GEN (β=0.15, p<0.001) were associated with condom efficacy. Among sexually active participants, GEN was associated with increased (AOR: 1.07, 95%CI: 1.01-1.13), and adolescent SRH-related stigma with reduced (AOR: 0.92, 95%CI: 0.84-0.99), odds of recent consistent condom use. There were direct pathways from lower stigma (adolescent SRH-related, HIV-related) and higher GEN to condom efficacy. Depression partially mediated the pathway from HIV-related stigma to condom efficacy. Condom efficacy mediated pathways from stigma (HIV-related, adolescent SRH-related) and GEN to consistent condom use.

CONCLUSIONS: Consistent condom use was low and associated with community (lower stigma, gender equity), interpersonal (condom efficacy), and intrapersonal (reduced depression) factors. Gender transformative and intersectional stigma reduction approaches are needed to increase sexual agency and wellbeing among urban refugee youth in Kampala

PED0909

"ACTION NOW FOR BENEFITS LATER" MAINSTREAMING HIV INTO HUMANITARIAN EMERGENCIES: THE ZIMBABWE CASE

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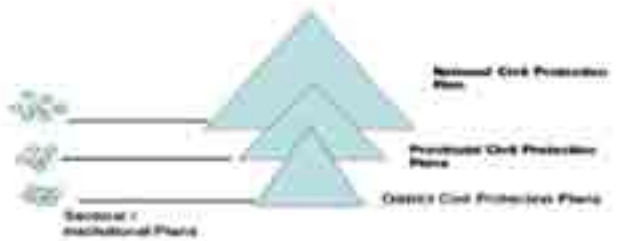
BACKGROUND: Humanitarian crises are a result of droughts, floods, internal displacements, conflicts, wars and tsunamis. In Zimbabwe the most common emergencies include floods, cyclones and drought. When these emergencies occur Orphans, and Vulnerable Children (OVC) People Living with HIV (PLHIV), the chronically ill, the elderly, People with Disability girls and women become more vulnerable than other population groups e,g, malnutrition, exploitation, abduction, sexual and gender based violence in humanitarian settings which expose them to HIV, TB and STI Infection. Prevention/ treatment services get disrupted leading to increased risk of HIV infection.

Cyclone IDAI affected 4216 households in Chimanimani and Chipinge districts, resulting in 6969 PLIHIV ART Clients getting disruption, 353 deaths and 326 missing persons (Civil Protection, 2019). The DRR programme aims at mainstreaming HIV into Disaster Risk Reduction to prevent new infections and minimise service disruption.

DESCRIPTION: National AIDS Council, ZAN UN-OCHA and Department of Civil Protection trained 300 participants from Coordinating bodies on mainstreaming HIV and AIDS into Humanitarian. The training was targeting flood prone districts and resulted in commitment by Civil Protection Committees chairs to include HIV issues in the District Civil Protection plans and inclall usion of NAC officers and PLHIV in all CPC structures shown below:



[Figure. Levels of emergency preparedness planning]

LESSONS LEARNED:

- Sub populations groups such as Adolescent Girls, women, Pregnant mothers, OVC, the elderly, PWD, PLHIV and key populations become more vulnerable during emergencies and there is need to take extra precaution to address their needs during emergencies.

- Disaster Risk Preparedness is essential to prevent populations from HIV infections during emergencies to avert human suffering.

CONCLUSIONS/NEXT STEPS:

- Refresher training should be conducted Civil protection Committees as there has been staff turnover
- Training of non-traditional prone districts need to be sensitise to mainstream HIV into emergencies.
- A data base of vulnerable groups should be established to enable quick identification of affected populations during emergencies.

PED0910

ROLE OF CIVIL SOCIETY ADDRESSING THE COMPLEX HUMANITARIAN EMERGENCY IN VENEZUELA

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BACKGROUND: AID FOR AIDS' (AFA) Chronic Disease Response Program aims to diminish the impact of HIV in Latin America and the Caribbean by redistributing antiretroviral treatment (ART) as a response mechanism to severe shortages. Initially, the program was developed to address the complex humanitarian emergency in Venezuela, where new HIV infections were estimated to have increased by 24% from 2010 to 2016, while only 12.78% of people registered in the National AIDS Program were receiving ART in 2018[1]. Nevertheless, it has grown to address shortages in countries such as Colombia and Ecuador, facing a high influx of Venezuelan migration.

DESCRIPTION: AFA developed an innovative mechanism without being labeled as "humanitarian aid" to surpass governmental obstacles that had been preventing people in Venezuela from accessing healthcare. This mechanism consists of five (5) key steps: 1) AFA secures donations from pharmaceutical companies through established partnerships with ViiV Healthcare, Gilead Sciences, Mylan Pharmaceuticals and Novartis International AG. 2) Pharmaceutical companies send medicines to the United Nations Humanitarian Response Depot (UNHRD) in Panama. 3) UNHRD handles, stores and ships medicines to Venezuela. 4) UNAIDS and other allies receive medicines in Venezuela. 5) Civil society monitors the distribution of medicines in Venezuela.

LESSONS LEARNED: This innovative way to respond to complex scenarios, and the developed mechanism turned AFA into the main provider of antiretroviral and antimalarial medication in Venezuela in 2018, ensuring treatment for 35,000 people with HIV and 440,000 antimalarial treatments. In 2019, AID FOR AIDS sent ART for 11,000 people with HIV in the region, in countries such as Colombia, Dominican Republic, Ecuador, Panama, and Venezuela.

CONCLUSIONS/NEXT STEPS: Going forward, AFA seeks to continue providing treatment for 16.7% of Venezuelans with HIV who cannot take TLD, as part of the Master plan for strengthening the HIV, tuberculosis and malaria developed as the result of a joint PAHO/WHO and UNAIDS technical mission while scaling up the program to address the need of Venezuelans in the region. Civil society has shown to have the capacity to respond to complex public health scenarios in an immediate and effective manner. Furthermore, this program has demonstrated its applicability to any medical condition.

PED0911

YOUTHS ENGAGE IN THE PREVENTION OF HIV AND NEW INFECTIONS IN HUMANITARIAN SETTINGS IN THE SOUTH WEST REGION OF CAMEROON

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BACKGROUND: Aside the high HIV prevalence in the Southwest Region of Cameroon (7.2%) far above national prevalence(4.2%) *as at 2018*, the ongoing deteriorating humanitarian crisis in the two anglophone Regions (South and North West) of the country continue to fuel the likelihood of new HIV infections. The destruction of community structures and burning of houses and schools has left over 400.000 persons including students to be internally and externally displaced and the further targeting and kidnapping of health workers even worsen the situation with more constrains of offering effective services.

Limbe Health District has become a host community to thousands of these internally displaced population(IDPs)and the shutdown of schools,lack of income and an enabling environment for sexual violence,increased drug use all contributes to challenges in offering a comprehensive HIV package

DESCRIPTION: Taking into consideration humanitarian principles, a community peer to peer approach of both displaced youths and youths from host communities was used to reach out to adolescent population with HIV education/testing, targeted street campaigns, STIs education and referrals for testing and communication for behavior change. This project is an extension of a project that started in 2018 targeting non scholarised youths in the touristic city of Limbe,in this phase, since the project locality was highly concentrated with IDPs and every youth in the community was basically idle, a youth friendly spaces strategy was incorporated in a bit to keep them busy while reaching out to them with HIV/STIs education, testing and treatments.

LESSONS LEARNED: forty youths(40) both boys and girls were identified and trained to carry out community HIV/STIs sensitization, animate youth friendly spaces and refer cases to selected hospitals or selected nurses meet with the client at their homes. So far, a total of 3800youths(2250girls&1550boys) have been reached both during youth-friendly-spaces and during campaigns with HIV/STI education and HIV testing of which 15(9 girls/6 boys) were positive and they were all referred and placed on treatment, 218(68%girls and 31%boys) had asymptomatic signs of a sexually transmitted infection.

CONCLUSIONS/NEXT STEPS: Capacity building of these youths to get involve in active search for lost cases, gender based violence cases and index tracing will be incorporated in future

PED0912

ECONOMIC EMPOWERMENT AS A CATALYST FOR REDUCTION OF HIV AND GENDER BASED VIOLENCE (GBV) IN CONFLICT AREAS IN NIGERIA

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BACKGROUND: The intersection of poverty, gender-based violence and HIV is noted in literature especially in conflict settings. Conflicts and insurgency is affecting several States in Nigeria with the north-east zone as the epicenter. According to United Nations Commissioner for Refugees (UNHCR) 2018 report, Nigeria has 1,918,508 Internally Displaced Persons (IDP) as at August 31, 2018. 94% of them were displaced by the Boko Haram insurgency in the north- east. In order to reduce HIV and GBV among women and girls in conflict settings, NACA in collaboration with UN Women and State level partners, commenced economic empowerment project for women and girls in conflict settings. Livelihood programmes were executed to empower vulnerable women and girls in a sustainable manner.
DESCRIPTION: Benue State, north-central Nigeria was purposively selected being a conflict-affected area coupled with the fact that most humanitarian aids are concentrated in the North East. The target population were women and girls in conflict areas as well as those living or affected by HIV/AIDS in IDP camps. Qualitative method was used to collect baseline information prior to the intervention. Observation schedule was used to capture the general environment in the camp, interview and focus group discussion guides were used to elicit information from key informants and to conduct group discussions among the cohorts. They were then selected for economic empowerment and skill to tackle GBV.
LESSONS LEARNED: Many of those interviewed affirmed the need for acquiring economic skills as an important priority for their survival in the IDP camp and after leaving the camp. Beyond provision of livelihood support such as food, clothing and shelter, Nigerian government and her partners need to collaborate on sustainable economic empowerment programmes for vulnerable women and girls. Such intervention include market value chain. Also, findings from the baseline indicated the likelihood of GBV as there are complaints of favoritism with regards to aids distribution by camp and aid workers.
CONCLUSIONS/NEXT STEPS: Scale up of the livelihood interventions by government, partners, humanitarian international bodies and philanthropist is critical. The economic empowerment and livelihood opportunities would minimize sexual and gender based violence experienced by vulnerable women and girls especially in conflict situations.

PED0913

ASSESSMENT OF HEALTH-RELATED OUTCOMES IN PLWH IN PUERTO RICO AFTER THE HURRICANES IRMA AND MARIA

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BACKGROUND: On September 2017, hurricanes Irma and Maria devastated Puerto Rico (PR). Dire pre-existing socio-economic and political factors in the island increased vulnerability of people living with HIV (PLWH), making it urgent to understand the impact of the hurricanes on their health in light of potential future events. This study aimed to assess health-related outcomes of PLWH after Hurricanes Irma and Maria.
METHODS: We conducted a retrospective cohort study using secondary data from the PR HIV Surveillance System. The 2-year study period consisted of pre-hurricanes (2016-2017) and post-hurricanes (2017-2018) to identify potential statistical differences. A 20-fold multiple imputation with chain equations (MICE) was used for CD4 and viral load missing values using sociodemographic (e.g., age, sex, HIV risk factor, etc.) variables as predictors. Log-linear regressions explored factors associated with CD4 and viral load counts. We used R software to perform all analyses.
RESULTS: A total of N=20,496 PLWH were reported for the study period, mean age was 50.8 (±12.7 years). Most (69.8%) were males and the most common risk factor for HIV was adult heterosexual contact (36.5%). During the 2-year study period, subjects had an average of 3.6 medical visits. A total of N=307 subjects (1.5%), died during post-hurricanes study period. Of these, 31.3% reported HIV-related cause of death. The average number of visits pre-hurricanes period was 2.1 (±1.4 visits) compared to 1.6 (±1.2 visits) post-hurricanes. Adjusted model for mortality post-hurricanes period resulted in a reduction of CD4 count by ~39% (p=0.008). While having died post-hurricanes period resulted in an increase of 1,832% (p=0.049) viral load count. No statistical differences were identified for age, sex and medical appointments.
CONCLUSIONS: Data suggest that following a similar emergency situation, PLWH can be at risk of increased viral load and significant reduction in CD4 count. This outcome can be related not only to access to care, but to factors that influence adherence including transportation issues, lack of basic needs, among other structural factors. Response efforts should emphasize on assuring PLWH continuation in HIV care. This is critical to reduce not only potential complications, but also to reduce HIV-related deaths in future emergencies.

INTERGENERATIONAL AND/OR TRANSACTIONAL SEX

PED0914

KEY DETERMINANTS OF HIGH SEXUALLY TRANSMITTED INFECTIONS (STIS) IN MAZOWE DISTRICT, MASHONALAND CENTRAL PROVINCE, ZIMBABWE

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BACKGROUND: The study sought to establish key determinants of ever increasing sexually transmitted infections (STIs) in Mazowe district, Mashonaland Central province in Zimbabwe. Despite intense and integrated service provision by many stakeholders, STI trends in the district have continued to increase over the last three years. The study therefore sought to measure the knowledge, attitudes and perceptions of people accessing services at various health care points in the district, with the objective of coming up with stronger interventions for STI prevention.

METHODS: A 1:1 unmatched case control design was used in the study.Data was collected for a period of twenty (20) days from randomly sampled health sites. A case was any new patient seen at any health center in the district from 1 August 2019 to 31 August 2019, and treated for an STI (as defined by the clinical protocol). A control was any new patient at any health center in the district, who reported sexual activity but without a diagnosed STI during the same period. Using chi-square and t-test, respondents with a history of STIs were compared with those who said they had not experienced an STI; on demographic, knowledge, attitude and practice variables.

RESULTS: A total of 602 cases and 602 controls were interviewed.Using multivariate analysis to control for confounding factors,the following variables were statistically significant in determining whether or not, one gets infected with an STI; religion, especially Muslim ($p<0.001$), source of income, especially sex work ($p,<0.001$), being paid for sexual services in foreign currency ($p<0.001$), unavailability of STI medicines in public health centers ($p<0.002$), failure to use a condom every time one has sex ($p<0.001$), having taken alcohol the last time one had sex ($p<0.002$), and having an STI before ($p<0.001$), and having more than two sexual partners in the last three months ($p<0.001$).

CONCLUSIONS: Religion, selling sex, being paid for sexual services in foreign currency,unavailability of STI medicines in public health centers, failure to use a condom every time one has sex, having taken alcohol the last time one had sex,having an STI before, and, number of sexual partners in the last three months were independently associated with contracting STIs.

PED0915

TRANSACTIONAL SEX AND ASSOCIATIONS WITH PSYCHOSOCIAL AND HIV PREVENTION ENGAGEMENT OUTCOMES AMONG URBAN REFUGEE AND DISPLACED YOUTH IN KAMPALA, UGANDA

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BACKGROUND: Half of the world's 70 million forcibly displaced persons are under 18 years, live in urban areas, and most experience social and economic marginalization. Transactional sex among urban refugee youth is understudied, particularly regarding gendered experiences. We examined psychosocial and HIV-related vulnerabilities associated with transactional sex among urban refugee youth in Kampala, Uganda.

METHODS: This cross-sectional survey included a peer-driven sample of refugee youth aged 16-24 living in Kampala's informal settlements. We oversampled for adolescent girls who are overrepresented in Uganda's HIV epidemic. We conducted gender-disaggregated hierarchical block multivariable regression analyses for continuous outcomes, and multivariable logistic regression for categorical outcomes, to examine associations between transactional sex (TS) and *psychosocial* (depression, social support, violence) and *HIV-related* (HIV testing, adolescent sexual and reproductive health [SRH] stigma, condom use) outcomes, adjusting for sociodemographic (age, education, time in Uganda, income) factors.

RESULTS: Among 324 girls, 26.54% (n=86) reported past 12-month TS (67.4% for money only, 32.6% for money and other goods [e.g. accommodation, food, transport, drugs]), 62.8% of TS-engaged girls had ever tested for HIV. Among 88 boys, 47.7% (n=42) reported past 12-month TS (21.4%: money only; 78.6%: money and other goods); 50.0% of TS-engaged boys had a lifetime HIV test. In multivariable analyses with boys, adjusting for socio-demographics, TS was associated with: depression (adjusted R^2[AR^2]=0.08, p=0.04); lower resilience (AR^2=0.08, p=0.02); lifetime sexual violence (AOR: 10.80, 95%CI: 1.1-108.5); adolescent SRH stigma (AR^2: 0.14, p=0.038); and lower HIV testing odds (AOR: 0.31, 95%CI: 0.11-0.85). Among girls, in multivariable analyses adjusting for sociodemographics, TS was associated with: lower social support (AR^2=0.21, p<0.001); lifetime physical violence (AOR: 5.94, 95%CI: 2.78-12.67); lifetime sexual violence (AOR: 5.85, 95%CI: 3.23-10.62); past 12-month intimate partner violence (AOR: 3.55, 95%CI: 1.1-11.23); lower adolescent SRH stigma (AR^2=0.11, p<0.001); higher condom efficacy (AR^2=0.21, p<0.001); and past 3-month consistent condom use (AOR: 4.49, 95%CI: 1.43-14.11).

CONCLUSIONS: Transactional sex is common among Kampala's urban refugee youth and associated with psychosocial vulnerabilities. Yet HIV cascade engagement varied by gender: TS was associated with girls' increased condom use and boys' reduced HIV testing. Gender, refugee, and youth-tailored HIV cascade strategies are needed with urban refugee youth.

PED0916

HE PROMISED HE WOULD GET ME OUT OF HARDSHIPS: DYNAMICS OF POVERTY AND TRANSACTIONAL SEX AMONG TANZANIAN ADOLESCENTS IN AN INTEGRATED SOCIAL PROTECTION PROGRAMME

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BACKGROUND: Transactional sex is driven by structural factors including poverty. Social protection initiatives may be an effective tool in protecting youth from transactional sex and its consequences, including HIV, early pregnancy and gender-based violence. This current intervention combines household-level cash transfers with adolescent-focused complementary programming to reduce HIV, abuse and exploitation. We examine intervention impacts and the lived experiences of adolescents in Tanzania and how poverty contributes to exploitation.

METHODS: The Ujana Salama Tanzania "Cash Plus" study on Youth Well-Being and Safe, Healthy and Productive Transitions to Adulthood is a randomised-control trial targeted to adolescents in households receiving the government's Productive Social Safety Net (PSSN) cash transfer programme. The cash plus intervention was layered onto the PSSN and comprised livelihoods and life skills training, mentoring and a productive grant, and linkages to existing government health services. We use three rounds (2017-2019) of qualitative (N=40) and quantitative (N=2,100) data from adolescents (aged 14-19 at baseline) to explore the dynamics of poverty and transactional sex and estimate intent to treat impacts using ANCOVA models.

RESULTS: Quantitative findings show that, at baseline, among those ever having had a romantic relationship, 8% reported having started the relationship for financial reasons, and this increased to 28% among treatment youth and 31% among control youth by Wave 3. While there were no intervention impacts on this outcome, there were positive impacts on livelihoods participation and starting businesses, which may mitigate future risk of transactional sex. In qualitative interviews, some female participants report being given money or promises of "a better life" including marriage or funds to start a small business. Most relationships that resulted in pregnancy subsequently experienced the disappearance of the men. Experiences of unplanned pregnancy in these relationships amplified their already stressful lives, limiting their educational and future productive opportunities.

CONCLUSIONS: While aiming to address structural drivers of sexual exploitation that may lead to HIV through a government-run, multi-sectoral cash plus intervention, this intervention did not reduce transactional sex. Further economic strengthening and linkages to family planning services are crucial to protect adolescents from unwanted consequences of transactional sex among this vulnerable population.

PED0917

TRANSACTIONAL SEX AMONG INDIGENOUS ADOLESCENTS OF THE COMARCA NGÄBE-BUGLÉ OF PANAMA: PRACTICES, NORMATIVE BELIEFS, AND EFFECT ON HIV AND SEXUALLY TRANSMITTED INFECTIONS

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BACKGROUND: Transactional sex (TS) has been a major focus of sexual health research and interventions, especially among young women in sub-Saharan Africa. The Comarca Ngäbe-Buglé (CNB) is the largest-populated indigenous region in western Panama, home to people of Ngäbe and Buglé ethnicities. Currently, few data focus on TS practices and normative beliefs among Indigenous adolescents in the Americas, and implications for HIV and sexually transmitted infection (STI) risk.

METHODS: We conducted a mixed-methods study between January and November 2018, which consisted of the inclusion of 700 school-going adolescents (14-19y) who completed a self-applied questionnaire and provided blood and urine samples tested for HIV, syphilis, chlamydia, and gonorrhoea. Additionally, we performed 20 semi-structured in two sites of the CNB with adolescents, using participant guided vignettes to elicit descriptive and injunctive norms around transactional sex in the CNB.

RESULTS: In both the qualitative and the quantitative study, we found that having been offered TS was frequently reported by male (15.5%) and female (18.8%) adolescents. People offering TS were reported to be older men/male teachers, and less often, older women/female teachers. Household-level economic indicators were not associated with TS. Normative beliefs were found to be generally accepting of TS among both male and female participants. Having been offered TS and holding normative beliefs in favor of TS were associated with reported forced sex in both sexes and increased HIV/syphilis seropositivity in males. There were no associations with other reproductive and STI outcomes. In the qualitative study, we found that participants generally felt adolescents held agency in deciding to engage in TS, except when there is a great need for the item offered.

CONCLUSIONS: TS is common among Indigenous adolescents of CNB, and normative beliefs of the behavior are generally positive. However, having been offered TS was associated with negative outcomes such as increased reported forced sex and HIV/syphilis seropositivity. Interventions should not necessarily just focus on eliminating the transactional component of sexual encounters, but also overcome the perceived limited agency held by adolescents and increase their adoption of condom use at all sexual encounters.

MEDIA, CULTURAL AND RELIGIOUS REPRESENTATIONS OF HIV AND OF KEY POPULATIONS

PED0918

SEXUALLY EXPLICIT MEDIA CONSUMPTION AND ASSOCIATION WITH UNPROTECTED ANAL SEX IN MEN WHO HAVE SEX WITH MEN IN BRAZIL

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BACKGROUND: Sexually Explicit Media (SEM) comprises any type of material describing genitals or explicit sexual acts. The effect of SEM consumption on Men who have sex with men (MSM) sexual health has been associated with a higher prevalence of vulnerable behaviors, specially with recent changes in SEM regarding the absence of condoms in the scenes (bareback or condom free). SEM consumption is significant in Brazil, with 28.5 billion visitors per year in the world's most popular pornographic website. The country was in 10th place among the countries that most accessed Pornhub, with the predominant search for gay pornography. Within these bareback term searches, it is becoming increasingly popular, to a point of, almost, being unanimous. Our goal is to evaluate the bareback consumption of SEM by men who have sex with men (MSM) in Brazil and its association with condomless anal intercourse (CAI).

METHODS: We created a Facebook® page, with a link directing stakeholders to the study questionnaire. Included were users who resided in Brazilian territory, identified themselves as cisgender men, were 18 years old or older and had sex with another man in the last 12 months. Data were collected in September 2017, tabulated and analyzed and by uni- and bivariate inferential statistics and logistic regression.

RESULTS: 2248 MSM participated in the survey, with a mean age of 24.4 years. Having multiple sex partners, preferring movies with bareback scenes, judging this practice to be a fetish and performing it, having a casual partnership, and being aware of a partner's negative HIV status were factors that increased the chances of engaging in CAI. While not having bareback as a fetish, being in a stable relationship and having an HIV-positive partner are protective conditions.

CONCLUSIONS: SEM consumption is associated with MSM without condoms. These findings may help design interventions to target the aspects associated with CAI as well as sex education for young adults. Health messages that highlight the potential risks of engaging in CAI could be disseminated on sites or apps frequently accessed by MSM, or even displayed directly into bareback SEM as warning messages.

PED0919

HIV IN THE MEDIA. RESEARCH ON HIV AND AIDS COVERAGE IN SPANISH-SPEAKING ONLINE MEDIA IN LATIN AMERICA AND THE CARIBBEAN

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BACKGROUND: The use of negative words that generate stigmatizing or discriminatory content are highly used by journalists and the media in Latin America and the Caribbean. Ignorance of adequate language increases barriers generated by stigma and discrimination for people with HIV.

METHODS: Analysis of 4002 mentions of HIV or AIDS in 2194 news articles from 19 Spanish-speaking countries in Latin America and the Caribbean during October and November 2016, evaluating the words of adequate and inappropriate use of greater presence, infections and related diseases, more named populations and more recurrent issues in the HIV and AIDS coverage.

RESULTS: The negative or inappropriate words of greater use by the media in terms of articles are disease 639/2194 (29.1%), contagious 220/2194 (10%), carrier 193/2194 (8.8%), AIDS as HIV 186/2194 (8.4%) and STD 104/2194 (4.7%).

The diseases or infections that most relate to HIV or AIDS in media by number of mentions are Hepatitis 110/4002 (2.75%), Tuberculosis 95/4002 (2.37%), Malaria 60/4002 (1.50%), Syphilis 52/4002 (1.30%), Ebola 25/4002 (0.62%), HPV 19/4002 (0.47%), Influenza 16/4002 (0.40%), Gonorrhea 14/4002 (0.35%).

The populations that are most visible in the study by mentions are children 1252/4002 (31.3%), youth 996/4002 (24.9%) woman 960/4002 (24%), gay/msm 612/4002 (15,3%), male 592/4002 (14.8%), drug user 368/4002 (9.2%), sex worker 272/4002 (6.8%), transgender 268/4002 (6.7%), bisexual 76/4002 (1.9%) and lesbian 60/4002 (1.5%) and issues: prevention 1252/4002 (31.3%), treatment 1164/4002 (29.1%), research 976 / 4002 (24.4%), advances 892/4002 (22.3%), diagnosis 584/4002 (14.6%), discrimination 292/4002 (7.3%) and stigma 252/4002 (6.3 %).

CONCLUSIONS: One in 3 statements about HIV or AIDS in Latin American online media has inappropriate words that can influence the generation of barriers to people with HIV due to stigma and discrimination. Populations with the highest incidence of HIV are not the protagonists of the news about HIV or AIDS, children and young people are the most visible. Issues such as stigma and discrimination are those with less media circulation, making the problem invisible.

MIGRATION AND HIV

PED0920

SEX, MONEY, AND MIGRATION: DECONSTRUCTING GENDER NORMS AND BENDER-BASED VIOLENCE TO IMPROVE ACCESS TO HIV SERVICES FOR FEMALE MIGRANTS IN THAILAND

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BACKGROUND: Despite existing laws on domestic violence, a 2018 study found that 15% of Thai women had experienced psychological, physical, and/or sexual violence. Female migrants from Myan-

mar and Cambodia are even more at risk for gender-based violence (GBV) due to multi-dimensional vulnerability. This study investigates harmful gender norms and barriers to accessing services for migrant populations to improve HIV prevention services.

DESCRIPTION: From November–December 2019, Raks Thai Foundation (a member of CARE International) conducted a gender analysis applying CARE Social Analysis and Action (SAA) as a key conceptual framework.This study is a thematic evaluation research for the project "Stop TB and AIDS through Reach–Recruit–Test–Treat–Retain," funded by The Global Fund (GFATM). The study sites included four of the most migrant-populated provinces: Chonburi, Samut Sakhon, Songkla and Chiang Mai. Participatory Action Research (PAR) was used with eight focus groups (disaggregated by sex and occupation) and semi-structured interviews. Seventy-two male and female migrants from Cambodia and Myanmar and their local service providers were included.

LESSONS LEARNED: The findings revealed that economic violence is an entry point for psychological, physical, and sexual violence. The pressure of sending remittance back home and indebtedness were major causes of verbal and physical violence in migrant households. In addition to formal structural barriers to services like lack of Thai language skills, valid documentation, and economic independence, female migrants were confined by double gender norms—at home and in Thailand.

Female migrants internalized the role of obedient housewife from home, and in Thailand, they endured hardship and abuses because of their perceived inferiority as poor non-Thai citizens, reducing their ability to negotiate safe sex, sexual pleasure, sexual violence, and access to support services.

The data also highlighted that HIV-positive female migrants experienced psychological violence from the perceived guilt of transmitting the disease to their partners.

CONCLUSIONS/NEXT STEPS: The study sheds light on harmful gender norms that significantly influence GBV, heightening the risk of nonconsensual sex, sexual violence, and HIV infection. Comprehensive and intersectional HIV services incorporating language support, GBV screening, prevention, and response addressing harmful gender norms should be implemented to reach vulnerable female migrants.

PED0921

CURRENT WORSENING CLINICAL SITUATION OF HIV POSITIVE VENEZUELAN MIGRANTS ENTERING INTO CARE AT A HOSPITAL IN LIMA, PERU

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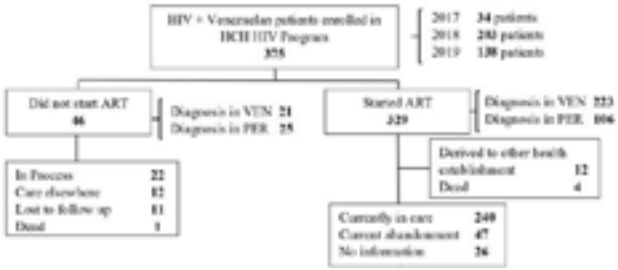
BACKGROUND: Due to a huge crisis extensive to health services, until January 2019 approximately 8000 people living with HIV from Venezuela had migrated. As Peru was until November2019 one of the main destinations for such migrants, we describe the health status and epidemiological trends of PLHIV from Venezuela at the largest HIV program in Lima.

METHODS: We collected and revised the baseline and follow-up routine data of all PLHIV from Venezuelan enrolled in the HIV program at the study center since January 2017, with end of follow-up by November 2019.

RESULTS: The study center registers 375 Venezuelan PLWH; this represented 4.2% (2017), 20.1% (2018) and 16.1% (2019) of the HIV program's annual enrolments. The median age was 30 years (IQR 25;36), 90.7% were men, and 8 pregnancies out of 35 women. The proportion with diagnosis in Peru changed from 12% in 2017 to 58.7% in 2019; of those entering in AIDS stage from 9% to 29.9%. The median baseline CD4+ count was 398 (IQR 233;612); 24.1% were on viral suppression at enrollment. By November 2019, 239 (83.6%) were still in care, and 46 (12.3%) had not started ART. Out of 47 (16.4%) who were lost to follow-up, 13 (27.6%) had left Peru. Among 170 (57.4%) with a viral load measure between 3 to 9 months, 118 (69.4%) achieved viral suppression; 52(30.6%) were on virologic failure. HIV/TB coinfection lead the hospitalization diagnosis (7 out of 22 hospitalizations in 22 cases). Five deaths (1.3%) were reported due to different causes.



[Figure. Patients Flowchart]

CONCLUSIONS: The worsening clinical outcomes at arrival on the last year, increasing report of new HIV diagnosis and suboptimal rates of viral suppression for migrants from Venezuela in Peru call for actions oriented to early diagnosis and simplified access to health services, as well a better understanding of additional barriers for adherence in this population.

PED0922

HIGH RATES OF FIRST-TIME TESTERS: THE TWIN CHALLENGE OF MOBILITY AND CASE-IDENTIFICATION AMONG MOBILE AND KEY POPULATIONS IN CROSS-BORDER AREAS OF EAST AFRICA

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BACKGROUND: Contributing up to 25% of new HIV infections in most regions of Sub-Sahara Africa, cross-border mobile and key populations have specific needs that need to be addressed to achieve the ambitious 90:90:90 goals of case identification, treatment, and viral suppression for HIV epidemic control. Identification as well as treatment enrollment and adherence among mobile populations pose challenges for national HIV and AIDS programs designed to address care for residents within their borders.

METHODS: We reviewed program data from a USAID-funded experiential learning program - Cross-Border Integrated Partnership Project (CB-HIPP) for three years (2017- 2019). CB-HIPP works across 12 cross-border sites on the Kenya/Uganda, Kenya/Tanzania, Rwanda/Tanzania and, Uganda/Rwanda borders. This includes work with 115 private and public sector facilities in these cross-border sites, most of which are on the Northern Transport corridor and Lake Victoria shores in East Africa. De-identified data was extracted from health facility HTS and ART registers and used to estimate proportions of

new testers and mobility patterns among different categories of clients. Clients from other nationalities or sub-national units were considered mobile.

RESULTS: Overall, 57,356 individuals were tested, with 11,314 (20%) new testers. Highest yield was from index-case testing – partner notification services from voluntary testing and counseling and mobile testing/outreaches, at 33%. Of the new testers 113 (1%) were MSMs, 2,942 (26%) were FSWs and the rest were other priority populations including truckers and fisher folk. Mobility was highest along the Sio Port/Port Victoria/Majanji border point. Positivity yields were 2.1% overall while it varied between 4.3-6.3% among the mobile population and 2.9-8.3% among first time testers. This mobile population had lower linkage rates at (65%) and suppression rates (73%) than resident populations in these sub-national units in these cross-border areas.

CONCLUSIONS: Targeting mobile and other cross-border populations helps to find first time testers. Linking positive clients to treatment services and retaining them on treatment is key to epidemic control. Surveillance across borders through a public health approach to share information about mobile clients is needed to address this challenge in the EA region, particularly in the islands and along the shores of Lake Victoria where HIV prevalence is high.

POLITICAL AND STRUCTURAL FACTORS

PED0923

INTERSECTIONAL STRUCTURAL HATE: THE EFFECTS OF STRUCTURAL ANTI-BLACK AND ANTI-LGBTQ STIGMA FOR SEXUAL MINORITY MEN

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BACKGROUND: Although there has been recent research investigating the effects of structural anti-LGBTQ stigma on psychological and HIV-related health outcomes among sexual minority men (SMM), limited evidence exists on how multiple types of stigma at the structural level intersect to negatively influence these outcomes. Specifically, it is unclear how the intersection of structural anti-LGBTQ and anti-Black stigma affect Black SMM. The present study examined associations from structural anti-LGBTQ stigma, structural anti-Black stigma, and their intersection to psychological and HIV-related health outcomes among SMM.

METHODS: Participants were a national sample of 6,916 seronegative SMM (1,379 Black; 5,537 White) in 2017-2018. We used indicators of state-level stigma: the categorical Human Rights Campaign State Equality Index, which assesses statewide anti-LGBTQ policies (e.g., sodomy criminalization), and the continuous state racism index (Medic et al., 2018), which assesses anti-Black policies through residential segregation and inequities in incarceration, education, economic resources, and employment. Outcomes were self-reported anxiety, depressive symptoms, perceived burden, heavy drinking, and HIV testing. In separate structural equation models (SEM) for White and Black participants, we examined the associations between stigma indicators and their interaction on outcomes. We adjusted models for US region, population density, SES, income, employment, insurance status, age, sexual identity, gender identity, and relationship status.

RESULTS: For Black participants, the anti-Black stigma variable was significantly positively associated with anxiety symptoms (β=0.20), perceived burden (β=0.41), and heavy drinking (β=0.20). The structural anti-LGBTQ stigma variable was significantly associated with anxiety symptoms (β=0.08), perceived burden (β=0.20), heavy drinking (β=0.07), and HIV testing frequency (β=-0.13). The interaction term was significantly positively associated with perceived burden (β=0.38) and heavy drinking (β=0.20). Positive associations from anti-Black stigma to perceived burden and heavy drinking were stronger at high levels of anti-LGBTQ stigma. Neither of the stigma variables was significantly associated with outcomes for White SMM.

CONCLUSIONS: Results indicate that the negative health effects of anti-LGBTQ policies are compounded by the effects of anti-Black policies for Black SMM. They also suggest that Black SMM may benefit more than their White counterparts from the repeal of these policies. To reduce racial health inequities for Black SMM, structural and intersectional intervention is imperative.

PED0924

GENDER MINORITY POLICY AND INSTITUTIONALIZED STIGMA AGAINST TRANS WOMEN IN NEPAL

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BACKGROUND: Trans women in Nepal are constitutionally recognized as a gender minority, and have the option of changing their legal identification documents to a third gender category of "other." Despite the passing of this policy, trans women still face extreme discrimination, human rights violations and are socially isolated, all of which are associated with increased HIV risk. This analysis was conducted to assess trans women's opinion of the effects of the gender minority policy and to examine use of the "other" category in gender identity documentation among trans women in Nepal.

METHODS: In 2019 our team conducted a population-based HIV behavioral risk survey of trans women in Kathmandu, Nepal. The survey data were descriptively analyzed to examine the experiences of the opinions of and use of the gender minority policy in Nepal.

RESULTS: Of the 200 trans women participants in the study, only 13.5% of participants thought that having an "other" gender category constitutionally recognized has been positive for trans women, and 90% believe that the gender minority policy is a barrier to marriage, employment, and other social institutions including lack of provision for the public system. Only 5% had changed their gender marker to "other" on their passport, citizenship card and/or marriage certificate while 91.5% had changed their name. Only one third expressed a desire to change their gender marker to "other" on legal identity documents. One quarter (24.5%, N=49) would prefer to change their identity to female. The need for medical evaluation was reported as the main barrier to gender marker change.

CONCLUSIONS: The implementation of the gender minority policy in Nepal may be negatively affecting trans women and preventing full social and political inclusion of this community into Nepali society. Most notably, identifying as "other" is a barrier to employment opportunities and marriage in Nepal, which are essential safety net institutions. Efforts to address discrimination and social exclusion of trans women that lead to HIV and other health and wellness risks will likely have to address the challenges with the gender minority policy in Nepal.

PED0925

THE INFLUENCE OF VICTIMIZATION BY LAW ENFORCEMENT AND DRUG SELLING TRADERS ON THE SOCIAL NETWORK RISK CHARACTERISTICS OF PEOPLE WHO USE DRUGS ON THE U.S.-MEXICO BORDER

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BACKGROUND: People who use drugs (PWUDs) are disproportionately affected by HIV due to engagement in high risk behaviors (e.g. condomless sex and sex exchange for money or drugs) and such behaviors are diffused through social networks. Structural level factors (e.g., law enforcement abuse and violence from members of the drug distribution economy) may also influence social network risks
METHODS: Participants who used crack or heroin in the last 30 days residing in Ciudad Juarez (CJ), Mexico (53%) or El Paso, Texas (47%), were recruited via respondent driven sampling to answer a social network survey. Two generalized estimating equations (GEE), to control for non-independence of observations, were computed to explore the influence of gender, city of residence, victimization by law enforcement and from members of the drug distribution economy, and the interaction of gender and city of residence on engagement in condomless sex and exchange of sex for money or drugs with a member of the social network
RESULTS: Among 369 individuals (72% male), 67% in CJ and 25% in El Paso, reported that they had been victims of law enforcement abuse and 44.5% in CJ and 44.3% in El Paso reported violence from members of the drug distribution economy. The first GEE indicated that gender, city of residence, and their interaction, were not associated with engagement in condomless sex with a member of the social network; law enforcement abuse ($\beta = .42$, $p < .01$) and violence from members of the drug distribution economy ($\beta = .48$, $p < .01$) were significantly associated. The second GEE indicated that living in CJ ($\beta = 1.14$, $p < .05$), law enforcement abuse ($\beta = .67$, $p < .01$), violence from members of the drug distribution economy ($\beta = .58$, $p < .01$), and the interaction of gender and city of residence ($\beta = -.95$, $p < .01$) were significantly associated with exchange of sex for money or drugs with a member of the social network.
CONCLUSIONS: Our findings indicate that binational strategies to reduce law enforcement abuses and the violence associated with the drug distribution economy may reduce the HIV risk of PWUDs.

PED0926

AN APPLICATION OF AGENT-BASED MODELING TO EXPLORE THE IMPACT OF DECREASING INCARCERATION RATES AND INCREASING DRUG TREATMENT ACCESS ON SERO-DISCORDANT PARTNERSHIPS AMONG PWID

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BACKGROUND: People who inject drugs (PWID) lag behind other key populations in HIV care continuum outcomes, and experience persistent racial disparities in these outcomes. The impacts of criminal justice reform and increasing drug treatment access have largely been investigated in the context of substance use and justice-related outcomes, but not in relation to HIV.
METHODS: This study explored whether reducing incarceration rates and increasing drug treatment access may influence vulnerability (sero-disordant sexual and injection partnerships) to HIV infection among PWID. We developed two agent-based models (ABM) of sexual partnerships among PWID and non-PWID, and needle-sharing partnerships among PWID in Baltimore, Boston, Miami, New York City, and San Francisco over 3 years. One ABM estimated changes in average discordance among PWID as a function of decreasing ZIP code-level incarceration rates by MSA and race/ethnicity (Black, Latino, White). The second estimated discordance as a function of increasing ZIP code-level drug treatment access by MSA and race/ethnicity. Each ABM was parameterized and validated using National HIV Behavioral Surveillance data and prior literature. Informed by research documenting associations of prisoner release with increases in community-level HIV prevalence, reductions in incarceration rates were fixed at 5% and 30%, and were respectively modeled to increase ZIP code-level HIV prevalence by 2% and 12%. Increases in drug treatment were fixed at 30% and 58%.
RESULTS: Reductions in ZIP code-level incarceration rates by 30%, and associated increases in ZIP code-level HIV prevalence by 12%, were significantly associated with 3-year increases in average sero-discordance among PWID ranging 3%-14%. This association varied by MSA and race/ethnicity. Regardless of race/ethnicity and MSA, increasing drug treatment access by any magnitude and reducing incarceration rates by 5% were estimated to result in no significant change in average sero-discordance among PWID.
CONCLUSIONS: Reductions in incarceration rates may lead to short-term increases in sero-discordant partnerships among some racial/ethnic groups of PWID in some cities by increasing community-lev-

el HIV prevalence. If confirmed in future research, opportunities to offset increases in community-level HIV prevalence following incarceration reform by increasing HIV testing, engagement in care, and positive community reintegration among men and women released from correctional settings, should be strengthened.

PRISONS AND OTHER CLOSED SETTINGS

PED0927

HIV-RELATED STIGMA AND ITS DETERMINANTS AMONG PRISONERS IN NIGERIA

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BACKGROUND: In sub-Saharan Africa, HIV-related stigma and discrimination remain widespread and continue to hinder the uptake of HIV prevention, treatment, and care services. However, in prisons, where inmates are vulnerable to HIV infection, there is dearth of data on the prevalence of stigma and discrimination against people living with HIV. This study aimed to assess HIV-related stigma and its determinants among prisoners in Nigeria.

METHODS: A cross-sectional study was conducted between August 2018 and March 2019. Systematic random sampling method was used to obtain a study sample of 2,511 prison inmates from 12 prisons across the six geopolitical zones of Nigeria. Data analysis was done using descriptive statistics, chi-square tests, and multivariate logistic regression. Significance level of < 0.05 was considered statistical significant. Stigma was computed based on the selection 1 to 3 options out of three HIV related stigma questions on fear of casual contact with PLWH, by the respondents. Data analyses were conducted using SPSS software version 21.

RESULTS: Most of the respondents were between 25-35 years (51%), male (92.4%), single (64.7%), Christian (70%), and had primary school (39.0%) as their highest level of education. Less than half (48.1%) of the inmates had certain misconceptions about HIV transmission. The most common misconception was that HIV could be transmitted through mosquito bites (28.9%). Stigma was high among inmates (72.5%). Only about two-fifths of respondents were willing to eat with a person living with HIV (PLWH) while about 60% were willing to associate or share a cell with a PLWH. Factors associated with HIV-related stigma among inmates were: traditional religion (aOR=3.4, 95%CI: 1.09-10.57); tertiary education (aOR= 0.3, 95% CI: 0.20 - 0.54); secondary education (aOR= 0.3, 95% CI: 0.16 - 0.44), primary education (aOR= 0.2, 95% CI: 0.11 - 0.31), and having misconceptions about HIV transmission (aOR=1.7, 95% CI: 1.30-1.87).

CONCLUSIONS: HIV-related stigma among prisoners was high. There is a need to implement programs on HIV awareness and education as well as anti-stigma interventions in Nigerian prisons.

PED0928

INTEGRATING SCREENING AND MANAGEMENT OF HIV, TB, VIRAL HEPATITIS AND STIS AMONG INCARCERATED INDIVIDUALS IN 13 STATES OF INDIA

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BACKGROUND: India has 1,401 prisons housing 410,000 inmates, 113% of their capacity. High risk sexual activities and needle-sharing increases their risk for HIV, STIs and viral hepatitis, whereas overcrowding, high turnover, poor nutrition, and substance abuse increase their TB risk. To address these, Government of India initiated scale-up of integrated services in October 2017, and SAATHII, a national NGO, provided technical assistance in 13 states with support from EJAF.

DESCRIPTION: Special Secretary of Health, responsible for National AIDS Control Organisation and National TB Elimination Program, led the initiative and brought together nodal agencies of HIV, STI, TB and Hepatitis. Subsequently, officials from 880 prisons and closed settings were sensitized. Inmates were counselled and screened by government and SAATHII teams using multi-prong strategies. The scope of available health services where available (169 prisons) were expanded to include HIV and TB counseling and screening and sputum collection, whereas camp-based screening was conducted where health services were unavailable. Conversely, STI, HBV and HCV screening were carried out only in prisons where test kits and trained human resources were available. Those detected positive with HIV, STI, HCV and HBV were linked to the government treatment facilities through accompanied referrals, whereas TB drugs were administered by the prison officials through DOT.

LESSONS LEARNED: The project screened 412,924 inmates for HIV, 2,92,486 for TB, 1,09,697 for STI, 35,397 for HBV, and 8,659 for HCV, which resulted in the detection of 1412 HIV+, 501 TB, 704 STI, 526 HBV, and 110 HCV cases. Among these 83% of HIV+, 94% of TB, 87% of HBV, 77% of HCV and 100% of STI cases were initiated on treatment and are in follow-up. Lack of adequate health infrastructure, human resources, inadequate supply of STI and viral hepatitis test kits and drugs for the treatment of viral hepatitis were the main challenges at the prisons.

CONCLUSIONS/NEXT STEPS: HIV interventions offer an opportunity to integrate diagnosis and treatment of TB, HBC, HBV and STIs in the prisons and future expansion to consider single window system for sample collection, drug dispensing and outcome monitoring.

PED0929

PEER-LED PRISON HIV/AIDS INTERVENTION PROGRAMME FOR ENHANCING AND SUSTAINING OWNERSHIP

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BACKGROUND: As per 2017 figures in India, there were 1361 prisons, with capacity of 3,91,574 and total of 4,50,696 prisoners at the end of the year. Overcrowding, violence, inadequate ventilation combined with inadequate personal hygiene, malnutrition and poor health services increases the vulnerability to HIV, hepatitis and tuberculo-

sis. Virtually most of the prisoners will return to their communities, many within a few months to a year. Hence health in prisons and other closed settings is therefore closely connected to the health of the wider society. The Peer Led Prison HIV/AIDS Intervention Programme aims at Improving Testing for People Most at risks for HIV and linking them to ART and other health related services within prison settings.

DESCRIPTION: Peer Led Prison HIV/AIDS Intervention programme has been implemented by National AIDS Control Organization with their development partners in India across 31 states with 895 Implementation sites. Addressing the health care needs of prison inmates by institutionalizing provision of key essential services within the prison settings and facilitating ownership of the programme through trained Peers Volunteers for enhancing access to HIV and other health related services are the main focus of the programme. Formation of State Oversight Committee for Prison HIV/AIDS Intervention Programme with key stakeholders including trained Peers Volunteers has been one of the key factors in scaling up, strengthening and sustaining the programmes.

LESSONS LEARNED: 6610 prison inmates were identified and 6363 were trained as "Peer Volunteer" across 895 implementation sites. These trained Peer Volunteers enhanced sensitization of their fellow inmates leading to increased access to HIV and other health related services.412924 prison inmates were screened for HIV, 1412 detected HIV positive and 1189 were linked to ART. 16856 were screened for Tuberculosis, 501 diagnosed for TB and 472 put on treatment. 8659 screened for Hepatitis C, 110 found reactive and 85 put on treatment.

CONCLUSIONS/NEXT STEPS: The identified Peer Volunteers among prison inmates and prison authorities should be acknowledge and consider by the Prison Department and National AIDS Control Authorities for technical support.

SEXUAL- AND/OR GENDER-BASED VIOLENCE AND EXPLOITATION (INCLUDING IN CONFLICT SETTINGS)

PED0930

THE VOICES OF YOUTH: FINDINGS FROM THE FIRST YOUTH-LED KEY STAKEHOLDER MEETING ON CHILD SEXUAL ABUSE ON KALANGALA ISLAND IN UGANDA

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BACKGROUND: Youth engagement is an important catalyst for system changes to improve support for programmatic and policy efforts. However, engaging marginalized youth presents a significant challenge because they are often disconnected from and distrust the systems/environments in which they live. This paper describes processes, outcomes, and lessons learned from engaging youth in program policy advocacy efforts to address child sexual abuse on Kalangala Island in Uganda. Kalangala Island has one of the highest HIV prevalence rates in Uganda (27%).

DESCRIPTION: Young people (ages 12 – 24) were mobilized to engage government representatives and community members to raise awareness about the challenge of child sexual abuse, and to develop an action plan to prevent this abuse and address the needs of survivors. The theme was "Prioritizing girls' voices". Participants were selected from shelters taking care of survivors. Participants first engaged in a day long pre- adolescent dialogue during which adolescents were introduced to global fund processes and shared their experiences of sexual violence, their perceptions of current gaps in services and their aspirations.The meeting also identified key concerns to emphasize during the stakeholder meeting. All activities were youth-led. The meeting with stakeholders focused on sharing survivor testimonies, discussing the limitations and gaps in current policies and programs, and identifying potential strategies through group discussions, panel sessions, question and answer and a video recording on the situation analysis of child sexual abuse.

LESSONS LEARNED: Meaningful youth participation is an important mechanism for building youth's resilience, and developing programs that address their pertinent needs. Meeting highlighted numerous key gaps and opportunities for addressing child sexual violence and HIV and these included: developing comprehensive trauma services for survivors; re-building trusting with organizations in-charge of youth's well-being; developing community-based systems for identifying victims and linking them to care, and strengthening health systems to better respond to the health needs of survivors.

CONCLUSIONS/NEXT STEPS: Youth engagement in advocacy and policy planning is critical to the strengthening youth's capacity and promoting skills that promote youths' sense of belonging, connectedness and self-esteem. Experience indicates that this mechanism also contributes to building youth's resilience and improving the relevance of policies and programs targeted towards youth.

PED0931

RELATIONSHIP BETWEEN CASH TRANSFERS AND INTIMATE PARTNER VIOLENCE AMONG WOMEN LIVING WITH HIV IN TANZANIA: A RANDOMIZED TRIAL

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BACKGROUND: Cash transfers can improve HIV-related outcomes including adherence to antiretroviral therapy (ART) and viral suppression. However, some studies suggest that cash transfers increase intimate partner violence (IPV), a relationship not well-studied in women living with HIV (WLHIV). We investigated the association between short-term cash transfers and IPV among WLHIV.

METHODS: We conducted a secondary analysis of a three-arm randomized controlled trial evaluating the impact of cash transfers on viral suppression among ART initiates in Tanzania (n=530) from 2018-2019. Adults attending four clinics were randomized 1:1:1 to receive the standard of care (SOC) or one of two monthly cash transfer amounts (~$11 or $4.5 USD), conditional on visit attendance during the first 6 months of ART. Sexual, physical, and emotional IPV and controlling behaviors (jealousy, accusations, limiting contact) were measured through an in-person survey among married and unmarried women who were in a relationship at both baseline and endline (6 months). The average treatment effect in the combined cash group vs. SOC was measured using linear probability models with difference-in-differences estimation.

RESULTS: The analysis included 105 WLHIV (65.7% cash, 34.3% SOC), of whom 70.5% were married and 96.8% lived with their husband or partner. At baseline, 38 (36.2%) women reported IPV, which decreased in both the cash (37.7% to 29.0%) and SOC (33.3% to 25.0%) groups over the next 6 months (-0.4 percentage point difference, 95% CI -27.2, 26.5). Controlling behaviors declined in the cash group (75.4% to 63.8%) and increased in the SOC group (66.7% to 72.2%), representing a -17.2 percentage point difference (95% CI -43.6, 9.3).

	SOC (n=36)			Cash (n=69)			
	Baseline	Endline	Difference	Baseline	Endline	Difference	Difference-in-Differences (95% CI)
IPV	12 (33.3%)	9 (25.0%)	-8.3	26 (37.7%)	20 (29.0%)	-8.7	-0.4 (-27.2 to 26.5)
Controlling behaviors	24 (66.7%)	26 (72.2%)	5.6	52 (75.4%)	44 (63.8%)	-11.6	-17.2 (-43.6 to 9.3)

[Table.]

CONCLUSIONS: There were no significant differences in changes in IPV and controlling behaviors from baseline to 6 months between study groups, suggesting that small, monthly cash transfers do not increase IPV among WLHIV initiating ART. Notably, cash may potentially mitigate controlling behaviors which are important risk factors for violence. Additional research on the safety and potential benefits of cash transfers with larger sample sizes is needed.

PED0932

CHILDHOOD SEXUAL VIOLENCE AS A PREDICTOR OF HIV RISK BEHAVIORS AND NEGATIVE HEALTH OUTCOMES IN ADOLESCENT GIRLS AND YOUNG WOMEN: ADDRESSING VIOLENCE IN HIV PREVENTION PROGRAMMING IS CRITICAL

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BACKGROUND: HIV prevention programming for adolescent girls and young women (AGYW) must be responsive to the complexities that put them at risk for HIV acquisition. One structural factor potentially contributing to the vulnerability of AGYW is sexual violence (SV). This abstract explores the influence of SV during childhood on subsequent HIV risk behaviors and health outcomes of AGYW.

METHODS: Data were collected in four countries through nationally representative Violence Against Children Surveys (VACS). Participants in the VACS were 13-24 year old males and females; however, this analysis focused on 19-24 year old females. Logistic regression analyses were conducted using SAS 9.4 to assess the association between childhood SV and subsequent HIV risk behaviors and health outcomes.

RESULTS: For AGYW who experienced SV in childhood in Nigeria and Malawi, there was a 2.9-9.0 times increased odds of having risky partnerships (multiple sexual partners or transactional sex) in the past 12 months. SV in childhood was associated with 1.9-3.3 times increased odds of inconsistent condom use among AGYW in Haiti, Nigeria, and Malawi. In addition, AGYW in Haiti with a history of childhood SV had 1.7 times increased odds of ever having symptoms or a diagnosis of STIs. AGYW who experienced childhood SV also experienced 2.4-5.6 times increased odds of SV in the past 12 months in Haiti, Malawi, and Zambia. AGYW in Nigeria had 2.5 times increased odds of physical intimate partner violence in the past 12 months.

	Zambia 2014 (N=419)	Nigeria 2014 (N=805)	Malawi 2013 (N=447)	Haiti 2012 (N=670)
HIV risk behaviors	SV before 18 AOR (95% CI)	SV before 18 AOR (95% CI)	SV before 18 AOR (95% CI)	SV before 18 AOR (95% CI)
Risky sexual partnerships (Transactional sex or multiple sexual partners) in the last 12 months[1]	1.8 (0.6-5.9)	2.9 (1.1-7.7)[2*]	9.0 (2.2-37.9)[2*]	1.6 (0.6-4.3)
No/low (infrequent) condom use in the last 12 months[1]	2.5 (1.1-5.5)*	3.1 (1.7-5.6)*	3.5 (0.9-13.7)*	1.9 (1.0-3.7)*
Sexual violence in the last 12 months	3.7 (1.7-8.0)*	1.4 (0.8-2.7)	5.6 (3.2-9.8)*	2.4 (1.4-4.2)*
Physical intimate partner violence in the past 12 months	1.6 (0.8-3.6)[3]	2.5 (1.2-5.3)*	0.9 (0.3-31)	N/A
Symptoms or diagnosis of an STI (ever)	1.5 (0.7-3.3)	1.8 (0.9-3.5)**	1.3 (0.5-3.4)	1.7 (1.1-2.7)*

Models include control variables for ever-married, ever-pregnant, and orphaned before age 18
*Statistically significant result (p>0.05)
** Statistically significant at the 0.5<p<0.1 level
[1]Among those who had sex in the past 12 months
[2] Interpret result with caution, 30% < RSE < 50% for related point estimate
[3]All those with physical IPV in the past 12 months were married, so ever married was not a control variable

[Table. HIV risk behaviors and health outcomes among 19-24 year old females by experience of sexual violence (unwanted sexual touching, attempted forced sex, coerced sex, or forced sex) before age 18]

CONCLUSIONS: SV during childhood is associated with higher levels of sexual risk behaviors and STIs – all factors that are related to HIV acquisition. In addition, childhood SV is associated with continued violence in young adulthood, which could contribute to continued HIV risk. Ongoing investments in integrated programming, such as the PEPFAR DREAMS program that provides layered evidence-based HIV and violence prevention and response, are critical to addressing HIV among AGYW.

PED0933

ADDRESSING PARTNER VIOLENCE AMONG CLIENTS OFFERED ASSISTED PARTNER NOTIFICATION: THE USAID RHITES-NORTH LANGO EXPERIENCE IN NORTHERN UGANDA

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BACKGROUND: Uganda revised HIV prevention, care and treatment guidelines 2018 recommend Assisted Partner Notification (APN) as a critical strategy to achieve HIV testing of partners at risk. Trained providers assist people with known HIV positive status who consent, to identify and notify their sexual partners of HIV exposure and offer HIV testing. Lango sub-region in northern Uganda has a HIV prevalence of 7.2%, above the national rate 6.4%, high rate of gender based violence (GBV), which is a threat to HIV epidemic control and hampers efforts to identify missing positives.

DESCRIPTION: The USAID supported RHITES-N, Lango project implements APN at 70 facilities in northern Uganda. The project trained and mentored health workers on APN, including GBV screening, timely support and monitoring of reported cases, counseling on pre-

ventive techniques, seeking timely help, referrals and involvement of other stakeholders, conducted focused community dialogue meetings and radio talk shows.

LESSONS LEARNED: Between October 2018 to September 2019, 8,742 index clients were interviewed for APN eliciting 12,434 partners, 11,101 were notified of HIV risk and 9,427 tested with 2,656 identified as HIV positive. Among clients APN services, 55 cases of GBV were reported, 53 among females and 2 among males. Of the 55 cases, two encountered sexual violence while 53 physical violence. Interventions led to decline of GBV cases from 13 in Oct-Dec 2018, 20 cases in Jan-March 2019 to 5 cases during July-Sept 2019 period.

[Figure. Decline in proportion of GBV cases reported following APN Oct 2018 to Sept 2019]

CONCLUSIONS/NEXT STEPS: APN is effective in identification of new HIV positives among sexual partners of index clients as we move towards HIV epidemic control 2020, however the threat posed by GBV has potential to slow down efforts made. Establishing timely preventive response strategies to prevent GBV occurrence, building health workers skills and capacity to respond and engagements with community is critical for sustained epidemic control.

PED0934

FORCED SEXUAL INITIATION IS ASSOCIATED WITH SUBSEQUENT SEXUAL RISK BEHAVIORS AMONG BLACK WOMEN SEEKING STD SERVICES IN BALTIMORE, MARYLAND, USA

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BACKGROUND: Forced sex is an established risk factor for HIV acquisition. In the U.S., Black women are disproportionately affected by forced sex and HIV. Forced sexual initiation, or forced first vaginal/anal sexual intercourse, is understudied among Black women. We sought to examine the associations between forced sexual initiation and subsequent sexual risk behaviors among Black women in Baltimore, Maryland, USA.

METHODS: Between 2015 and 2018, 305 Black women aged 18-44 years were recruited from Baltimore City STD clinics into a retrospective cohort study on forced sex and HIV risk. Using survey data, separate logistic and linear regression analyses were conducted to examine associations. Forced sexual initiation was defined as first vaginal and/or anal sexual intercourse that was unwanted and pressured, threatened, physically forced, or forced with alcohol and/or drugs. Dependent variables were ever had a one-night stand; ever exchanged sex for food or money; ever diagnosed with an STI; ever had condomless sex with a high-risk partner; lifetime number of steady sex partners; and lifetime number of casual sex partners.

RESULTS: Of 275 women with non-missing data, 18% reported forced sexual initiation. Women with a history of forced sexual initiation were more likely to have had a one-night stand (84.1% vs. 64.3%; p=0.01), exchanged food or money for sex (46.5% vs. 14.6%; p<0.0001), and have a greater number of lifetime casual sex partners (median = 3, IQR = 1,6 vs. median = 2, IQR = 1,4; p<0.05) compared to their counterparts. Forced sexual initiation was marginally associated with a lifetime STI diagnosis (90.0% vs. 79.6%; p=0.10). No significant associations were observed for condomless sex with a high-risk partner and number of steady sex partners. Forced sexual initiation was independently associated with ever having had a one-night stand (OR: 2.49; 95% CI: 1.04, 5.99). Forced sexual initiation was also independently associated with ever exchanging sex for food or money (OR: 5.71; 95% CI: 2.59, 12.59).

CONCLUSIONS: Our findings highlight the critical need for the development of HIV prevention interventions that increase self-worth and empowerment, while promoting pre- and post-exposure prophylaxis for young Black girls affected by forced sexual initiation.

PED0935

PATTERNS OF RISKY SEXUAL BEHAVIORS AND ASSOCIATED FACTORS AMONG YOUTHS AND ADOLESCENTS IN VIETNAM

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BACKGROUND: Youths and adolescents are particularly vulnerable to unprotected sexual practices. Updated evidence about risky sexual behaviors in these population is essential to develop contextualized interventions. This study was conducted for the purpose of clarifying current awareness, attitudes and practices regarding sexual behaviors among Vietnamese young people.

METHODS: A cross-sectional study was conducted in five provinces including Hanoi, Cao Bang, Kon Tum, Binh Thuan, Dong Thap to collect data of youths and adolescents (16-30 years old). Information concerning sociodemographic characteristics, substance use and sexual behaviors were collected via self-reported questionnaire. Multivariate Logistic regression was employed to identify factors associated with sexual behaviors.

RESULTS: Among 1,200 participants, 73.5% ever had sexual intercourses in their lifetime. There were 67.0% of youths and adolescents who wanted to use condom when having sex; but only 48.1% of those who ever had sex during lifetime used condom at last sexual intercourse. Participants who lived in urban area are more likely to not want to use condom (OR=1.48, p-value < 0.01) and had unintended pregnancy (OR=1.86, p-value <0.01) than rural area counterparts. Higher age has positive association with not wanting to use and not using condom. People who use substances like shisha and heroin are more likely to not using condom (OR=10.5, p-value < 0.01). Participants using alcohol or other stimulants before having sex had higher likelihood of unintended pregnancy. Meanwhile, gender and employment are also associated with attitude and practice on sexual behaviors of respondents. The number of sex partners have negative association with want to use condom (OR=2.18, p-value < 0.01).

CONCLUSIONS: This study indicated that, although the awareness of young population in Vietnam on sexual protection was significantly high, risky sexual behaviors remained popular. Sexual-related education programs on the consequences of alcohol and other stimulants use as well as multiple sex partners should be developed to protect them from unsafe sex and reduce unexpected consequences.

SOCIETAL STIGMA TOWARDS PEOPLE LIVING WITH HIV AND KEY POPULATIONS

PED0936

DIFFICULTIES MEN HAVING SEX WITH MEN (MSM) FACE IN ACCESSING HIV HEALTH CARE SERVICES IN PUBLIC HOSPITALS IN UGANDA

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BACKGROUND: HIV infections in Uganda among men having sex with men are hardly quantifiable. Even in the presence of actors and facilities targeting infected people, clients from sexual minorities communities hardly access these facilities. This study set out to explore the barriers that restrict access to HIV and AIDS treatment among men who have sex with men in Uganda, within the areas of Kampala and Entebbe.

METHODS: MSM (n=400) who visit secret clinics within Kampala and Entebbe, Uganda were interviewed using a standard questionnaire. Clinics, that treat members of sexual minorities, do it at the back of the law, thus the term secret clinics. Questionnaires were both self-administered and face to face interviews carried out by trusted members of MSM groups. The major focus of the questions was the barriers faced by msm in accessing testing, counselling and treatment service for HIV/AIDS, in public hospitals. A ground theory was used to the data got through the interviews. The study was conducted between Jan-Sept. 2019 at the height of a rumored, re-introduction of the anti-homosexuality bill in the parliament of Uganda.

RESULTS: It was realised that men who have sex with men were experiencing a great deal of difficulties in accessing public health care services. Out of the 400 40% had HIV, only 2% have ever dared to go and seek medical help from public health services, and only after declining to reveal their true sexual identity. There was a low awareness on the risks of having unprotected anal sex at 30%, 60 % had homophobic related fears if they were to attend a public health service, 25% msm were actively involved in the business of selling sex. 10% decried the apparent looming backlash if the anti homo sexuality bill is re-tabled in parliament. 90% of the sample suggested that the law was against them.

CONCLUSIONS: MSM vulnerability to HIV/AIDS is on the increase. Yet msm face ever growing homophobic tendencies. There is also lack of enabling law that support sexual minority group like msm in Uganda. There is great need for advocacy so that government can drop the anti-Homosexuality.

PED0937

ASSOCIATION BETWEEN DURABLE VIRAL SUPPRESSION AND FOUR DIMENSIONS OF HIV STIGMA AMONG PERSONS LIVING WITH DIAGNOSED HIV, SAN FRANCISCO MEDICAL MONITORING PROJECT, 2015-2017

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BACKGROUND: Achieving and maintaining viral suppression is crucial for people living with HIV (PLWH) to remain healthy and prevent viral transmission. Doing so may be complicated by HIV stigma, categorized in four dimensions: disclosure concerns, concerns with public attitudes towards PLWH, personalized stigma, and negative self-image.

METHODS: San Francisco Medical Monitoring Project, a CDC-funded HIV surveillance program, collected interviews and medical record abstractions (MRA) on PLWH from June 2015 to May 2018; data were weighted to account for non-response, reporting delay and selection probability. Stigma dimensions were self-reported during the interview. Durable suppression, from MRA data, was defined as all viral load test results in the prior 12 months being undetectable (<200 copies/ml). Weighted logistic regression assessed associations between sociodemographic factors and each of the four HIV stigma dimensions. Weighted logistic regression determined if stigma was associated with durable suppression after controlling for confounders.

RESULTS: Of the 545 participants, most were men, aged 55+ years, White, and self-identified as Lesbian/Gay. Disclosure concerns were higher for Asian/Pacific Islanders, college education, and an HIV diagnosis 5-9 years prior to interview. Concerns with public attitudes were higher for Latinx, foreign born, and homeless individuals. Personalized stigma was greater for those aged 35-54 years and homeless. Negative self-image was higher in those aged 35-44 years and Multiracial/Other individuals. None of the four HIV stigma dimensions were significantly associated with not having durable suppression in crude logistic regression (p>0.05). However, after controlling for confounders using multivariate logistic regression, we found that concerns with public attitudes resulted in higher odds of not being durably suppressed (AOR=1.78, p=0.045) and those with personalized stigma had significantly lower odds of not being durably suppressed (AOR=0.43, p=0.005).

CONCLUSIONS: We found that each HIV stigma dimension has distinct associations with sociodemographic factors, suggesting a need for culturally sensitive approaches to stigma reduction. The positive association between concerns with public attitudes and not being durably suppressed may indicate a mechanism by which stigma extrinsically deters PLWH from engaging in care. The negative association between personalized stigma and not being durably suppressed may indicate an intrinsic effect of stigma to motivate PLWH to engage in care.

PED0938

PREDICTORS OF HIV STIGMA ATTITUDES AMONG MEN ACCOMPANYING THEIR PARTNERS TO ANTENATAL CARE IN TANZANIA

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BACKGROUND: HIV-related stigma is a barrier to the success of programs targeting the prevention and treatment of HIV. In the majority of low- and middle-income countries, men play a critical role in defining and shaping social constructs, including HIV stigma. The aim of this study was to describe HIV stigmatizing attitudes and identify factors associated with stigma among men in Tanzania.

METHODS: This study used baseline data of a randomized control trial assessing the impact of a counselling intervention to reduce HIV stigma. A total of 489 adult men were enrolled when accompanying

their partners for routine HIV testing during antenatal care at two public health centers in the Kilimanjaro region of Tanzania between April and September 2019. Participants completed a structured survey using audio computer assisted self-interviewing technology. HIV stigmatizing attitudes were measured using a modified version of Personal and Attributed Stigma Scale, which has 18 items (range: 0-54). A cut-off score of 14 was used to identify men with high stigmatizing attitudes.

RESULTS: The mean (± SD) age of the men was 30 ± 7 years. About half (48%, n=232) met the study criteria for high stigmatizing attitudes towards people living with HIV/AIDS (PLWHA). In a multivariate model, men with a primary education or lower had 2.14 times (95% CI 1.44, 3.18) odds of having high stigmatizing attitudes than those with secondary or high, younger men (18-25 years) were twice as likely as older men (40 years and above) to hold high stigmatizing attitudes (OR=2.44, 95% CI 1.21, 4.93), and an increase in perceived availability of social support was associated with less likelihood of having stigmatizing attitudes (OR=.95, 95% CI 0.92, 098).

CONCLUSIONS: In this setting, men who were younger with lower levels of education and less perceived availability of social support were more likely to hold stigmatizing attitudes toward PLWHA. Comprehensive community-based stigma reduction programs to provide a supportive environment for men are crucial to increase uptake of HIV testing and treatment services. These programs might have larger impact if they are incorporated into primary school curriculum and designed to target men in their social networks.

PED0939

NOT GETTING TO ZERO HIV STIGMA IN SAN FRANCISCO

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BACKGROUND: San Francisco has the goal of achieving zero HIV stigma by 2030 as part of the broader endeavor to end the epidemic. While dramatic reductions in new HIV infections and AIDS-related deaths have been achieved over the last several years, programs to reduce HIV stigma lag behind biomedical interventions to reduce transmission and mortality. To assess current perceptions of HIV stigma and gauge a baseline trajectory for change, we examined data from surveys of low-income persons (the population at highest risk for heterosexually-acquired HIV) conducted in 2016 and 2019.

METHODS: Low-income men and women were recruited using respondent-driven sampling for a face-to-face interview on HIV risk behavior, knowledge, and perceptions. Eligibility criteria were San Francisco residence, annual income <$15,000, sex with the opposite sex in the past 12 months, and age 18-60. The indicator of perceived stigma was ranking how strongly they agreed with the statement, "Most people in San Francisco would discriminate against someone with HIV."

RESULTS: There were 234 and 361 participants in 2016 and 2019, respectively. Demographic characteristics were similar for both time points: ~70% were Black Americans, 50% had income <$13,000, and one-third were homeless. HIV prevalence was 3.0% in 2016 and 2.5% in 2019. Majorities agreed with the statement that most San Franciscans would discriminate against people with HIV with no improvement between 2016 (58.9%) and 2019 (52.4%, p=0.170). Black (62.2%) and Latinx (59.3%) Americans perceived greater HIV stigma than their White (33.3%) counterparts (p=0.026). Young participants (<25) perceived greater HIV stigma (78.7%) than their older counterparts (55.5%,p=0.012). Differences in greater perceived HIV stigma remained been consistent between 2016 and 2019.

CONCLUSIONS: Overall progress in getting to zero new HIV infections in San Francisco has recently stalled for Black and Latinx Americans. Our data find that no progress has been made in reducing HIV stigma in our city, which is perceived more strongly by minority men and women and, dishearteningly by youth. Unless greater effort is placed on reducing HIV stigma among low-income youth and persons of color, our city will not reach our Getting to Zero goals by 2030.

PED0940

THE BLOOD FACTOR: IDENTITY, COMMUNITY AND AGING AMONG PEOPLE LIVING WITH HEMOPHILIA AND HIV

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BACKGROUND: Hemophilia is a genetic blood disorder, chiefly affecting males, in which the liver fails to produce the protein factors needed in the clotting process, resulting in potentially dangerous bleeding after injuries. Before 1992, treatment for a 'bleed' involved intravenous transfusions of the missing factor from donated human blood, which resulted in exposure to the HIV virus. During the 1970s and 1980s, approximately one-half of individuals with hemophilia contracted HIV from contaminated blood products, with some inadvertently infecting their partners and children. The intersection of HIV and hemophilia is one of the greatest medical disasters in global history; however, it has received limited attention outside of the hemophilia community. This qualitative study redresses that gap through analysis of narratives of individuals and families impacted by HIV via hemophilia treatment.

METHODS: Thirty-two telephone interviews were conducted with long-term survivors, family members, and professionals. Non-probability snowball sampling procedures recruited participants. The interviews elicited personal narratives and reflections, were audio-recorded, transcribed and uploaded to NVivo11 for analysis. Historical documents such as publications, television reports and films provided contextual data. An inductive narrative approach guided data analysis.

RESULTS: The data illuminates complex, multifaceted relationships among the hemophilia community, government, medical providers, pharmaceutical companies and society. These complicated relationships took place in the wider context of homophobia, stigma and AIDS-related hysteria. Participants recalled initial shame, fear and coping through social withdrawal in order to hide their hemophilia to avoid stigma and assumptions of HIV status, which affected formation of collective identity. Over time, however, some individuals and families began to demand research, treatment and policy change. Advocacy re-engaged and empowered the community to organize, educate and advance safety protocols for blood product manufacturing and distribution. Long-term survivors now face physical, emotional and social challenges as they age with hemophilia and HIV.

CONCLUSIONS: The AIDS crisis of the 1980s and 1990s further marginalized an already vulnerable community and continues to traumatize long-term survivors, posing new challenges as they age. This narrative analysis illuminates human resilience in the face of trauma and provides insight into the ways that the often-neglected hemophilia community found its voice and built networks for effective advocacy.

PED0941

HIV STIGMA AMONG A NATIONAL PROBABILITY SAMPLE OF ADULTS WITH DIAGNOSED HIV—UNITED STATES, 2017–2018

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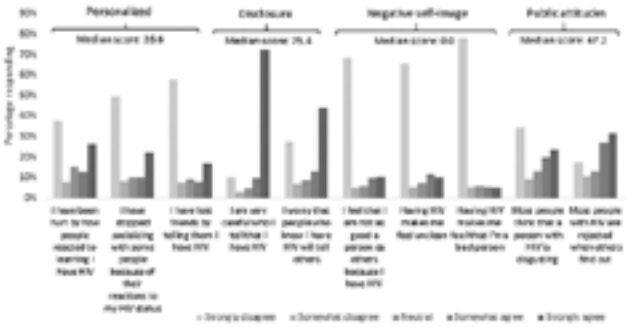
BACKGROUND: HIV stigma—a recognized barrier to testing, care and treatment outcomes—is a challenge to achieving the goals of the U.S. Ending the HIV Epidemic initiative. We report nationally representative stigma scores, overall and by domain, among U.S. adults with diagnosed HIV, stratified by sociodemographic and clinical characteristics.

METHODS: The Medical Monitoring Project collects data on stigma using a 10-item Likert scale from a probability sample of U.S. adults with diagnosed HIV. Scores were calculated for overall stigma and stigma by domain, and ranged from 0 (no stigma) to 100 (highest stigma). Using weighted data collected 6/2017–5/2018 from 4,222 persons, we calculated median stigma scores and 95% confidence intervals (CI) overall and by stigma domain (personalized, disclosure, negative self-image, public attitudes), and stratified by selected characteristics. We assessed differences in stigma, overall and by domain, between groups based on non-overlapping CIs.

RESULTS: Figure 1 presents individual responses to the stigma scale statements. Overall, the median stigma score was 38.6 (CI:37.6-39.5). By domain, median scores were: personalized 26.6 (CI:24.4-28.8), disclosure 75.4 (CI:72.6–78.3), negative self-image 0.0 (CI:0.0–2.1), and public attitudes 47.2 (CI:44.8–49.6). Overall stigma was higher among women compared with men, and among persons experiencing poverty or homelessness compared with persons who did not. Stigma was higher among persons who were not taking antiretroviral therapy (ART), were nonadherent to ART, missed HIV care visits, and visited the emergency room. Disclosure and public attitudes stigma were higher among black compared with white persons.



[Figure 1. Response to the HIV stigma scale statements among adults with diagnosed HIV—United States, 2017–2018]

CONCLUSIONS: Many U.S. adults with diagnosed HIV experienced disclosure or public attitudes stigma. Overall stigma was associated with poorer treatment and visit adherence, suggesting that stigma reduction interventions are needed to improve HIV care continuum outcomes. Interventions that focus on disclosure and community-level stigma may be needed to reduce racial disparities.

PED0942

FACTORS ASSOCIATED WITH INTERNAL HIV-RELATED STIGMA SCORE AMONG PEOPLE LIVING WITH HIV IN MAURITIUS: RESULTS FROM THE PEOPLE LIVING WITH HIV STIGMA INDEX (2017)

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BACKGROUND: HIV-related stigma is a major barrier to HIV control and prevention. In Mauritius, the estimated HIV prevalence was 0.8% in 2016; the epidemic is concentrated among key populations such as People Who Inject Drugs (PWIDs). This study aims to identify factors associated with an internal stigma score among People Living With HIV (PLHIV) who responded to the Stigma Index survey Mauritius.

METHODS: The Stigma Index is a cross-sectional survey which recorded the experiences of PLHIV related to external and internal stigma. It was conducted in 2017 by the community-based organisation PILS situated in Mauritius. Participants were recruited via a snowball sampling in National Day Care Center for the Immunosuppressed and Methadone Substitution Sites. We assessed the HIV-related internal stigma with a score (0 to 7), with one point added for each of the seven feelings experienced due to serological status. A negative binomial regression model was used to identify characteristics associated with the internal stigma score.

RESULTS: Among 411 participants, a majority were male (n=265, 64%) and aged 25 to 49 (n=316, 77%). PWIDs (n=267, 65%) were the most represented key population. The unemployment rate was 43% (n=178). Almost two-thirds experienced at least one feeling of internal stigma (n=258, 63%); guilt being the most frequent (n=202, 49%). After adjustment on age, factors significantly associated with an increase in the internal stigma score were: being a woman (aIRR[95%CI]=1.33[1.05;1.68]), being unemployed (1.57[1.20;2.05]), having a part-time employment compared to full time employment (1.61[1.24;2.19]), having lost a job (1.32[1.00;1.75]), being a PWID (1.28[1.03;1.60]), and having experienced at least one indication of stigma in family and community contexts (2.18[1.75;2.72]).

CONCLUSIONS: Factors at the individual, social and structural levels were associated with higher levels of the internal stigma score among PLHIV in Mauritius. These results highlight the need for multi-level community-based interventions which take into account the social determinants of health coupled with intersectional stigma to reduce social and health inequalities. Further investigations are needed to explore the link between gender, access to existing social services, job opportunities and key population membership to develop and implement adapted strategies to address the internal stigma among PLHIV.

PED0943

HIV STIGMA BURDEN AMONG PEOPLE LIVING WITH DIAGNOSED HIV (PLWDH) IN CALIFORNIA: PREVALENCE BY STIGMA TYPE AND HIGH STIGMA SCORE BY DEMOGRAPHIC, BEHAVIORAL, AND CLINICAL CHARACTERISTICS

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BACKGROUND: In general, HIV stigma is associated with lower antiretroviral medication adherence and access to health services. We sought to estimate the prevalence of HIV stigma and evaluate differences in high stigma score by selected characteristics among PLWDH in California.

METHODS: Interview and medical record data were collected in California (excluding Los Angeles and San Francisco) from 2015-2017 as part of the CDC-led, multi-site Medical Monitoring Project (MMP). Of 1,500 adult PLWDH randomly sampled from the Enhanced HIV/AIDS Reporting System (eHARS), 626 participated and 584 (489 men, 91 cisgender women, 4 transgender women) completed the 10-item HIV stigma scale described by Wright et al. (2007). We used SAS 9.4 survey procedures to estimate weighted prevalence of any stigma (response of somewhat agree or strongly agree), overall and by type, and high stigma score (top 75th percentile/score at or above 57.5) by selected characteristics. Gender, race/ethnicity, age group, educational attainment, and characteristics with significant group differences in proportion with high stigma score were included in a logistic regression model.

RESULTS: HIV stigma was ubiquitous, with an estimated 90.0% (95% Confidence Interval (CI) 87.3-92.7) of PLWDH reporting any stigma, 49.1% (CI 44.4-53.7) personalized stigma, 80.7% (CI 77.1-84.3) disclosure stigma, 27.5% (CI 23.4-31.6) negative self-image, and 58.5% (CI 53.9-63.1) public attitudes stigma. In bivariate analyses, high stigma score was associated with a sexual orientation of straight/heterosexual or bisexual, educational attainment less than high school graduation, time since HIV diagnosis of 5-9 years, and unmet ancillary service need. In the adjusted model, group differences in high stigma score remained significant for 3 factors: sexual orientation of bisexual compared to gay/lesbian (odds ratio (OR) 2.2, CI 1.1-4.3), time since HIV diagnosis of 5-9 years compared to 10 or more years (OR 2.7, CI 1.5-4.6), and having unmet need for ancillary services compared to having all service needs met (OR 2.3, CI 1.5-3.8).

CONCLUSIONS: HIV stigma, particularly that pertaining to disclosing HIV status to others, is highly prevalent among PLWDH in California. Efforts to increase viral suppression rates and decrease the number of new HIV infections should include stigma-reduction activities benefitting PLWDH universally and sub-groups with disproportionately high stigma burden.

PED0944

ASSOCIATIONS BETWEEN INTERSECTIONAL STIGMA, RESILIENCY, AND PSYCHOSOCIAL SYNDEMICS IN A MIXED-SEROSTATUS GROUP OF BLACK MSM IN SIX U.S. CITIES

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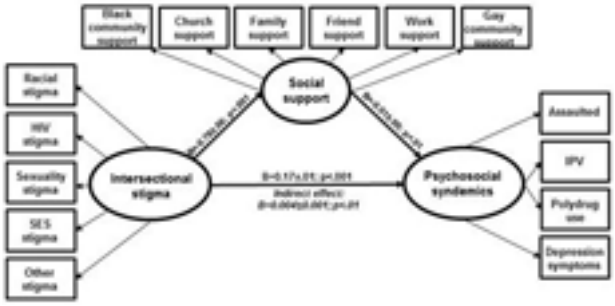
BACKGROUND: Along the HIV continuum of care (CoC), stigma has been associated with implementation gaps. Groups and individuals are stigmatized based on intersecting attributes, including sexuality; race; income; and HIV status. Synergistic psychosocial epidemics (syndemics) are also associated with poor outcomes along the HIV CoC. Resiliencies, including social support, may buffer these outcomes. Few studies have examined relationships between intersectional stigma, resilience, and syndemic, particularly among Black MSM, who experience the highest domestic HIV burden.

METHODS: We recruited Black MSM ≥18 years old (n=4430) from Black Gay Pride events in 6 U.S. cities between 2014—2017. Participants completed surveys via ACASI and undertook onsite HIV testing. We adapted the Experiences of Discrimination Scale to assess past-year stigma that participants attributed to race, sexual minority status, HIV status, socioeconomic status, and "other." We assessed social support via questions quantifying support received from gay communities, Black communities, employment, church, family, and friends. Psychosocial syndemic conditions were assessed via self-report of past-year violence victimization and intimate partner violence (IPV); polydrug use (≥2 substances in past 3 months); and depression symptoms (CES-D-10 ≥10). We constructed a structural equation model to test associations between latent variables of intersectional stigma (predictor), social support (mediator), and psychosocial syndemic (outcome), controlled for sociodemographics and HIV status.

RESULTS: Intersectional stigma was significantly associated with psychosocial syndemic (p<.001). There were significant associations between intersectional stigma and each psychosocial syndemic component (all p-values<.001). Social support was inversely associated with both intersectional stigma (p<.001) and psychosocial syndemic (p<.01), and negatively mediated the relationship between intersectional stigma and psychosocial syndemic (p<.01).



[Figure 1. Structural equation model of total and indirect effects between intersectional stigma (predictor), social support (mediator), and psychosocial syndemics (outcomes) in a mixed-serostatus population of Black MSM in 6 U.S. cities (n=4430), 2014-2017. Model adjusted for city, year, HIV status, ethnicity, income, bisexual behaviour, and age.]

CONCLUSIONS: Our findings show robust associations between intersectional stigma and concurrent psychosocial syndemic, negatively mediated by social support, in a mixed-serostatus population

of Black MSM. We will discuss implications for community-generated stigma reduction and resilience-promoting interventions in the context of HIV prevention and CoC outcomes.

PED0945

HIV-RELATED HEALTH CARE STIGMA AND DISCRIMINATION AND QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV IN THE UNITED KINGDOM: A LATENT CLASS ANALYSIS

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BACKGROUND: Development and scale-up of HIV treatment programs have allowed people living with HIV (PLHIV) to live long, healthy lives. However, PLHIV continue to encounter barriers to effectively managing HIV and threats to their quality of life (QoL). Stigma and discrimination in health care settings is a particularly important public health problem, given the extent to which PLHIV interact with health care systems and how these interactions shape overall wellness.

METHODS: Using survey data from Public Health England, we used latent class analysis to identify classes of QoL (problems/no problems across five domains: mobility, self-care activities, usual activities, pain/discomfort, feelings of anxiety/depression) among 4,348 PLHIV engaged in HIV care across the UK. We then used latent class regression to examine relationships between QoL class and a 4-item measure of HIV-related stigma and discrimination in health care.

RESULTS: Four QoL classes emerged: class 1, problems across all domains (18%); class 2, problems with pain/discomfort and feelings of anxiety/depression (18%); class 3, problems with mobility and pain/discomfort (9%); class 4, no problems (55%). Modeling the full scale as the exposure found a one-unit increase in HIV-related stigma and discrimination in health care to be significantly associated with higher odds of membership in class 1 compared to class 4 (OR=1.78; 95% CI=1.54,2.08) and class 2 compared to class 4 (OR=1.60; 95% CI=1.38,1.86), but not class 3 (OR=1.09; 95% CI: 0.83,1.42). Each individual scale item was also significantly associated with higher odds of membership in class 1 compared to class 4 (OR=2.87-5.26) and class 2 compared to class 4 (OR=2.55-3.61). One item, being refused/delayed care due to being HIV-positive, was significantly associated with higher odds of membership in class 3 compared to class 4 (OR=2.00; 95% CI=1.20,3.32).

CONCLUSIONS: The UK is a world leader in the HIV response. However, QoL for PLHIV in the UK varies markedly, with differences emerging across physical and mental health domains. HIV-related stigma and discrimination in health care was associated with differences in QoL, highlighting the continued importance of stigma mitigation interventions for an effective HIV response.

PED0946

EVIDENCE THAT HEALTHY CHOICES, A MOTIVATIONAL INTERVIEWING INTERVENTION, REDUCES HIV-RELATED STIGMA IN YOUTH LIVING WITH HIV: ATN 129

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BACKGROUND: HIV-related stigma is a significant barrier to treatment services. Whereas strides have been made to validate interventions to promote testing, adherence, and healthcare engagement, there are few interventions that reduce stigma amongst people living with HIV (PLWH), and to our knowledge -- no validated interventions exist that reduce stigma in youth living with HIV (YLWH). Considering this serious gap, under the auspices of the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN), we assessed the effects of Healthy Choices, a Motivational Interviewing intervention, on stigma.

METHODS: We analyzed data from the Healthy Choices (ATN 129) full-scale randomized controlled trial. Participants were randomized to receive intervention in-clinic or in-home; all received the intervention. Thus, all participants are included in this analysis. Recruitment occurred at United States ATN-affiliated clinics (N=183). Participants were aged 16-24, had detectable viral load, reported antiretroviral non-adherence and alcohol use. Stigma was assessed using Berger's Stigma Scale, pre-intervention, 16, 28, and 52 weeks post-intervention. We applied latent growth curve modeling with two linear slopes estimating changes in stigma pre- to post-intervention as well as the trajectory of stigma scores over the follow-up period.

RESULTS: Participant mean age was 21 years; 83% identified as black, and 88% identified as MSM. Expected value for the pre-post-intervention growth factor was statistically significant (B_intercept=2.59; 95% CI:2.36,2.83; p=<.001) as well as differences in the change from baseline to 16-week immediate follow up (B_interceslope1=-0.26; 95% CI:-0.49,-0.03; p=<.026). Expected value of the slope factor measuring growth over the follow-up period was non-significant suggesting that stigma scores were stable from 28 to 52 weeks. There were no differences related to intervention delivery conditions.

CONCLUSIONS: Although there is emerging literature suggesting that Motivational Interviewing can be effective in reducing stigma, this is the first full-scale study to report outcomes longitudinally amongst YLWH. Motivational Interviewing is recommended in standard of care for YLWH and stigma reduction is a high treatment priority; thus, implementation science research to assess barriers to Motivational Interviewing delivery with fidelity is warranted. Behaviorists seeking to improve outcomes in YLWH while addressing stigma, may enhance delivery effects by embedding MI components into their interventions.

PED0947

WHAT ARE THE DETERMINANTS OF SOCIAL SUPPORT IN PERSONS LIVING WITH HIV/AIDS?

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BACKGROUND: Social support is known to influence desired health outcomes resulting in decrease in morbidity and mortality. HIV patients with poor social support are at risk of worse health outcomes. Little is known about the determinants of social support in the HIV population in Uganda. This study examined the determinants of social support among HIV patients on Atazanavir-based regimen at the Infectious Disease Institute.

METHODS: We carried out a secondary analysis in a cross-sectional study to determine the prevalence of clinical jaundice among patients on Atazanavir-based second-line therapy which was conducted at Infectious Disease Institute (IDI) from April to May 2019. IDI is a specialist HIV center in Kampala, Uganda with over 7000 patients in care. The study consecutively sample patients on an Atazanavir-based regimen. Social support was assessed by using a 3-item Oslo social scale. We determined the association between social support and age, sex, marital status, education status, religion, other chronic comorbidities, disclosure of HIV status, depression (PHQ 2and 9), drug fatigue, and stigma (stigma scale for chronic illnesses 8-item). We used logistic regression to determine the association.

RESULTS: Data from 236 participants was analysed with the mean age being 40 years (SD;11). The majority were females (66.5%) and 34% were married. Up to 16.5% (n=39) had other comorbidities while only 2 were depressed There was a high level of disclosure of status to either a family member, friend, spouse or children (94%; 221/236). The prevalence of internalized stigma and depression was low (4%; 9/236;) and (2/236; 1%) respectively). Only disclosure of status to others was associated with social support (OR= 4.9, 95% CI 1.1 – 21.3, p-value= 0.038). The association of age, sex, marital status, education status, religion, other chronic comorbidities, depression, drug fatigue, and stigma with social support did not reach statistical significance.

CONCLUSIONS: We found that good / moderate social support was associated with disclosure of HIV status. However, the relationship between social support and disclosure of HIV status warrants further exploration using qualitative research methods.

PED0948

PREDICTORS OF HIV STATUS DISCLOSURE INTENTIONS TO AN INTIMATE PARTNER AMONG NEWLY DIAGNOSED PATIENTS UNDER SAME-DAY-ART IN JOHANNESBURG, SOUTH AFRICA

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BACKGROUND: HIV disclosure is a critical component of HIV prevention and antiretroviral therapy (ART) by facilitating access to social support and engagement in care, improving treatment adherence and HIV prevention behaviour. However, in high stigma and low social support context, it may have adverse consequences. Given the interpersonal risk that comes with HIV disclosure, social relationships are important, particularly among women. Therefore, we aimed to determine important factors to disclosure intention to an intimate partner after diagnosis.

METHODS: We conducted a cohort study among 652 HIV diagnosed adults (≥18 years), enrolled from four primary healthcare clinics in Johannesburg from October 2017 to August 2018. Patients were interviewed immediately after HIV diagnosis. Modified Poisson regression, reporting relative risks (RR) was used to evaluate factors associated with disclosure of HIV status to an intimate partner.

RESULTS: Overall, 60.0% were female and the median age was 33 years (IQR: 28.1-39.3). The majority, 524/652 (80.4%) were in relationships, and only 14.1% were married. A total of 96.3% intended to disclose their HIV result, with 444/499 (88.9%) of those in relationships intending to disclose to a partner. Males (RR 1.1; 95% CI: 1.0-1.2) and those intending not to start treatment if offered (RR 1.1; 95% CI: 1.0-1.2) were more likely to disclose their HIV status to a partner. However, non-married patients (RR 0.9; 95% CI: 0.8-0.9), patients who lived alone (partner/ spouse vs. alone, RR 0.9; 95% CI: 0.7-0.9) and those who lived with family or friends (partner/ spouse vs. alone RR 0.9; 95% CI: 0.8-0.9) were less likely to disclose their status.

CONCLUSIONS: Our results identify important factors that may influence the disclosure of HIV status. While access to ART and uptake have increased with the new guidelines, concealing HIV status to an intimate partner may affect adherence to treatment. access to social support and diminish adherence, retention, and prevention benefits. In light of these findings, there is a need to pay more attention to factors that may inhibit disclosure and to educate patients about the potential implications of concealing HIV status.

PED0949

INVESTING IN COMMUNITY RESPONSES IS CRITICAL IN TACKLING STIGMA, DISCRIMINATION AND VIOLENCE AGAINST KEY POPULATIONS: EVIDENCE FROM PEHCHAN, A STUDY FROM INDIA

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BACKGROUND: Key populations in many countries face high levels of both perceived and internalized social stigma, discrimination and violence. In India, Men who have sex with men, Transgender and Hijra (MTH) people are subjected to high levels of social stigmatization. India HIV/AIDS Alliance along with consortium partners implemented Pehchan programme (from 2010 to 2015), a Global Fund supported program targeted toward MTH in 18 priority states in India and has reached 436,000 MTH. The program focused around community system strengthening to reduce violence by different sections of the community. 139 crisis management teams were formed to respond to acts of violence or threats of violence. In 2019, India HIV/AIDS Alliance conducted a study to measure the long term impact on this area.

METHODS: Modified CRISP (Community, Resources, Institutional and Processes)methodology was adopted.Multistage sampling (three stages) method was used to select the respondents for the study with mixed method (quantitative and qualitative) data.245 structured interview, 21 FGDs,36 IDI/case studies,82 KIIs were con-

ducted. Descriptive and comparative analyses were carried out using Pehchan endline study as base. CRISP score was also calculated to understand the sustainability of the project.

RESULTS: The proportion of respondents who reported experiencing any type of violence by the police/law enforcement agencies in the previous 6 months increased from the baseline (12%) to end-line (22%) but it has decreased significantly since then and is now at 20%. The CRISP index score is 61.6%, which indicates a high long term impact of Pehchan.MTH respondents who sought support after experiencing violence has consistently increased from the baseline (34%) to 55% at the end of Pehchan, and sustained at high levels (67.4%) four years after the project ended. CRISP index score is 75.6% which indicates a very high long term impact and significant increase in the number of MTH personnel who seek support when they are subjected to violence.

CONCLUSIONS: Community led advocacy resulted in reduction of incidents of violence and increased identification of the same. Marginalized communities need investments that include HIV-related legal services;reforming repressive laws and policies;peer support;legal literacy programs;social inclusion;sensitization of police and law enforcement officers; on stigma and human rights in order to provide an enabling environment to access essential health services.

PED0950

BURDEN OF LIVING WITH HIV IS MOSTLY OVERESTIMATED IN HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN

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BACKGROUND: HIV has changed over the past decades from a deadly disease to a relatively easily treatable chronic illness. It is debatable to what extent HIV-negative men who have sex with men (MSM) possess a realistic view of the present burden of living with HIV. Overestimating the burden of HIV could drive HIV-related stigma. We therefore aimed to investigate the anticipated burden of living with HIV among HIV-negative MSM.

METHODS: We conducted a mixed-method study in which in-depth interviews with 18 recently diagnosed MSM were used to generate themes for questionnaire development. The questionnaire consisted of 39 items concerning burden of medicalization of life, HIV-status disclosure, emotional consequences, related stigma, changes in sexual and social behavior, and other practical or formal issues. The questionnaire was distributed via gay (dating) sites/apps among HIV-negative and HIV-positive MSM (diagnosed between 1984-2018). We compared the probability of responding with more negative burden between HIV-negative MSM (as anticipated burden) versus HIV-positive MSM (as actual burden) using finite mixture and logistic regression models.

RESULTS: 1362 MSM completed surveys, of whom 950 (70%) were HIV-negative and 412 (30%) were HIV-positive. Median age was higher for HIV-positive versus HIV-negative MSM (51 years , IQR=41-57 versus 43 years, IQR=30-55, respectively). In comparison to HIV-positive MSM, HIV-negative MSM significantly overestimated the negative impact of living with HIV in 97% (38/39) of the burden-related items. On items measuring general impact, HIV-negative MSM were more likely to anticipate deteriorating quality of life (OR=3.37; 95%CI=2.55-4.45) and feeling bad about having HIV (OR=7.12; 95%CI=5.31-9.55), and were less likely to accept having HIV (OR=4.48; 95%CI=3.28-6.14) compared to HIV-positive MSM.

CONCLUSIONS: HIV-negative MSM largely overestimate the burden of living with HIV as a chronic illness. The overestimation of almost all items suggests ongoing need for knowledge-based and stigma-reducing campaigns. Future analyses should explore whether underestimation of HIV burden on the individual level exists and whether it is associated with risk behaviour among HIV-negative MSM.

PED0951

PEER-LED STIGMA REDUCTION COLLABORATION: TANGIBLE ACTIONS TO REDUCE STIGMA IN CLINICAL SETTINGS

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BACKGROUND: NYC Health + Hospitals (NYC H+H) is the largest public hospital system in the United States. The NYC H+H Consumers Council, a committee of HIV peers (patients living with HIV), established a goal of reducing stigma experienced within clinics. To meet this goal, a peer-directed stigma effort was organized between clinic staff and peers to identify recommendations. To address the intersection of stigma, efforts focused on three populations: people living with HIV; individuals that use drugs, and people of trans-experience.

DESCRIPTION: An all-day Stigma Summit was designed as a collaborative problem-solving intervention bringing together representatives from the three focus populations with staff from clinics serving these populations (HIV, substance use, and LGBT), to have an open dialogue on stigma experienced within clinic settings and tangible actions to end such stigma. A Planning Committee was established to ensure balanced representation from focus populations and related clinics. Peers from the focus populations lead planning activities and were the primary facilitators/presenters at the Summit. Attendance was equally divided between patients (48) and clinic staff or issue-area experts (48). Emphasis was placed on dialogue and audience participation was facilitated by technologies allowing for anonymous engagement in discussions.

LESSONS LEARNED: Six Key Themes and 19 Recommended Actions were identified. Themes included a focus on improved involvement and communication between patients and care team members, impacts of stigmatizing structures within electronic medical records (EMR), stigma-reducing roles of clinical and non-clinical staff; and the importance of judgement-free welcoming environments. Recommendations were designed to be specific and actionable, focusing on staffing, training, clinic environment, patient/provider interface, patient supports, referral networks, EMRs, policies, feed-back mechanisms, and staff retention. An implementation framework emerged demonstrating the interconnection between recommendations, different care sites and populations.

CONCLUSIONS/NEXT STEPS: A Summary Report was developed and distributed to all Summit participants, clinical and administrative leaders at NYC H+H, and shared broadly with external partners. Individual clinics were tasked with developing implementation

plans to address care-site issues, and a collaboration between NYC H+H clinic leadership focused on systems-level concerns. The NYC H+H Consumers Council continues to provide oversight and guidance to these efforts.

PED0952

EXPLORING HIV STIGMA AND ITS CORRELATES AMONGST PEOPLE LIVING WITH HIV/AIDS IN A RURAL AREA IN NIGER-DELTA REGION OF NIGERIA

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BACKGROUND: HIV stigma is a strong barrier to the prevention of HIV/AIDS and a major driver of the epidemic. Several studies have shown that people living with HIV in rural areas are more at risk of being vulnerable to HIV stigma and discrimination.Hence there is need for a continuous monitoring of the state of HIV stigma and its correlates amongst such population group. However, there is paucity of data on HIV stigma and its domains from the perspectives of people living with HIV/AIDS (PLWHA) from the rural Niger-delta region of Nigeria. Thus, this study aimed to determine HIV stigma and its correlates amongst PLWHA residing in one of the Niger-delta states.
METHODS: A cross-sectional survey of 367 PLWHA aged above 18 years drawn from a rural health facility was done. Data collection was done through a multi-stage sampling method using a validated,structured interviewer-administered questionnaire adapted from the Berger HIV stigma tool. Descriptive analysis was carried out using frequency/percentages while inferential statistics was carried out using Chi square, Fischers exact test and logistic regression. Analysis was carried out using IBM SPSS version 20.
RESULTS: Majority were females 274(74.7%) with over one-third(41%) aged below 35 years. About half,182(49.6%)were married,248(49.9%) having education below primary school and earning a monthly income below N18,000(US$50)(62.9%).About half,183(50.1%) had an overall presence of stigma.Similarly,there was high experience of the different domains of stigma i.e personalized stigma(enacted stigma)163(44.4%),disclosure concern stigma (anticipated stigma)199 (54.2 %),negative self-image stigma (internalized stigma)185(50.4%) and public attitude stigma(a form of anticipated stigma)168(45.8%).
On bivariate analysis,higher proportion of respondents aged below 35 years had stigma(p=0.03).Those with no forms of depression, perceived they have an overall good quality of life and general adequate social support were less associated with overall experience of stigma(P<0.05).
On logistic regression, those with some form of depression were more likely to be stigmatised OR 3.813(95% CI: 1.113- 13.062).While, respondents with good spiritual domains of quality of life OR 0.406(95% CI: 0.225 - 0.732),good independence domains of quality of life OR 0.411(95% CI: 0.2- 0.846) and good social domains of quality of life OR 0.465(95% CI: 0.239- 0.902) were less likely to be stigmatised.
CONCLUSIONS: There is urgent need for implementing HIV Stigma reduction interventions amongst PLWHA in this region

PED0953

SOCIAL TRANSITION, SUPPORT AND PARTICIPATION AMONG TRANS WOMEN IN NEPAL- IMPLICATIONS FOR HIV RISK AND CARE OUTCOMES

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BACKGROUND: Trans women are highly stigmatized around the world. In Nepal, families form the primary social safety net upon which people rely on for income, social support, and care. The consequences of exclusion in low income countries with no social safety net can be dire and have important implications for HIV risk. The goal of this abstract is to examine trans women's experiences of stigma, describe familial social support, examine social participation in Nepal and determine associations of these factors with HIV prevention and care behaviors.
METHODS: Data used for this analysis are from a cross-sectional population-based study of HIV risk among trans women in Nepal. A total of 200 trans women were recruited for the study over a 6-month period. For this analysis, we describe familial social support and reasons why trans women did not socially transition as their true gender. We also examine associations between social transition, support and participation and HIV testing and care engagement to test whether exclusion is associated with poor HIV prevention and care behaviors.
RESULTS: Almost half (41%) of the 200 trans women recruited reported they did not socially transition because of family disapproval of their gender identity. About half reported their primary social support was from a family member, including parents (46%) and siblings (17%). Social support from family was low to moderate (mean score 3.36). Trans women had a participation score of 10.1, indicating moderate to severe restrictions in social participation. Social transition was significantly positively associated with HIV testing (p=0.02) and HIV care engagement (p<0.01), and social support was significantly positively associated with HIV care engagement (p=0.04).
CONCLUSIONS: Our study suggests that trans women with lower stigma may be at less risk for HIV and poor HIV care outcomes. Social transition and support were both positively associated with HIV care engagement, and social transition was positively associated with HIV testing behaviors among trans women in Nepal. Research and interventions to address social integration and support for trans women may improve HIV prevention and care outcomes with this community in Nepal.

PED0954

DISCRIMINATION PERCEIVED BY PEOPLE LIVING WITH HIV/AIDS IN A COHORT IN RIO DE JANEIRO, BRAZIL

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BACKGROUND: One of the impacts of people living with HIV/Aids (PLWHA) is to face discriminatory experiences that can bring significant damage to quality of life and physical and mental health outcomes. This study aims to characterize the discriminatory experi-

ences perceived by individuals with HIV participating in a Brazilian cohort, regarding context and type of discrimination suffered and to investigate the association of covariates with the perception of discrimination.

METHODS: 649 individuals followed at the INI cohort had extra data collected between 2011 and 2012 following the protocol of ELSA-Brasil study, which included interviews, lab measurements and physical examinations. To measure discrimination, the Lifetime Major Events Scale was used. Besides usual descriptive measurements, logistic regression models were adjusted to study the association of covariates with discrimination. The best final model was selected by a genetic algorithm based on fitness.

RESULTS: 48,6% reported any kind of discrimination, most of them were male (67.5%), with a significant difference observed between genders (p<0.001). Median age among those who perceived discrimination was 42.7 years (IQR=35.8;48.8;p=0.005) and had lower income. The perception of discrimination in public places (22.3%), police approach (19.9%) and the workplace (18.8%) were highlighted. Reasons why participants believed were discriminated included, economic factors (16.7%), physical appearance (14.2%), illness or disability (12.8%) and sexual orientation (12.6%). In the univariate analysis, gender, age, income, number of children and poor health were significantly associated with discrimination. In the final model, gender (OR=1.78;95%CI 0.55-2.22), and age (OR= 0.97;95%CI 0.96-0.99) remained significant, while low CD4 cell counts (OR= 1.73;95%CI 1.28-2.18) was also included by the algorithm.

CONCLUSIONS: The data show that discriminatory attitudes persist highly prevalent among PLWHA, and the associated variables are in consonance with discrimination among PLWHA studies worldwide, which show predominance in males and young adults. Policy and programs should develop approaches to reduce discrimination and ensure a better quality of life for PLWHA.

SOCIOECONOMIC DIFFERENCES: POVERTY, WEALTH AND INCOME INEQUALITIES

PED0955

THE IMPACT OF THE ECONOMIC BURDEN OF SCHOOL FEES ON HEALTH AND HIV RISK IN UGANDA

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BACKGROUND: Considerable evidence suggests that staying in school may be protective against HIV in sub-Saharan Africa. Yet the costs of schooling, including "school fees" and the costs of uniforms, transportation, meals, and textbooks, create an economic burden for families. While research at the population level has shown that reducing education costs increases the likelihood that students remain in school, we argue that the total costs of schooling may create adverse household coping mechanisms for income generation, and contribute to sexual risk behaviors and HIV risk.

METHODS: This paper draws from ethnographic research conducted as part of a broader project examining how structural factors shaping the transition to adulthood influence HIV risk among adolescents in Uganda. Data were collected in six sites in the Rakai and Kyotera districts of Uganda: two fishing villages, two trading centers, and two rural villages. Methods included 48 key informant interviews with community leaders, in-depth interviews and focus group discussions with 144 community members (men ages 17-70 and women ages 17-70). Community mapping exercises were used to ascertain students' access to education, including the costs associated with both government and private schools.

RESULTS: We found that the costs of schooling present a considerable economic burden, more than any other household expense, including housing. For example, for a household earning $2/day, the cost of school uniforms, meals, and materials required for just one child to attend an ostensibly "free" government school amounts to 7% of their annual income. Community members suggested that residents are turning to risky transactional sexual relationships in order to afford school fees, for themselves, their children, and their family members.

CONCLUSIONS: These findings suggest that the costs of schooling can result in household coping mechanisms for income generation, including transactional sexual relationships, making the economic burden of school fees a structural factor influencing HIV acquisition among youth in rural Uganda. While most of the current literature assesses the impact of school fees interventions on the student themselves, we argue for a more comprehensive approach to measuring the costs of schooling, including the shifted burden of costs to extended family members.

PED0956

THE IMPACT OF POVERTY AND EXTREME POVERTY IN PEOPLE LIVING WITH HIV ATTENDING TO AN URBAN CLINIC IN GUATEMALA

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BACKGROUND: In Guatemala, 59.3% of the population is poor, and 23.4 is extremely poor. Guatemala has the highest HIV burden in Central America, with 47,000 PLHIV estimated in 2018. Poverty can generate risk behaviors to acquire HIV infection.

The main objective of this study was to analyze PLHIV from a social-economic point of view and determine if being poor influences the time of the diagnosis, retention, and viral load suppression.

METHODS: Socioeconomic programmatic data from 1710 PLHIV linked to a main HIV care and treatment center in Guatemala City from Jan. 2015 to Dec 2019 were analyzed retrospectively. Poverty was determined by income, housing conditions, and other factors through interviews and home visits of the PLHIV.

RESULTS: 57% of the PLHIV linked in the treatment center are poor and 4% extremely poor. 68% of the women and 53% of the men were poor (p<0.05) at the moment of the diagnosis, also Mayan PLHIV have a higher percentage of poverty (69%) than other ethnic groups (p<0.05).

Regarding the time of diagnosis, there is no statistical difference between poor and non-poor PLHIV, 69% had a late diagnosis (baseline CD4 <350). 74% of PLHIV that interrupted ARVs are poor (p<0.05). 77% of viral suppression was reached with no differences between poor and non-poor PLHIV.

CONCLUSIONS: Poverty must be considered in prevention interventions, especially for women and the Mayan population. Retention strategies have to include poverty as a key factor to elaborate pro-

grams for economic and social support. Fortunately, percentages of viral suppression are similar in poor and non-poor PLHIV because ARVs and medical care are free in Guatemala.

VIOLENCE AND CONFLICT: POLITICAL, SOCIAL, STRUCTURAL, INTERPERSONAL AND FAMILY-BASED

PED0957

INTIMATE PARTNER VIOLENCE PERPETRATED BY MEN LIVING WITH HIV IN CAMEROON: ASSOCIATED PSYCHOSOCIAL, BEHAVIORAL AND DYADIC CHARACTERISTICS AND EFFECT ON HIV TRANSMISSION RISK (ANRS-12288 EVOLCAM)

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BACKGROUND: The objective was to describe intimate partner violence (IPV) perpetrated by men living with HIV (MLHIV), to evaluate its effect on HIV transmission risk, and to identify characteristics of HIV-positive IPV perpetrators in Cameroon.

METHODS: Data from a cross-sectional survey on MLHIV in 19 HIV services were used. IPV scores (psychological and physical IPV (PPV), serious physical IPV (SPV), and sexual IPV (SV), perpetrated in the 12 previous months) were built using principal component analysis on 12 items. Ordinal regression analyses were performed to evaluate the associations of PPV, SPV and SV scores with:
i) being non-stable aviremic (detectable viral load or not receiving antiretroviral therapy for more than 6 months) and at high risk for HIV transmission (non-stable aviremic and inconsistent condom use with at least one of the last two partners of unknown or negative HIV status);
ii) psychosocial, behavioral and dyadic factors.

RESULTS: 28%, 15% and 11% of participants (n=406) were PPV, SPV and SV perpetrators. Proportions of non-stable aviremic participants and high risk for HIV transmission were respectively 44%and 16% and significantly higher in SPV and SV perpetrators.
PPV perpetration was associated with frequent binge drinking (aOR 2.07 [1.08-3.94]), participant's age (0.97 [0.95-1.00] per year) and income (0.98 [0.96-0.99], per 1000 FCFA per household consumption unit). SPV perpetration was associated with participant's age (0.93 [0.89-0.96] per year), not living together with the main partner (0.23 [0.08-0.62]), partner's age younger than 5 years (4.34 [1.63-11.1]), sex with another man in lifetime (7.42 [2.00-27.50]). SV perpetration was associated with inconsistent condom use with at least one of the last two partners (2.9 [1.43-6.39]), not being the household head (2.7 [1.05-5.91]), HIV-related stigma score (1.24 [1.07-1.41] per unit). PPV, SPV and SV were associated with experiencing IPV from partner (respectively 4.5 [2.30-7.62], 4.8 [2.35-9.96] and 4.4 [1.98-8.49]).

CONCLUSIONS: SPV and SV aggravate HIV transmission risk from MLHIV to their female partners. Young age and being older than one's partner, a context of HIV-related stigma, socioeconomic vulnerability and mutual violence, increase IPV perpetration. IPV prevention and detection during counseling of MLHIV could help to reduce HIV transmission risk.

PED0958

MITIGATING THE EFFECT OF EARLY EXPERIENCES WITH PHYSICAL VIOLENCE ON SUBSEQUENT DEPRESSION AMONG ADOLESCENTS AND YOUNG PEOPLE LIVING WITH HIV IN RURAL SOUTH AFRICA

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BACKGROUND: Experiences of physical violence in early life increases the risk of depression in young people. Depression can subsequently lead to poor HIV care outcomes among adolescents living with HIV (ALHIV). Mitigating the negative effects of early physical violence is crucial in areas such as South Africa where violence remains pervasive and poor mental health and HIV care outcomes persist among ALHIV.

METHODS: We conducted a cross-sectional survey among young people ages 12-24 who were living within the Agincourt Health and socio-Demographic Surveillance System study area in rural South Africa and had a recorded HIV diagnosis in one of two HIV clinical care databases. Participants' history of physical violence perpetuated by intimate partners, family, or acquaintances (ever/never experienced) and current emotional well-being—depression (CES-D), social support (Medical Outcomes Social Support), resilience (CD-RISC), and self-esteem (Rosenberg)— were measured.
We used log binomial regression to estimate the effect of prior lifetime history of physical violence on current depression. Effect measure modification by resilience, social support, and self-esteem was assessed.

RESULTS: Among the 339 study participants included in this analysis, median age was 21 (interquartile range 16-23), 241 (71.1%) were female, 95 (28.0%) had results indicative of depression, and 83 (24.5%) had previously experienced physical violence. Depression was higher among young people with a history of physical violence when compared to those with no history of physical violence (adjusted RR: 2.08; 95% CI 1.48, 2.93). Among those with high social support and self-esteem, the effects of physical violence on depression were lower than among those with low social support and self-esteem (Table 1).

Effect Measure Modifier	Value	aRR (95% CI)	LRT p-value
Social Support (Medical Outcomes Social Support Scale):	High (scores≥38)	1.19 (0.56, 2.56)	p=0.090
	Low (scores<38)	2.13 (1.43, 3.17)	
Self Esteem (Rosenberg Self Esteem Scale):	High (scores≥21)	0.72 (0.30, 1.70)	p=0.002
	Low (scores<21)	2.10 (1.43, 3.08)	
Resilience (Conner Davidson-Resilience Scale):	High (scores≥73)	1.45 (0.80, 2.62)	p=0.240
	Low (scores<73)	2.13 (1.43, 3.17)	

[Table 1.]

CONCLUSIONS: We found that a history of physical violence was associated with current depression among ALHIV in rural South Africa. However, self-esteem and social support appeared to mitigate the impact thus programs to improve self-esteem and social support for ALHIV, along with appropriate depression and trauma treatment, have the potential to improve depression and HIV care outcomes among ALHIV.

PED0959

ENACTED AND ANTICIPATED HIV STIGMA ARE ASSOCIATED WITH INCREASED ODDS OF INTIMATE PARTNER VIOLENCE AMONG FEMALE SEX WORKERS LIVING WITH HIV IN SANTO DOMINGO

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BACKGROUND: Female sex workers (FSW) are 13.5-times more likely to be living with HIV than other women in low and middle income countries, and up to 73% have experienced intimate partner violence (IPV) victimization by non-paying partners. IPV is associated with myriad negative outcomes, including suboptimal HIV care and treatment. However, IPV against FSW living with HIV has received little attention. FSW living with HIV contend with multiple forms of HIV and sex work stigma, which theory and empirical studies suggest may erode economic and social resources that are protective against IPV. We examined relationships between HIV stigma and sex work stigma and IPV among FSW living with HIV.

METHODS: We analyzed baseline survey data from an evaluation of Abriendo Puertas (Opening Doors), a multi-level intervention to promote HIV care and prevention within a cohort of 250 FSW living with HIV in Santo Domingo, Dominican Republic (2012-2014). We used multivariate logistic regression to examine relationships between HIV and sex work enacted, anticipated, and internalized stigma and IPV (any physical or sexual violence, last six months).

RESULTS: Participants who reported enacted stigma in the form of HIV workplace discrimination—having lost a job due to HIV—had over six times the odds of IPV compared to those who did not (AOR: 6.68, 95% CI: 2.13, 20.88; p<.001). Regarding anticipated HIV stigma, each increase in the level of fear of being excluded from family activities if one's HIV status were known was associated with a 1.79-fold increase in the odds of IPV (AOR: 1.79, 95% CI: 1.06, 3.02; p=.03). No other stigma/IPV associations were significant.

CONCLUSIONS: Workplace HIV discrimination and fear of family exclusion due to HIV are associated with IPV. Research should examine potential mechanisms of these relationships—workplace discrimination may diminish economic resources, which may hamper leaving abusive relationships or cause stress and conflict in relationships. Fear of family exclusion may undercut social support, which can be protective against IPV. Our findings suggest that to reduce IPV in this population—and stem downstream effects on HIV care and treatment— programs and policies may need to address HIV discrimination and fears of discrimination.

GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN

PED0960

MENTAL HEALTH DISPARITIES MEDIATING INCREASED RISKY SEXUAL BEHAVIOR IN SEXUAL MINORITIES: A TWIN APPROACH

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BACKGROUND: Risky sexual behavior is significantly higher in sexual minority (those who identify as lesbian, gay or bisexual - LGB) compared to heterosexual individuals and is a major risk factor for HIV infection among sexual minority men. Risky sexual behavior is associated with mental health problems, however, no population-based studies have investigated the association between mental health and risky sexual behavior disparities in sexual minority individuals. Based on previous evidence of genetic relationships between sexual orientation, mental health and risky sexual behavior; we used the genetically sensitive twin design to determine i. whether mental health disparities in sexual minority individuals mediate the high risky sexual behavior among them, ii. whether this effect was better explained by shared genetic factors, and iii. sex differences in these relationships.

METHODS: Study design was cross-sectional. Participants included 5814 Finnish identical and non-identical twins (mean age = 25 ± 4 years) who were assessed for sexual orientation, mental health indicators (depressive and anxiety symptoms, and substance use) and risky sexual behavior in 2006. Structural equation modelling in OpenMx was used to investigate mental health as a mediator of the increased risky sexual behavior in sexual minority individuals. We adjusted for confounding by common genetic factors using twin modelling and tested for sex differences.

RESULTS: Mental health problems and risky sexual behavior were significantly higher in sexual minority participants and mental health disparities explained 9 and 10% (95% CIs: 2-15% and 7-15% respectively) of the increased risky sexual behaviour among men and women respectively, there were no sex differences. Furthermore,

these relationships were not explained by shared genetic factors, rather each factor had its own unique aetiological influences. In females but not males, environmental factors significantly influenced mental health indicators.

CONCLUSIONS: This is the first population-based study to show that mental health disparities contribute to increased risky sexual behavior in sexual minority men and women and that these relationships are independent of shared genetic factors. Our finding indicates that reducing mental health disparities is a strategy to improving sexual health of sexual minority individuals.

PED0961

MULTILEVEL FACTORS ASSOCIATED WITH FIVE DIFFERENT TYPES OF INTIMATE PARTNER VIOLENCE PERPETRATION AMONG MEN WHO HAVE SEX WITH MEN IN CHINA: AN ECOLOGICAL MODEL INFORMED STUDY

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BACKGROUND: In China, intimate partner violence (IPV) among men who have sex with men (MSM) remains less investigated, despite the high prevalence. However, IPV is also an emerging risk factor for HIV infection and transmission among MSM.

METHODS: Informed by the Ecological Model, this cross-sectional study explored multilevel factors (i.e., individual, relationship, community and societal) associated with IPV perpetration among MSM. Participants were recruited from 15 cities of Mainland China, including five cities in East China (Sanya, Fuzhou, Hangzhou, Shenzhen and Qingdao), three cities in Midland China (Taiyuan, Changsha and Hefei), four cities in Northeast China (Changchun, Zhengzhou, Harbin and Urumqi), and three cities in West China (Lanzhou, Nanning and Kunming). Univariate and multivariate regression analysis were conducted.

RESULTS: We found that the prevalence of engaging in physical, sexual, monitoring, controlling and emotional IPV perpetration were 8.6%, 7.1%, 15.2%, 7.6% and 17.1%, respectively. Physical IPV was positively associated with perceived public discrimination and self-stigma toward homosexuality. Sexual IPV was positively associated with involvement in homosexual supporting agency and having more sex partners. Monitoring IPV was positively associated with higher education and perceived stress, but negatively associated with instrumental and emotional support. Controlling IPV was positively associated with drug use during sex and self-stigma, but negatively associated with self-esteem, self-efficacy, and older age of first homosexual sex. Emotional IPV was positively associated with engagement in sex transaction, perceived stress, but negatively associated with resilience.

CONCLUSIONS: IPV perpetration was prevalent in this population. It is necessary to distinguish different types of IPV in future studies and programs, given their differences in prevalence and associated factors.

PED0962

IMPACT OF UNDETECTABLE=UNTRANSMISSIBLE (U=U) KNOWLEDGE ON MENTAL HEALTH OUTCOMES AMONG HIV+ MSM IN THE LATIN-AMERICAN MSM INTERNET SURVEY (LAMIS)

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BACKGROUND: People living with HIV (PLHIV) are at higher risk of poor mental health such as depression and anxiety, partly because of fear of harming others and because of loneliness. Knowledge of not being infectious when having an undetectable viral load ("Undetectable=Untransmissible", or U=U) may have a positive impact on their mental health and quality of life. We sought to estimate the association of Undetectable=Untransmittable (U=U) knowledge and depression/anxiety and Internalized homonegativity among HIV-diagnosed MSM participating in the Latin-American MSM Internet Survey (LAMIS).

METHODS: From January to May of 2018, 64,655 adult MSM from 18 Latin-American countries responded to an on-line questionnaire exploring sociodemographics, mental health metrics, and HIV-related knowledge and behavior. We used adjusted multivariable logistic regression to estimate the association between "Undetectable=Untransmittable (U=U) knowledge" with two outcomes: 1. Presence of anxiety/depression (mild to severe symptoms) in the 4 items from the People Health Questionnaire (PHQ-4); 2. Higher internalized homonegativity, i.e. a score above the median score of the Short Internalized Homonegativity Scale (SIHS). U=U knowledge was assessed with knowing that "a person with HIV who is on effective treatment (called undetectable) cannot transmit the virus to others during sex".

RESULTS: Among all respondents, 10,265 (16%) reported diagnosed HIV. Among those, 74% (7566/10256) reported U=U knowledge; and 60% (4023/10166) had evidence of depression/anxiety (40% mild, 11% moderate, 9% severe). Among the 8824 respondents who answered the questions on IH, there was a median score of 1.14 points in the SIHS. After adjusting for sociodemographics and HIV-care related variables, U=U knowledge was negatively associated with both, presence of anxiety/depression symptoms (PR=0.91; 95%-CI:0.88–0.95) and a higher internalized homonegativity score (PR=0.79; 95%-CI:0.76–0.83).

Outcomes		PR	95% CI	p-value	Adj. PR*	95% CI	p-value
PHQ4	Any anxiety/ depression symptoms vs not	0.93	0.90-0.96	<0.001	0.92	0.89-0.95	<0.001
Internalized Homonegativity	Higher vs lower score	0.75	0.72-0.78	<0.001	0.79	0.76-0.83	<0.001

PHQ4: 4 items Patient Health Questionnaire), PR: Prevalence Ratio, CI: Confidence Interval
*Adjusted PR by demographics (age, educational attainment, employment, born abroad, country of residence, settlement size, sexual identity, relationship status, including partners' HIV status) and HIV care-related characteristics (HIV treatment, Viral load status, Time of HIV diagnosis)

[Table 1. Prevalence ratios of mental health outcomes by U=U knowledge]

CONCLUSIONS: Our findings support that U=U knowledge is one of the factors having a positive impact on mental health outcomes among HIV-diagnosed MSM. Its promotion across Latin-America should be reinforced by HIV health services. Future studies should assess the impact of U=U knowledge on related outcomes such as HIV-stigma perception and quality of life.

PED0963

UNDETECTABLE=UNTRANSMISSIBLE (U=U) KNOWLEDGE AND SEXUAL BEHAVIOR DURING THE MOST RECENT SEXUAL ENCOUNTER WITH NON-STEADY PARTNERS AMONG MSM IN THE LATIN-AMERICAN MSM INTERNET SURVEY (LAMIS)

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BACKGROUND: Among MSM, knowledge about the negligible risk of HIV transmission (untransmissibility) when viral load is undetectable (U=U) may lead to reduction of HIV-stigma and sexual behavior changes. The aim of this analysis is to describe the relationship between U=U knowledge and sexual behavior among MSM participating in the Latin-American Men Internet Survey (LAMIS).

METHODS: From January to May of 2018, 64,655 adult MSM from 18 Latin-American countries responded to an online questionnaire exploring sociodemographics, mental health metrics, sexual behavior, and HIV-related knowledge and behavior. Participants reporting sex with non-steady partners in the last 12 months were included in the analysis. Stratified by self-reported HIV/viral load status, unadjusted prevalence ratios (PR) of sexual behaviors during the last sexual session with a non-steady partner (i.e. number of concurrent partners, type of venue, HIV-status communication, knowledge/assumption of partner's HIV-status, receptive/insertive condomless anal intercourse [CAI]), were assessed in relation to U=U knowledge.

RESULTS: 40,117 (83%) respondents were untested or reported their last HIV test to be negative (NEG), 6,253 (13%) reported HIV diagnosis and undetectable viral load (HIV-UVL); and 1846 (4%) reported HIV diagnosis but detectable/unknown viral load (HIV-DVL). U=U knowledge was associated with: (i) 2+ concurrent non-steady partners among NEG (PR=1.17) and HIV-UVL (PR=1.27) respondents, (ii) having sex at a sex venue among HIV-UVL respondents (PR=0.83), (iii) knowing/assuming to know a partner´s HIV-status among NEG respondents (PR=1.10), (iv) insertive CAI among HIV-UVL respondents (PR=1.15), and receptive CAI among NEG (PR=0.86) and HIV-UVL respondents (PR=1.16). No significant association was observed with communicating HIV status.

	No HIV diagnosis			HIV+ Undetectable			HIV+ No-Undetectable		
	PR	95% CI	p-value	PR	95% CI	p-value	PR	95% CI	p-value
2+ concurrent non-steady sexual partners	1.17	1.12-1.22	<0.001	1.06	0.96-1.16	0.279	1.27	1.08-1.51	0.005
Last sex at sexual venues*	0.99	1.03-1.05	0.748	0.83	0.73-0.95	0.005	1.05	0.82-1.35	0.692
HIV status communication	1.31	0.82-2.12	0.261	1.15	0.99-1.34	0.076	1.02	0.75-1.37	0.920
Know/Assume partner HIV status	1.10	1.08-1.12	<0.001	1.05	0.97-1.13	0.200	1.07	0.94-1.22	0.288
Insertive CAI	1.01	0.96-1.05	0.816	1.15	1.02-1.29	0.023	0.98	0.80-1.20	0.848
Receptive CAI	0.86	0.82-0.89	<0.001	1.16	1.05-1.27	0.002	0.95	0.82-1.10	0.529

CAI: Condomless anal intercourse; PR: Prevalence ratio; CI: confidence interval; *sexual venues: Gay sauna, club or backroom of a bar, porn cinema or cruising location. Gray-colored cells indicate p-value<0.05

[Table 1. Sexual behavior outcomes unadjusted prevalence ratio over U=U knowledge stratified by HIV and Viral load status.]

CONCLUSIONS: Our preliminary findings suggest that U=U knowledge has a positive impact on HIV preventive behavior among MSM without HIV (concern about partner's HIV-status and less frequent receptive CAI) and on reducing concern about HIV transmissibility to sexual partners (more frequent CAI) among MSM with HIV but undetectable viral load.

PED0964

EXPERIENCED HOMOPHOBIA AND SUICIDE IN YOUNG GAY, BISEXUAL, AND QUEER MEN: EXPLORING THE MEDIATING ROLE OF DEPRESSIVE SYMPTOMS, SELF-ESTEEM, AND OUTNESS IN THE PINK CARPET Y COHORT STUDY IN SINGAPORE

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BACKGROUND: Gay, bisexual, and queer (GBQ) men are disproportionately affected by HIV and other sexually transmitted infections (STI) in various settings across the world. Studies have shown that young GBQ men are more likely to exhibit suicide-related thoughts and behaviors compared to their heterosexual counterparts, and these have in turn been reported to be associated with HIV/STI risk-related behaviors such as substance use or inconsistent condom use. This study explores the association and mediational pathways between experienced homophobia and suicide ideation or attempts in young GBQ men in Singapore.

METHODS: Results of this study were derived from baseline data of the Pink Carpet Y Cohort Study in Singapore. The Pink Carpet Study is Singapore's first prospective cohort study among young GBQ men, comprising a sample of 570 young GBQ, gender-diverse men aged 18 to 25 years old who were HIV-negative or unsure of their HIV status. Participants were recruited for the baseline between May to September 2019 through social media and a network of community-based groups. Statistical analyses were conducted through descriptive statistics, multivariable Poisson regression, and structural equation modelling techniques.

RESULTS: Of 570 participants, 54.0% (n=308) reported ever contemplating suicide, while 13.3% (n=76) had ever attempted suicide. Controlling for key demographic variables, multivariable Poisson regres-

sion revealed that experienced homophobia was positively associated with ever contemplating suicide (aPR=1.02, 95%CI 1.01-1.03) and ever attempting suicide (aPR=1.04, 95%CI 1.01-1.06), which were analyzed in separate models. Mediation analyses revealed that depression severity, outness (degree of sexual orientation disclosure to others), and self-esteem partially mediated the association between experienced homophobia and suicide ideation, while outness partially mediated the association between experienced homophobia and past suicide attempts. Depression severity fully mediated the association between experienced homophobia and past suicide attempts.

CONCLUSIONS: Experienced homophobia is a key factor driving suicide, and thus likely HIV/STI risk-related behaviors among young GBQ men. Beyond HIV/STI prevention efforts in the GBQ male community, interventions may need to focus on the removal of structures that reproduce such forms of stigma, and empower individuals to buffer the effects of such stigma on self-esteem, depression, and quality of life.

PED0965

OVERLAPPING MINORITY STATUSES AND RISK FOR DEPRESSION, SUICIDE AND EXPERIENCED HOMOPHOBIA AMONG YOUNG GAY, BISEXUAL AND QUEER MEN: INSIGHTS FROM THE PINK CARPET Y COHORT STUDY IN SINGAPORE

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BACKGROUND: Gay, bisexual and queer (GBQ) men are disproportionately at risk for mental health disorders relative to their heterosexual counterparts. Minority GBQ men face not only stigma from the general population, but intra-community stigma as well based on their race/ethnicity, body type and/or their gender identity. This study investigates the associations between having these stigmatized minority attributes with various mental health outcomes including depression severity, suicide and experienced homophobia.

METHODS: The study sample was derived from baseline data of the Pink Carpet Y Cohort Study in Singapore comprising a sample of 570 GBQ, gender-diverse men aged 18 to 25 years old who were HIV-negative or unsure of their status upon recruitment. An ordinal variable was constructed to indicate the presence of the number of minority attributes reported by participants, including a non-Chinese race/ethnicity, a body mass index (BMI) of 25 or more, and/or a non-cisgender male gender identity. Statistical analyses were conducted through descriptive statistics and multivariable linear and Poisson regression.

RESULTS: Of the sample, 16.1% (n=92), 16.1% (n=92) and 7.9% (n=45) reported to be non-Chinese, a BMI of 25 or more, and a non-cisgender male gender identity, respectively; 25.6% (n=146) and 7.2% (n=42) reported one, and two or more minority statuses, respectively. Controlling for key demographic variables, being non-Chinese was associated with a past suicide attempt (aPR=1.84, 95%CI 1.13-2.98), depression severity (Beta=1.80, 95%CI 0.26-3.35) and experienced homophobia (Beta=3.51, 95%CI 1.61-5.41); being non-cisgender male was associated with experienced homophobia (Beta=4.04, 95%CI 1.45-6.63); reporting a BMI of 25 or more was associated with depression severity (Beta=1.64, 95%CI 0.11-3.17). Reporting one minority status was associated with depression severity (Beta=1.66, 95%CI 0.35-2.97) and experienced homophobia (Beta=1.79, 95%CI 0.18-3.41), while reporting at least two minority statuses was associated with depression severity (Beta=3.56, 95%CI 1.35-5.77) and experienced homophobia (Beta=6.36, 95%CI 3.64-9.09), as well as a past suicide attempt (aPR=1.27, 95%CI 1.01-1.61), compared to participants without any reported minority statuses.

CONCLUSIONS: Minority GBQ men are more susceptible to depression, suicide and homophobia compared to GBQ men in general, and these risks are compounded with overlapping minority statuses. Interventions are needed to buffer the effects of stigma among minority GBQ men.

PED0966

PSYCHOSOCIAL PROBLEMS MEDIATES THE RELATIONSHIP BETWEEN MINORITY STRESS AND HIV SEXUAL RISK AMONG NIGERIAN GBMSM: ADAPTING THE MINORITY STRESS MODEL

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BACKGROUND: Gay, bisexual and other men who have sex with men (GBMSM) in Nigeria bear a disproportionately higher burden of HIV. Meyer's minority stress theory posits that social stress due to the discrimination, violence and stigma experienced by lesbian, gay, and bisexual men and women (LGBs)—because of their sexual orientation and gender identity—may contribute to negative psychosocial outcomes including mental health problems, substance use, and HIV sexual risk We investigated the mediating effects of psychosocial problems, alcohol use, and illicit drug use on the relationship between minority stress and HIV sexual risk taking among a multisite sample of GBMSM in Nigeria.

METHODS: Between June and August 2019, we recruited 406 GBMSM from Abuja, Delta, Lagos, and Plateau to complete a quantitative assessment at local community-based organizations. We utilized structural equation modeling to assess the association and possible mediation between the five constructs: minority stress, psychosocial problems, alcohol use, illicit drug use, and HIV sexual risk behavior.

RESULTS: Overall, minority stress had a statistically significant positive association with HIV sexual risk taking (β=0.57, p=0.000). We found that psychosocial problems mediated the relationship between minority stress and HIV sexual risk taking. Specifically, minority stress was associated with increased psychosocial problems (β=0.64, p=0.000) , which in turn is associated with lower HIV sexual risk taking(β=0.28, p=0.03)The combined estimated indirect effect was statistically significant (β=-0.18, p=0.04). Lastly, psychosocial problems was significantly associated with both alcohol use (β=0.26, p=0.04) and illicit drug use (β=0.20, p=0.05).

CONCLUSIONS: Our findings suggest that experiences of minority stress may result in more HIV sexual risk taking among GBMSM in Nigeria and that relationship may be mediated by psychosocial problems. This is the first known study to investigate whether the constructs within the minority stress model are quantitatively significant among GBMSM in Nigeria. It is important to devise GBMSM-affirming mental health and substance use cessation intervention programs specifically designed by and tailored for GBMSM in Nigeria.

PED0967

REPRESENTATION AND REGULATION: HOW HOMOSEXUAL MEN ARE POSITIONED IN CHINA'S STATE HIV/AIDS DISCOURSE OVER THE PAST THIRTY YEARS

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BACKGROUND: Previous studies showed that increasing HIV/AIDS risk among homosexual men contributed to the Chinese government to recognize the existence of homosexual men in 2004. Relatedly, it has been suggested that in that same year, China's response to HIV/AIDS shifted from ‚denial' and ‚inactive' to an ‚active' and ‚pragmatic' approach. However, little evidence is available concerning the positioning of homosexual men in official HIV/AIDS discourse before and after 2004. This study explored whether and how China addressed homosexual men in its official HIV/AIDS discourse.

METHODS: This study used a qualitative text analysis method with two types of data representing China's HIV/AIDS discourse: national-level official HIV/AIDS-related documents (including policies, guidelines, regulations; 1987-2019, N=22) and HIV/AIDS and homosexuality-related coverage by the state-run China Central Television (CCTV) (2004-2018, N=12). The text of the media coverage was transcribed verbatim. We analyzed whether and how homosexual men were addressed and interpreted the meaning of the discourse by connecting it to the context.

RESULTS: Three phases could be distinguished within China's official HIV/AIDS-related discourse about homosexual men: 1987-1990; 1991-2001; 2002-present. While homosexual men were explicitly mentioned in phases 1 and 3, they were not addressed explicitly in phase 2, although it is likely that they were included in the category of ‚ugly social phenomenon' that was included. CCTV started to contribute to the public debate on HIV/AIDS and homosexual men as of 2004. The study also identified four aspects of how homosexual men were addressed: managing social and public order; normative awareness-raising and education, which included promoting HIV/AIDS awareness as well as moral conduct and normative sexualities; HIV/AIDS monitoring and testing; and HIV/AIDS epidemiological and behavioral research. Notably, strengthening education on ‚sexual orientation' was included in normative sex education as of 2017.

CONCLUSIONS: In contrast to previous views, this study found that homosexual men were already represented in China's official HIV/AIDS-related documents from 1987 onwards. While China has recently strengthened the HIV/AIDS response among homosexual men population through a behavioral intervention approach, this study found that the persistent focus on normative sex education results in the continued regulation of homosexual men as a result of their non-normative sexuality.

PED0968

HIV STIGMA, HOMOPHOBIA, COMMUNITY CONNECTEDNESS, AND HIV TESTING AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN IN KAZAKHSTAN

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BACKGROUND: HIV prevalence among gay, bisexual, and other men who have sex with men (MSM) in Kazakhstan rose from 1% to 6.1% between 2013 and 2017—yet up to half are estimated to be unaware of their status. HIV testing is key to HIV prevention for MSM in Kazakhstan, yet social factors related to screening are poorly understood. To address this gap, we examine relationships between lifetime HIV testing and internalized HIV stigma, internalized homophobia, and sexual and gender minority (SGM) community connectedness.

METHODS: Data were obtained via structured interviews of 304 MSM in Almaty, Shymkent, and Nur-Sultan in Kazakhstan; this sample represents a cohort of individuals recruited during a NIDA-funded stepped-wedge clinical trial, specifically before implementation of the intervention of interest (August 2018 – February 2019). Respondents were recruited from a variety of physical and online venues. Eligible participants were 18 and over, assigned male, reported at least one incidence of binge drinking or illicit substance use in the past 90 days, and reported sex with a man in the past 12 months. We created composite measures of: internalized HIV stigma (9 items, Cronbach's alpha=0.93; range=0-27); internalized homophobia (9 items, Cronbach's alpha=0.88; range=0-36); and SGM community connectedness (8 items, Cronbach's alpha=0.88; range=0-24). Multivariate logistic regression was used to determine associations between these factors and dichotomized lifetime HIV testing (0=never been tested/1=tested). We report the odds-ratio for each unit increase in predictor variables after adjusting for age, education, employment, income, and sexual orientation.

RESULTS: Approximately 80% of participants reported receiving an HIV test in their lifetime. Analyses revealed a negative association between internalized HIV stigma and past HIV testing (AOR=0.83; CI=0.76-0.91; p<0.001) and a positive association between connectedness to the SGM community and past HIV testing (AOR=1.16; CI=1.05-1.28; p<0.01). Although a negative association was found between internalized homophobia and past HIV testing at the bivariate level (AOR=0.95; CI=0.91-0.99; p<0.05), this association became non-significant after adjusting for covariates.

CONCLUSIONS: Combating HIV-related stigmas and cultivating sexual and gender minority community ties may benefit efforts to increase HIV testing among gay, bisexual, and other men who have sex with men in Kazakhstan.

PED0969

ADDRESSING STIGMA AND DISCRIMINATION AGAINST SEX WORKERS AND MEN WHO HAVE SEX WITH MEN IN PUBLIC HEALTH FACILITIES IN ZIMBABWE

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BACKGROUND: Zimbabwe remains one of the countries in world with restrictive legislation for Key Populations (KPs) with sex work being criminalised and same sex consensual sex punishable by a jail term. Due to this restrictive legal environment KPs continue to face stigma and discrimination in public health facilities and this has resulted in most KPs shunning public health facilities hence getting HIV infection, untreated STIs and poor retention on Anti-Retroviral treatment.

METHODS: To address stigma and discrimination in public clinics, the Ministry of Health and Child Care together with KP led organizations and community developed a Key Populations Friendly Manual for Health Care Providers, Minimum service Package and Job Aid to train nurses in public health clinics to offer KP friendly services to a diverse of Key Populations in 2018. In 2019, 60 Nurses were trained from 30 selected KP sites, Tapping from KP community knowledge the facilities were linked with KP Community-Based Organizations (CBOs) to revive health centre committees where KPs would be sitting in the committees.

RESULTS: From March to December 2019 a total of 218 KPs accessed services in the identified clinics of 135 were Female Sex Workers and 83 were Men who have Sex with Men. In the same period 87% of the nurses served various Key Populations, 83% of the trained nurses reported to have changed their attitudes towards KPs and would not stigmatize and discriminate against KPs, 65% of the interviewed nurses were able to identify KPs who did not self disclose when they came seeking for services in the facilities, 86 % of the patients who accessed services in the trained clinics reported a positive change of attitude, 13% reported that some nurses still stigmatize and discriminate against KPs. 70% health centre committees revived.

CONCLUSIONS: Training of health care providers in public health facilities on KP friendly service provision substantially addressed stigma and discrimination against KPs. Linking clinics, EPMs, KP CBOs and revival of Health Centre Committees greatly improved the negative attitudes that health care providers had against KPs. KPs have started self-identifying in the clinics due to the training of nurses on KP friendliness.

PED0970

INFORMATION-MOTIVATION-BEHAVIORAL SKILLS (IMB) CORRELATES OF ENGAGEMENT IN HIV CARE AND ART ADHERENCE AMONG YOUNG AFRICAN AMERICAN MSM LIVING WITH HIV

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BACKGROUND: Young, African American MSM (YAAMSM) experience HIV-related health disparities. Improving HIV healthcare engagement reduces viral load (VL) preventing HIV-related morbidity and mortality and further transmission. Understanding theory-based behavioral factors associated with HIV care engagement among YAAMSM is essential to design effective care engagement interventions.

METHODS: Using long-chain peer recruitment in two large Texas cities (9/2015 - 7/2016), we enrolled 331 YAAMSM (M_{age}=24.5, range 18-29) living with HIV (confirmed by rapid testing) who completed self-administered surveys on iPads. Self-reported outcomes included: (1) whether participants had an HIV healthcare visit in the past year, and (2) whether last VL test was undetectable while taking at least 90% of ART doses in the past month. T-tests compared mean levels of IMB-relevant psychosocial variables across each dichotomous outcome.

RESULTS: Less than 1/3 of the sample (32.6%; n=108) had received HIV-related healthcare in the previous year; 69.8% (n=183) reported that they were currently taking ART; 53.5% (n=177) reported that their last VL test was undetectable, but only 32.9% (n=109) also reported at least 90% ART adherence in the prior month (Table 1).

	HIV Care in Past Year			Undetectable VL & >90% ART Adherence		
	YES	NO	p	YES	NO	p
INFORMATION VARIABLE						
HIV treatment knowledge	31.55	29.93	<.05	31.92	29.23	<.001
MOTIVATION VARIABLES						
Internalized HIV stigma	15.10	13.75	NS	13.11	14.95	<.05
Healthcare empowerment	17.73	16.57	<.01	17.51	16.63	<.05
Medical mistrust	12.23	13.68	<.05	12.10	13.68	<.05
Internalized heterosexism	11.38	13.42	<.01	11.60	13.22	<.05
HIV discrimination	31.05	34.27	<.10	30.66	34.31	<.05
Treatment optimisiation	12.08	12.34	NS	12.30	12.11	NS
Social support from friends	20.07	20.18	NS	19.26	20.92	NS
Personal responsibility	17.42	16.58	NS	17.36	16.57	NS
Social norm for healthcare	22.66	20.69	<.05	21.67	21.14	NS
BEHAVIORAL SKILL VARIABLES (PROXIES)						
Adherence Self-efficacy resilience	45.57	47.96	<.10	49.29	43.42	<.001
Resilience	74.50	69.23	<.01	74.75	69.14	<.01
*Participants originally diagnosed in last 3 months are not included in analyses						

[Table 1. Correlates of HIV care engagement at baseline]*

We combined adherence and self-reported VL into one outcome because the date of the last VL test was unknown and relying only on self-reported VL would overestimate the proportion who were actually undetectable.

CONCLUSIONS: Multiple information, motivation, and behavioral skill variables were associated with HIV care engagement and reporting an undetectable VL. HIV healthcare engagement interventions for YAAMSM living with HIV should consider strategies to in-

crease knowledge of HIV treatments (information), as well as ART adherence self-efficacy and personal resilience (behavioral skills). To address motivations associated with seeking HIV care and/or being undetectable, programs should help YAAMSM: (1) reduce internalized HIV stigma, medical mistrust, internalized heterosexism, and concerns about HIV discrimination; (2) increase healthcare empowerment; and (3) reinforce social norms that support engagement in HIV care.

PED0971

APPROACHES TO IDENTIFY UNKNOWN HIV POSITIVE MEN WHO HAVE SEX WITH MEN

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BACKGROUND: Identifying unknown HIV-positive persons is critical for effective HIV treatment and prevention. Traditional approaches may be ineffective for stigmatized groups, especially in countries where homosexuality is criminalized. Several studies in the USA have demonstrated that peer recruitment, termed social and sexual network index testing (SSNIT), has improved identification of undiagnosed MSM and sex workers. This has not previously been tested in countries where homosexuality is illegal, however. This study compared the efficacy of SSNIT and VCT for identifying undiagnosed HIV+ MSM in Nairobi, Kenya.

METHODS: Four clinical sites in Nairobi offering HIV prevention, screening and linkage to care services and were registered with the government were randomly selected for this study. Two implemented SSNIT protocols and two offered traditional VTC methods. In each site, participants were tested, filled a survey and were compensated (US$3). In the SSNIT sites, individuals who tested positive or engaged in high risk activities were offered the opportunity to become peer recruiters and receive US$5 for each associate whom they referred and who came in for testing.

RESULTS: 497 participants completed the survey and HIV testing, n=258 (52%) at the SSNIT clinics and n=239 at the VCT clinics. Participants in the experimental and control sites did not significantly differ in any sociodemographic variables. Peer recruiters for the SSNIT strategy recruited between 13 and 51 participants (mean 30). The percentage of newly identified HIV-positive participants (24.4%) was greater at the SSNIT sites than at VTC sites (6.3%). Clinic-level positivity trends in the previous 6 months prior to the study were similar (10.1% and 12.2% respectively). Clinics that used the SSNIT strategy had higher incidence rates of new HIV diagnoses than control clinics (Incidence Rate Ratio =3.98, p<0.001).

CONCLUSIONS: These findings suggest that SSNIT can increase the identification of undiagnosed HIV-positive MSM in a resource-constrained country where homosexuality is criminalized. We recommend additional studies to confirm these findings but also rollout of this approach to help address the challenge of providing effective treatment and prevention of HIV for MSM's in countries such as Kenya.

PED0973

THE STIGMATIZING EFFECT OF "TARGETING" US BLACK MEN WHO HAVE SEX WITH MEN IN THE SOCIAL MARKETING OF PREP: A MIXED METHODS STUDY

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BACKGROUND: Racial disparities in PrEP awareness and uptake suggest a need to prioritize black men who have sex with men (BMSM) in PrEP social marketing initiatives. However, images linking BMSM to sex and HIV may inadvertently reinforce existing stigma. We evaluated the acceptability of targeted PrEP advertisements among BMSM using mixed methods.

METHODS: Our exploratory concurrent mixed methods design included an experimental online survey (n=96) and four focus groups (n=18) with sexually active, HIV-negative/status-unknown, PrEP-inexperienced BMSM (2018-2019). Participants were recruited in East Coast US cities via dating apps, social media, and participant referral. Survey participants were randomly assigned to view 1 of 12 visual advertisements, which systematically varied by level of sexualization (low/medium/high) and couple composition (BMSM couple/Black heterosexual couple/multiple diverse couples/no couples) according to a 3x4 factorial design. The "multiple diverse couples" advertisements featured 4 couples of differing races, genders, and sexual orientations. The "no couples" (control) advertisements included only text. Participants rated 16 dimensions of acceptability (e.g., pleasant, stigmatizing). Sexualization, couple composition, and interaction effects were tested using MANOVA (p<.05). Focus group participants reported advertising preferences and responded to the same 12 advertisements, displayed simultaneously. Transcripts were thematically analyzed.

RESULTS: Survey participants ranged in age from 19-72 years (M(SD)=32(10.7)). Most reported being gay (78.1%) and employed full-time (67.7%). There were significant couple composition effects on advertisement acceptability, but no significant sexualization or interaction effects. Pairwise comparisons revealed that advertisements featuring BMSM exclusively were perceived as more stigmatizing than advertisements featuring multiple diverse couples or no couples; 40.0% of participants viewing such advertisements rated them as "very" or "extremely" stigmatizing. Advertisements with diverse couples vs. no couples were considered more eye-catching, relatable, and memorable. Focus group participants corroborated concerns related to the stigmatization of BMSM, suggesting advertisements featuring BMSM couples could be alienating and fuel PrEP conspiracy theories.

CONCLUSIONS: PrEP social marketing initiatives must consider the historical stigmatization of BMSM when designing visual content to place within advertisements. Displaying diversity within a single advertisement–including BMSM and people of other races, genders, and sexual orientations–could enhance relatability and reach, ultimately supporting the US Ending the HIV Epidemic initiative and similar initiatives worldwide.

PED0974

IMPACT OF UGANDA'S PROPOSED ANTI-HOMOSEXUALITY BILL ON ACCESS TO HEALTH SERVICES BY MEN WHO HAVE SEX WITH MEN IN THE LANGO SUB-REGION IN NORTHERN UGANDA

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BACKGROUND: In February 2014, the Anti-Homosexuality Act was passed by Uganda's Parliament and officially signed into law. Although annulled due to a technicality, it caused spikes in anti-homosexual behavior and discrimination. Public speculation around the reintroduction of this bill in October 2019 led to an increase in violence and arrests against LGBT communities in Uganda. In the Lango sub-region, approximately 260 men-who-have-sex-with-men (MSM) have avoided essential HIV prevention, care, and treatment services due to perceived stigma and discrimination (S&D) against the LGBTQ community. The reintroduction of the Anti-Homosexuality Act would re-inforce and sanction continued S&D against LGBT populations, and potentially further threaten health-seeking behavior. This evaluation examines MSM's experiences of S&D and knowledge of this bill.
METHODS: Programmatic data from the JSI-led USAID RHITES-N, Lango project and qualitative data from focus group discussions (FGD) with 33 MSM and key informant interviews with 7 peer leaders were used to document S&D experienced across the sub-region. Participants were asked to identify ways to improve MSM health service delivery in the event that the bill was reintroduced and approved.
RESULTS: Between October 2018 and September 2019, peer-led hot spot mapping and profiling exercise identified 260 MSM. However, only 57 MSM received services; one new positive MSM started antiretroviral therapy; 21 started PrEP but only 17 are adherent on PrEP despite a sustained risk for HIV infection. Peer leaders expressed fear of being arrested and reported an increased suspicion of clients' activities from health care workers. "I feel like everybody knows or suspects me, I rather keep indoors." "I cannot easily discuss all my medical concerns with health care providers." "I am comfortable here and I would rather receive my care from the community provided by other peers if possible." "I keep moving and shifting my residence for my safety." MSM preferred community-based approaches to care through Drop-in Centers, routine camps, peers, and already identified KP-friendly health care providers.
CONCLUSIONS: This work shows a high level of S&D experienced by MSM seeking health services. The Anti-Homosexuality Bill, if passed, will increase institutional barriers to accessing health care services for the LGBTQ population.

PED0975

HEALTH CARE SEEKING BEHAVIOURS AND CHALLENGES IN ACCESSING HIV SERVICES IN MEN WHO HAVE SEX WITH MEN IN RURAL RAKAI, UGANDA

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BACKGROUND: HIV prevalence among men who have sex with men (MSM) in Uganda is approximately 13.7%. Accessible HIV prevention services are crucial to reduce the increasing new HIV infections. However, in Uganda, same-sex sexual behaviour is criminalised. High levels of stigma and discrimination, and a restrictive and hostile environment for MSM makes it difficult to seek diagnosis and access timely and adequate HIV care treatment. This study sought to understand the health seeking behaviours of MSM and explore the barriers to access HIV health care services in a rural setting in Rakai, Uganda.
METHODS: A qualitative study of 16 MSM in rural rakai, Uganda was conducted targeting men aged 18 years or older who reported at least one episode of sex with another man in the preceding 3 months. Semi structured in-depth interviews were conducted, and snowball sampling was used to identify participants. Audio data was transcribed verbatim, coded using nvivo10 software and analyzed using content analysis approach.
RESULTS: Different challenges and experiences were discussed by MSM as they accessed services, including:
(i) discriminatory practices by health workers at hospitals which leads to concealing sexual identity in order to access any treatment,
(ii) Challenging government health policies like partner notifications,
(iii) limited knowledge and skills by health care providers about MSM- specific services
(iv) negative perceptions from fellow clients who seek health care at facilities
(v) lack of confidentiality and privacy disclosure concerns
(vi) harassment and mistreatment by health care providers including inappropriate reactions like anger, irritation and intrusive questioning by health workers (vii) being denied health services with unnecessary referrals and
(viii) HIV related stigma.
CONCLUSIONS: This study highlights the gaps in provision and access of HIV prevention services among this vulnerable and high-risk group. Concerns in relation to access to services, health care provider relationships and the legal environment arise. Interventions should be designed that target both MSM, health care providers and a safe, legal and friendly environment for access of any HIV services. We recommend a close collaboration between government, health care providers and MSM themselves to create a socially and culturally tolerant environment for a comprehensive HIV care system.

PED0976

EXPERIENCED HOMOPREJUDICED VIOLENCE AND HIV SELF-TESTING UPTAKE AMONG MEN WHO HAVE SEX WITH MEN IN GUANGZHOU, CHINA

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BACKGROUND: Homoprejudiced violence is defined as physical, verbal, psychological and cyber aggression against others because of their actual or perceived sexual orientation. It may lead to fear of coming out and prevent men who have sex with men (MSM) from seeking facility-based HIV testing services. Because HIV self-testing (HIVST) is convenient and protects privacy, it may provide a unique opportunity for the sub-group to test for HIV in a safer environment. This analysis examined the association between homoprejudiced violence experience and HIVST among MSM in China.

METHODS: MSM in Guangzhou completed an online survey in September 2018. Survey participants were born biologically male, 16 years old or above, ever had sex with another man, and were prior facility-based HIV testers. Data drawn from these surveys included 12 items asking homoprejudiced violence experiences of physical assaults, verbal aggression, psychological abuse, and cyber violence, as well as lifetime HIV self-testing. A summative item was generated by combining the 12 violence experience items. Univariate and multivariable binary logistic regressions were used to examine the associations between reported homoprejudiced violence and HIVST.

RESULTS: A total of 718 eligible men were included. Roughly two-thirds (63.0%) of the men were under the age of thirty, and more than half (57.4%) had a university education or above. Three-hundred-seventy-nine men (52.8%) experienced homoprejudiced violence, and most (538. 74.9%) had disclosed their same-sex behaviors to others. Two thirds (484, 67.4%) ever self-tested for HIV. Our regression model showed that men who had disclosed their sexual orientation (AOR=4.93, 95% CI:2.95-8.24) and those who had experienced homoprejudiced violence (AOR=3.05, 1.61-5.77) were more likely to have self-tested for HIV. An interaction effect was identified for sexual orientation disclosure and homoprejudiced violence experience on HIVST uptake. Among MSM who had not disclosed their sexual orientation, those who had experienced homoprejudiced violence were more likely than those who had not to have done HIVST whereas there was no association between the two variables among those who disclosed sexual orientation.

CONCLUSIONS: HIV self-testing can be a good alternative HIV testing choice for those who experienced homoprejudiced violence and did not disclose their sexual orientation.

PED0977

PEER-LED COMMUNITY-BASED INTERVENTIONS ARE EFFECTIVE IN ENSURING HIV-POSITIVE MEN WHO HAVE SEX WITH MEN AND TRANSGENDER PEOPLE ACHIEVE VIRAL SUPPRESSION: EVIDENCE FROM MALAWI

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BACKGROUND: Achieving the third 90 - 90% of people on antiretroviral therapy (ART) virally suppressed - especially among key populations (KP), including men who have sex with men (MSM) and transgender people (TG), remains a major challenge across countries pursuing epidemic control. Between October 2018 and September 2019, the USAID/PEPFAR-supported LINKAGES project, in collaboration with local partner CEDEP, implemented community-led interventions in four districts of Malawi to support HIV-positive MSM and TG to achieve viral suppression.

DESCRIPTION: LINKAGES introduced a combination of strategies, including peer navigation and community-led support groups, to improve support for ART adherence and generate demand for viral load (VL) testing. Trained MSM and TG peer navigators (PNs) – medication-adherent role models living with HIV –provided enhanced support to HIV-positive peers through follow-up visits at their homes and 'safe spaces'. During the visits, PNs conducted motivational counseling sessions on the importance of ART adherence and benefits of VL testing. Eleven support groups were established to clients' literacy on VL, and drop-in centres (DICs) provided reminders to clients who were due for VL testing. Whole blood samples were collected from DICs and transported to laboratories for processing. Clients accessed results at DICs during routine subsequent visits. VL suppression was defined as <1000 copies/ml.

LESSONS LEARNED: A total of 653 (570 MSM and 83 TG) records of KPs living with HIV were reviewed to monitor VL suppression trends over 12 months. Of these, 556 (85%) were on ART and 249 (44.7%) were due for VL monitoring. VL samples were collected and analyzed for 202 clients (81%) [176 MSM and 26 TG], and results were returned for 176 [150 MSM and 26 TG]. Of the 176 with recorded results, 171 (96.6%) [145 MSM and 26 TG] were virally suppressed, representing 96% and 100% suppression rates among MSM and TG, respectively.

CONCLUSIONS/NEXT STEPS: We achieved high rates of viral suppression among MSM and TG people with community-led adherence support and VL demand generation interventions, underscoring the importance of community-led approaches to achieving the 'third 90'. Based on these results, LINKAGES will scale-up these approaches across the entire program in Malawi.

PED0978

PREVALENCE AND CORRELATES OF HIV INFECTION AND UNKNOWN HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN KAZAKHSTAN: EVIDENCE FOR A BREWING SYNDEMIC FROM A MULTI-CITY STUDY

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BACKGROUND: HIV prevalence among MSM in Kazakhstan has reportedly increased from 1.2% in 2011 to 6.2% in 2017. This far outpaces the increase in overall HIV prevalence in Kazakhstan, but there is concern that HIV among MSM in Kazakhstan is underestimated. Using a multi-city sample, we examined correlates of HIV infection—including unknown infection—among MSM from three Kazakhstan cities.

METHODS: MSM from Almaty, Nur-Sultan, and Shymkent are participating in an ongoing NIDA-funded stepped-wedge clinical trial. Analyses utilized data when all sites were in the pre-implementation phase (August 2018- February 2019, *N*=304). Structured interviews elicited self-reported sociodemographics (age, sexual orientation, education, employment, income, city), HIV status, sexual behaviors, substance use, and psychological distress (DASS, Lovibond & Lovibond, 1995) and internalized homophobia (IH scale by Herek *et al.*, 1998). Biologically confirmed HIV status utilized rapid oral tests followed by confirmatory blood Western blot. Mutlivariate logistic regression identified correlates of biologically-confirmed HIV infection. This was followed by exploratory (due to small numbers) analyses to identify correlates of incorrect self-reported HIV status.

RESULTS: Sixty-seven (22%) participants were confirmed as living with HIV. After covariance adjustment for sociodemographics, the following were significantly associated with HIV infection: greater number of male sexual partners (*AOR*=1.4, *95%CI*=1.1-1.8, *p*=.03); binge drinking (*AOR*=2.4, *95%CI*=1.0-5.9, *p*=.04) and illicit substance use (*AOR*=2.6, *95%CI*=1.3-5.0, *p*<.01) in the past 90 days; and greater psychological distress (*AOR*=1.1, *95%CI*=1.0-1.1, *p*=.04). Among the 67 confirmed positives, only 28 (47%) self-reported living with HIV. Bivariate analyses indicated that those who incorrectly knew/reported their HIV status were significantly younger (*p*=.01); had greater psychological distress (*p*=.04) and internalized homophobia (*p*=.02); and more likely to binge drink in the past 90 days (*p*<.01).

CONCLUSIONS: The high prevalence of HIV correlated with substance use and psychological distress among this multi-city sample of MSM in Kazakhstan. Originally developed for MSM in the United States, the syndemic framework—which posits substance use, psychological distress, and HIV are interacting epidemics—may also apply in Kazakhstan. Approaches such as self-testing, drug treatment as prevention, and anti-stigma interventions may be particularly valuable to decrease HIV transmission and unknown infection among MSM in Kazakhstan.

PED0979

AGE, SUBSTANCE USE, AND THEIR RELATIONSHIP TO SEXUAL RISK BEHAVIORS AMONG BLACK MEN WHO HAVE SEX WITH MEN IN NEW YORK CITY

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BACKGROUND: In the United States, Black young men who have sex with men (YMSM) aged 18 to 24 bear the largest burden of HIV among young people in general, and among YMSM in particular. Substance use is associated with sexual risk behavior among men who have sex with men (MSM) and YMSM, yet substance use and sexual risk behavior do not explain higher rates of HIV among Black MSM. Little is known about the association between substance use and sexual risk behavior among Black YMSM.

METHODS: To examine the association between substance use and sexual risk behavior among Black YMSM, we analyzed screening data (*N*=1,009) from an efficacy trial of a couples-based behavioral HIV intervention for Black MSM in New York City. Descriptive statistics and hierarchical linear regression were used to evaluate the relationship between substance use and age (18-24 vs. 25+) on number of sexual partners and acts of condomless anal sex (CAS) in the past 3 months. To examine the impact of age, we used an interaction term of substance use and age. All models controlled for HIV seropositivity.

RESULTS: Of 185 Black YMSM, 33.0% self-identified as HIV-positive, 83.2% reported binge drinking or drug use, 83.8% reported CAS (*M*=20.3, *SD*=27.2), and 60.5% reported concurrent sexual partners (*M*=10.7, *SD*=19.1). Of 824 Black MSM, 65.5% self-identified as HIV-positive, 81.2% reported binge drinking or drug use, 73.9% reported CAS (*M*=13.5, *SD*=21.6), and 56.8% reported concurrent sexual partners (*M*=4.0, *SD*=7.8). Statistically significant interactions were found between age and binge drinking or drug use (*p*<.05), binge drinking (*p*<.01), and marijuana use (*p*<.01) on number of sexual partners. Statistically significant interactions were found between age and cocaine use (*p*<.05) and illicit prescription drug use (*p*<.01) on number of acts of CAS.

CONCLUSIONS: Substance use and sexual risk behavior do not explain higher rates of HIV among Black MSM, but findings from this sample suggest that they may contribute to the disproportionate impact of HIV among Black YMSM. To meet the needs of Black YMSM, HIV prevention interventions for Black MSM may benefit from being tailored to developmental level and addressing substance use and sexual risk concurrently.

PED0980

PARENTING INTENTIONS AMONG YOUNG GAY MEN LIVING WITH HIV IN MEXICO CITY, MEXICO

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BACKGROUND: Young gay and other men who have sex with men (YGMSM) are disproportionately affected by HIV in Mexico. Men in Mexico typically start thinking about fatherhood in late adolescence; however, little is known about Mexican YGMSM's thoughts about childbearing. This issue is complicated by both their sexual identity and their HIV serostatus; however, reproductive justice theory holds

that individuals – regardless of gender or sexual orientation – have a right to bear and raise healthy children. Within this framework, we sought to explore conceptualizations of fatherhood and parenting desires among YGMSM living with HIV in Mexico City.

METHODS: We conducted 16 in-depth qualitative interviews with YGMSM living with HIV in Mexico City. Participants were recruited from two large HIV clinics. Domains of the questionnaire included: (1) parenting desires, (2) preferences about different methods (e.g., adoption, in-vitro fertilization), and (3) perceived barriers. A modified grounded theory approach was used for coding and qualitative analysis.

RESULTS: Participants ranged in age from 18 to 21 (mean 19.4) years, and had been diagnosed with HIV for an average of 17 months (range: 15 days to 6 years). Most participants expressed a desire to have a child in the future, but were uninformed as to their options for doing so. Participants largely preferred adoption as a mechanism for fathering a child, citing a perceived risk of HIV transmission as a deterrent to artificial insemination and other assisted reproductive technologies. However, some participants expressed a desire to have a child that was genetically their own, but shared doubts as to whether this would be feasible. The majority of participants stated that the topic of childbearing had never come up during the course of their routine HIV care.

CONCLUSIONS: YGMSM living with HIV in Mexico City are interested in having children. Our findings suggest a role for future interventions, both to inform YGMSM living with HIV about potential avenues for pursuing parenthood, as well as with to support HIV care providers to initiate discussions about future parenting with their YGMSM patients.

PED0981

PREP USE AND HIV AWARENESS AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN TURKEY: PRELIMINARY RESULTS OF A HORNET SURVEY

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BACKGROUND: Turkey is a low HIV prevalence country. However, the number of new diagnoses has been increasing significantly for the last decade especially among men who have sex with men (MSM). Evidence shows that pre-exposure prophylaxis (PrEP) reduces HIV incidence. Although PrEP is not licensed in Turkey, interest around it is high among MSM. This survey aims to define HIV and PrEP awareness and question current and willingness for future PrEP use among Hornet users.

METHODS: Turkish Hornet Gay Social Network sent out an online survey including 20 questions on PrEp and HIV to Hornet users in Turkey on December 22nd, 2019. Descriptive statistics were used for proportions, and Chi-square and Mann Whitney- U tests to compare variables associated with PrEP use. The survey is still open for responders.

RESULTS: A total of 5853 responses were received; 39% was from the largest metropolitan city, Istanbul. The mean age was 30.6 years [Standard deviation (SD) 9.2; min-max 13-78]; 12.5% were living with HIV and 31.6% did not know their status. Among HIV negative/untested men, 86.9% had heard PrEP from the internet (34.8%), friends (20%), and physicians (15.1%); 23.3% was currently using PrEP. Access to drugs was through physicians (40%), friends (27.9%) or the internet (20.3%) and 82.1% did not inform their physicians about PrEP use. Compared to non-PrEP users, current users had tested for sexually transmitted infections (STIs) more frequently in the last 12 months [odds ratio (OR) 1.3 95% confidence interval (CI) 1,15-1,569], had been involved in chemsex more frequently within the last 3 months (OR 1.6, 95%CI 1,2- 2,1) and had a more satisfactory sex life (OR=2.36, 95%CI 1.96, 2.84). A high proportion (61.5%) of HIV negative or untested men and current non-PrEP users reported that they would consider using it in the following six months.

CONCLUSIONS: The majority of HIV-negative MSM are interested to take PrEP and some are already using PrEP without any medical follow-up. PrEP rollout seems to be an urgent need in Turkey and use of online social networks for education, policy change among drug providers and increased community engagement is critical in this sense.

PED0982

CORRELATES OF VIRAL LOAD TRAJECTORIES IN A DIVERSE COMMUNITY SAMPLE OF HIV-POSITIVE MSM ENROLLED IN AN MHEALTH STUDY

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BACKGROUND: We assessed correlates of viral load (VL) trajectories over a 17-month period among a diverse community sample of HIV-positive MSM residing in New York City and participating in an mHealth antiretroviral (ART) adherence intervention, Thrive with Me (TWM).

METHODS: Demographic, sexual behavior, psychosocial factors, urinalysis for recent drug-use, and VL were collected at baseline and during follow-up (Month-5, Month-11, and Month-17). Level of detection for VL was defined as <20 copies. Participants were classified based on their VL status during the 17-month intervention:
1) Always Undetectable (AUVL);
2) Always Detectable (ADVL); and
3) Variable (VVL;
undetectable and detectable VLs). Differences in baseline demographic, sexual behavior, psychosocial factors, and drug-use toxicology were calculated between the three groups using ANOVA for numeric variables and chi-square for categorical variables. Pair-wise post-hoc comparisons were conducted for significant variables.

RESULTS: 401 participants were recruited for the TWM intervention. Participants, on average, were 39 years old (IQR=30–48). More than three-quarters of participants were racial or ethnic minorities, including 57% African American and 27% Hispanic/Latino. Frequency of participants with detectable VL were found at each of the following time points: Baseline (n=154; 38.5%); Month-5 (n=142; 40.1%); Month-11 (n=127; 39.1%); Month-17 (n=139; 43.7%). During the intervention, 33% and 20% of participants were in the AUVL (n=135) and ADVL (n=82) groups, respectively. Nearly half (n=184; 45.9%) of participants were in the VVL group. Differences were found between the groups in 30-day adherence (p<0.001), life chaos (p=0.02), and a positive toxicology for marijuana (p=0.04), methamphetamine (p<0.001), and amphetamine (p<0.001) use. Pairwise differences in 30-day adherence (AUVL: 92.1 vs VVL: 87.4 vs ADVL: 80.9) and methamphetamine-use (AUVL: 5.2% vs VVL: 15.5% vs ADVL: 28.8%) were significant for all compari-

sons. Differences between the AUVL and ADVL groups were found in marijuana use (33.6% vs 50.0%) and life chaos (15.0 vs 16.8). Amphetamine use differed between AUVL (2.2%) and both VVL (13.3%) and ADVL (22.5%) groups.

CONCLUSIONS: Trajectories of VL this community sample of HIV-positive MSM was associated with different adherence, drug-use, and life chaos profiles. In particular, a positive toxicology screens for marijuana, methamphetamine, and amphetamines are associated with having a persistent detectable VL.

PED0983

DOUBLE BARREL STIGMA: A QUALITATIVE STUDY OF HIV POSITIVE MEN WHO HAVE SEX WITH MEN IN ACCRA, GHANA

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BACKGROUND: Men who have sex with men (MSM) suffer a disproportionate burden of stigma and discrimination associated with their sexuality and HIV status. HIV stigma is believed to be associated with negative psychosocial consequences that affect treatment outcomes. The burden is doubled for MSM living with HIV in countries such as Ghana where there is a legal restriction on their sexual expression. This study sought to explore the experience of stigma among MSM living with HIV using the socio-ecological model. The model explores stigma from four levels: individual, family/peer, community and structural.

METHODS: A qualitative interpretive descriptive which involved obtaining in-depth information from participants about their experiences of stigma was done. Coding interview transcript, categorizing and grouping the narratives, establishing the meaning and forming concrete constructs and themes was undertaken. Verbatim quotations and contextual meanings were reported. The snowballing sampling technique was used to select fifteen (15) participants from a municipal polyclinic, in Accra, Ghana. A face-to-face interview was conducted with a semi-structured interview guide. The interviews were audiotaped, transcribed verbatim and analyzed deductively using thematic content analysis.

RESULTS: The main themes were: adjusting to life as MSM living with HIV, dealing with family/peer acceptance and rejection, facing community abuse and discrimination and seeking institutional support. Individual adjustment was associated with depression and suicidal ideation. Family and peer relationships were broken with some MSM being ejected from home because of disclosing their sexual orientation and HIV status. Participants noted their personal features exposed them to abuse and exclusion from participating in community activities. Efforts at seeking institutional support were inundated with negative attitudes of health workers, inadequate resources for care and the structure of services. Protection and secrecy expected by MSM living with HIV within the care cascade were denied and the MSM were not resilient in openly declaring their identity as MSM and HIV positive.

CONCLUSIONS: The stigma associated with sexual orientation and HIV status impacts the life of MSM living with HIV. Resilience training will enhance the psychosocial wellbeing of MSM living with HIV. Integrating information technology and taking health care services to the 'MSM community' will also improve access to care.

PED0984

CORRELATES OF BEING UNTESTED FOR HIV AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN KAZAKHSTAN

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BACKGROUND: Experiencing a drastic increase in HIV prevalence—from 1.2% in 2013 to 6.2% in 2017, MSM in Kazakhstan are disproportionately affected by the HIV epidemic. HIV testing is a critical point of entry into the continuum of care and treatment services; yet, little is known about potential barriers to HIV testing uptake among MSM in Kazakhstan. To enhance efforts of increasing MSM's engagement in the HIV care continuum, we examined factors associated with being untested for HIV in a sample of Kazakhstan-based MSM who are participating in a NIDA-funded stepped-wedge clinical trial.

METHODS: Recruitment took place in Almaty, Nur-Sultan, and Shymkent at physical as well as digital venues frequented by MSM. Eligibility requirements included: ≥18 years old; residing in a study city; ever identifying as man and/or being assigned male at birth; recent history (past 90 days) of binge drinking or illicitly using a substance; and recent history (past 12 months) of sex with another man. For this study, baseline data, collected from 304 MSM during the pre-implementation phase (July 2018–February 2019), were analyzed. Univariate analysis described the sample's sociodemographic characteristics, sexual behaviors, substance use, and lifetime HIV testing history. Multivariate logistic regression identified sociodemographic and behavioral correlates of being untested for HIV in the sample.

RESULTS: Approximately 20% of participants reported being untested for HIV in lifetime. Among sociodemographic factors, younger age (AOR=0.9, 95%CI=0.9-1.0, p<.01) and bisexual identity (AOR=2.2, 95%CI=1.1-4.3, p=.03) were significantly associated with being untested for HIV. Additionally, having sex under the influence with a male sex partner in the past 90 days (AOR=3.1, 95%CI=1.6-6.3, p<.01) and a decreasing number of substances illicitly used in lifetime (AOR=0.6, 95%CI=0.5-0.8, p=<.01) were significantly associated with being untested for HIV.

CONCLUSIONS: Results highlight the need for facilitating HIV testing uptake among MSM in this sample, particularly those who are younger, and identifying as bisexual. One valuable approach may be through substance use treatment; another may be encouraging those with previous HIV testing experience to engage and/or encourage other MSM to get tested.

PED0985

NEIGHBORHOOD SOCIAL COHESION AND SEXUAL RISK BEHAVIORS AMONG BLACK MEN WHO HAVE SEX WITH MEN IN THE SOUTHERN UNITED STATES: FINDINGS FROM THE MARI STUDY

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BACKGROUND: HIV prevention remains a public health priority among Black MSM, especially in the southern US. No studies have examined associations between neighborhood social cohesion and sexual risk behaviors among Black MSM in the southern US. The current study examines associations between neighborhood social cohesion and sexual risk behaviors among Black MSM in the southern US.

METHODS: Data came from the MARI Study of Black MSM ages 18-66 years recruited from the Jackson, MS and Atlanta, GA metropolitan areas (n=354). Participants completed questions about neighborhood social cohesion and sexual behaviors, and underwent STI and HIV testing. Neighborhood social cohesion was assessed with a 5-item scale: 1) This is a close knit neighborhood; 2) People around here are willing to help their neighbors; 3) People in this neighborhood generally don't get along with each other; 4) People in this neighborhood can be trusted; and 5) People in this neighborhood do not share the same values. The sum of the scores were categorized into low (5-12), medium (13-14) and high (15-20), based on tertiles. We conducted multivariable logistic regression analyses to examine the association between neighborhood social cohesion with multiple sexual risk behaviors (e.g., condomless sex and drug use before or during sex), controlling for age, Latino ethnicity, sexual orientation, level of education, employment status, annual household income, annual income level, history of incarceration, HIV status, and city fixed effects.

RESULTS: Low compared to highest neighborhood social cohesion was associated with increased odds of alcohol use in the context of sex (aOR=2.65; 95% CI=1.46-4.81) and condomless anal sex with casual partners (aOR=2.07; 1.12-3.84). No association was found between neighborhood social cohesion and drug use in the context of sex, having six or more casual sex partners, group sex or asking the partners HIV status.

CONCLUSIONS: Low neighborhood social cohesion was associated with increased odds of alcohol use in the context of sex and condomless anal sex with casual partners among Black MSM in the southern US. Social cohesion should be considered in interventions that focus on alcohol use and condomless sex as a strategy for HIV prevention among MSM.

PED0986

DIFFERENCES IN PREVALENCES OF PREP USE AND NON-USE BY SEXUAL AGREEMENT TYPE AND COUPLE-SEROSTATUS AMONG GAY MALE COUPLES

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BACKGROUND: PrEP use is increasing among gay men. However, relationship status is not often considered while examining rates of uptake. Early findings on attitudes towards PrEP among men in relationships were mixed – along with approval of the potential benefits, concerns emerged about how reduced fears of HIV infection might impact sexual agreements, the disclosure (or non-disclosure) to primary partners of potentially risky sexual episodes with outside partners, and the ensuing influence on relationship trust and communication.

METHODS: We recruited male couples (N=280; 560 individuals) – 80% concordant HIV-negative, 20% serodiscordant – between July 2017 and November 2019 for an HIV prevention intervention trial in the San Francisco Bay Area using active and passive strategies. We present select frequencies related to PrEP use among the HIV-negative participants (N=502) in the baseline assessment by couple-serostatus and agreement type.

RESULTS: The median age was 34 years (SD: 11.5) and median relationship length was 4 years (SD: 7.5). 22% reported monogamous agreements. Overall, 62% reported ever using PrEP.

Couple HIV-status	PrEP use status in the previous 3 months	Total n (%)	Monogamous agreement n (%)	Non-monogamous agreement n (%)
Concordant HIV-negative (n=444)	Did not use PrEP	223 (50%)	86 (39%)	137 (61%)
	Used PrEP	221 (50%)	18 (8%)	203 (92%)
HIV Serodiscordant (n=58)	Did not use PrEP	23 (40%)	7 (30%)	16 (70%)
	Used PrEP	35 (60%)	2 (6%)	33 (94%)

[Table 1: Prevalence of PrEP use among HIV-negative men (N=502) in Concordant Negative and Serodiscordant relationships by Sexual Agreement type]

CONCLUSIONS: Only 50% of HIV-negative men in concordant and 60% in serodiscordant relationships used PrEP, demonstrating a continuing need to increase uptake. As is understandable, the prevalence of PrEP use varies vastly by agreement type with over 90% of those using PrEP reporting non-monogamous agreements. Of note, however, is that across both couple-serostatus groups, among those who did not use PrEP, roughly two-thirds reported non-monogamous agreements. This may indicate the declining role of sexual agreements as "safety agreements". Further, compared to earlier samples from the same location, the proportion of monogamous agreements decreased (from 50% to 22%) suggesting that PrEP may be influencing the type of sexual agreements being formed. These findings speak to the need for partners to incorporate PrEP use explicitly into discussions of sexual agreements in order to better address male couples' unique prevention and relationship needs in the ever-evolving HIV prevention landscape.

PED0987

THE IMPACT OF STIGMA AND SEXUAL IDENTITY ON PREP AWARENESS AND USE AMONG AT RISK MEN WHO HAVE SEX WITH MEN IN 4 US CITIES (HPTN 078)

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BACKGROUND: While PrEP is highly effective in preventing HIV, PrEP awareness and use is lower in some MSM populations. We sought to understand the impact of stigma, sexual identity, disclosure of sexual orientation and LGBTQ community engagement on PrEP awareness and use.

METHODS: HPTN 078 screened 1305 MSM in Boston, Baltimore, Atlanta and Birmingham between 2016-2017 through deep-chain respondent driven sampling. At screening, participants were asked about sociodemographic and behavioral factors, along with PrEP awareness and use. Univariate and multivariate multinomial logistic regression models were used to determine the factors associated with PrEP awareness, nonuse (i.e., PrEP aware) and PrEP awareness and use (i.e., PrEP use) versus non-awareness of PrEP. A mediation analysis was used to further assess the influence of covariates on PrEP awareness and use.

RESULTS: Among 335 HIV-negative men, most were non-white (42.4% African American; 19.7% other race); less than 35 years of age (57.3%); insured (78.9%); and reported some college education (59.1%). The majority of the sample were aware of PrEP (68.3%); of those 52.5% had never taken PrEP. In univariate analyses, internalized stigma decreased the odds of being PrEP aware (0.61; 0.47-0.79) and PrEP use (0.34; 0.22-0.53); community stigma decreased the odds of PrEP use (0.28; 0.12-0.68); homosexual compared to bisexual identity increased the odds of being PrEP aware (4.93; 2.86-8.50) and PrEP use (9.67; 3.74-25.0); disclosure of sex identity increased the odds of being PrEP aware (2.80; 1.42-5.50) and PrEP use (6.19; 2.70-14.2); and LGBTQ engagement increased the odds of being PrEP aware (2.80; 1.42-5.50) and PrEP use (1.85; 1.38-2.47). In an adjusted model, only homosexual vs bisexual identity increased the odds of being PrEP aware (6.28; 2.38-16.6) and PrEP use (15.3; 1.62-144). The mediation analysis indicated that 25-33% of the effect of sexual identity on PrEP awareness and PrEP use is mediated through internalized stigma.

CONCLUSIONS: In this sample, comfort with being homosexual increased PrEP awareness and use, a finding partly mediated through internalized stigma. Given the lower use in minority MSM, stigma interventions that address comfort with bisexual identity may yield greater PrEP uptake.

PED0988

STRUCTURAL VIOLENCE HINDERS AND RESILIENCY ENABLES ACCESS TO SEXUAL HEALTH SERVICES FOR GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN WORLDWIDE

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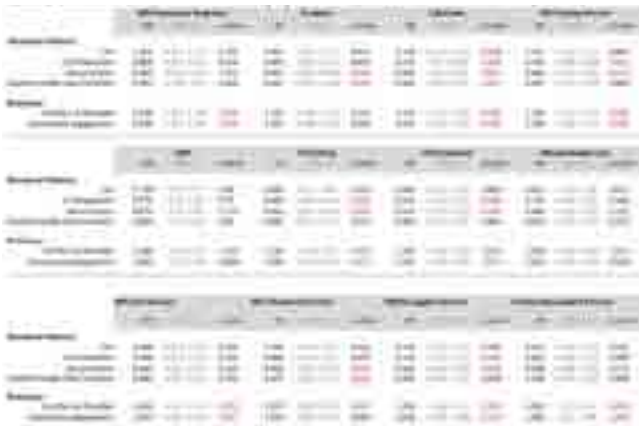
BACKGROUND: Gay, bisexual and other men who have sex with men GBMSM continue to be disproportionately impacted by HIV. Scale up of sexual health services is urgently needed to ameliorate the HIV pandemic. Structural violence SV impedes access to services. We examined impacts of SV, Childhood Sexual Abuse [CSA], Criminalization of Homosexuality, Sexual Stigma [AKA homophobia], Health Provider Discrimination, Comfort w/ Provider, and Community Engagement and Resiliency Comfort with Provider and Community Engagement, on access to sexual health services among GBMSM worldwide.

METHODS: Using global convenience sampling data from the 2019-20 Gay Men's Health and Rights online survey, in ten languages, we evaluated associations between SV/resiliency, and accessibility of 12 sexual health services. We fitted GEE logistic regression models with robust standard errors, accounting for clustering by country among 2,172 GBMSM.

RESULTS: Structural Violence: Poor access to all 12 services were significantly associated with greater sexual-stigma. Additionally, poor access to condoms, lubricants, and HIV-treatment services were associated with more provider-stigma; and poor access to lubricants, HIV-testing, PrEP, STI-testing, STI-treatment, and PWUD-support services were associated with criminalization.

Resiliency: Good access to all 12 services were associated with having comfort with providers. In addition; good access to HIV-prevention, lubricants, HIV-testing, PrEP, STI-testing, STI-treatment, HIV-care, PWUD-support, and community-support services were associated with community engagement.



[Table 1. Structural violence and resiliency by sexual health services for GBMSM worldwide]

CONCLUSIONS: Although poor access to all services had been found to be associated with CSA in previous bivariate analyses, no significant associations were found in current multivariable analyses. This may result from CSA being a distal determinant of outcome variables, relative to the others which occurred within last 6-months. Findings indicate that efforts to prevent and treat HIV among GBMSM should be coupled with structural interventions to reduce sexual stigma

generally and specifically among health providers, overturn homosexuality criminalization policies, and support community engagement activities among GBMSM.

PED0989

PREFERENCE FOR PRE-EXPOSURE PROPHYLAXIS (PREP) AND USE OF POST-EXPOSURE PROPHYLAXIS (PEP) AMONG MSM IN SHENZHEN, CHINA

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BACKGROUND: Both pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) are recommended by the WHO to prevent HIV infections. In China, PrEP has yet to be adopted by the national guidelines but there is an estimated increasing demand for PrEP, even PEP has been widely used. This study aims to explore MSMs' acceptance of PrEP and factors associated with use of PEP.

METHODS: A venue-based cross-sectional study was conducted among men who have sex with men (MSM) in Shenzhen, China, in 2018. A total of 1,542 participants completed questions on both PrEP and PEP. Descriptive statistics were used to analyze the willingness to take PrEP and previous use of PEP. Univariate and multivariable logistic regression analyses were performed to examine factors associated with previous use of PEP.

RESULTS: Overall, 67.1% (1035/1542) of the participants were willing to take oral pills or injection of PrEP. Among those who were interested in taking PrEP, the majority (828/1035, 80%) preferred oral pills over injection. Event-driven PrEP (710/896, 79.2%) was slightly more favored than daily-basis PrEP (696/896, 77.7%). In addition, for those who had taken PEP (53/1542, 3.4%), 86.8% (46/53) had taken at least a 28-day full course regimen of PEP; still, over half of them (30/53, 56.6%) had at least once failed to take the full regimen. Multivariable logistic regression analyses showed that previous use of PEP is associated with inconsistent condom use in oral sex (AOR=2.42, 95% CI: 1.01-7.16) and in anal sex (AOR=1.51, 95% CI: 0.77-3.13) in the past 6 months and having HIV testing previously (AOR=3.01, 95% CI 1.41-7.46). Having missed doses of PEP is associated with self-identifying as gay (AOR=39.7, 95% CI: 1.91-2086.0) and bisexual (AOR=54.4, 95% CI=1.94-3737.7), and inconsistent condom use in anal sex (AOR=8.40, 95% CI: 1.45-73.6).

CONCLUSIONS: The level of willingness to take PrEP observed in the present study is high and consistent with the existing literature conducted in China. Sexual behaviors and HIV testing history may be correlated with previous uptake of PEP. Concerning the high interest in PrEP and poor adherence to PEP prescriptions, future HIV prevention programs can provide MSM with necessary information on taking PrEP and PEP.

PED0990

ANALYSIS OF MULTI MEDIA INTERVENTIONS FOR TESTING, PREP, PEP AND OTHER PREVENTION STRATEGY AWARENESS, REACHING KEY POPULATIONS IN THAILAND

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BACKGROUND: Men who have sex with men (MSM) remain the population most affected by HIV infection in THAILAND, and pre-exposure prophylaxis (PrEP) had not been implemented until 2016. The purpose of this study was to study the effectiveness of multimedia campaigns in reaching hard to reach populations through using Facebook, YouTube, and Instagram videos.

DESCRIPTION: The Love Foundation created the Speak OUT campaign and promoted this campaign across social media channels like Facebook, YouTube and others from March 2019 to December 2019. A survey was conducted between November 22nd and December 22nd, 2019. The survey included 9 questions regarding age, residence, HIV serostatus, PrEP-related indications, PrEP awareness, willingness and current use (confirm adjust). Users were invited to take the survey by responding to app inbox messages via Hornet. Responses from the same IP address were excluded. We used latent class analysis to group individuals with similar patterns of HIV risk behaviors to determine which groups would be currently using PrEP and most willing to use PrEP as well as testing other novel HIV awareness messages such as U=U.

LESSONS LEARNED: There were a total of 3,009 responses, of which 1,335 reported HIV-negative or unaware of one's serostatus and were eligible for this analysis. The best-fitting latent class analysis model described three distinct classes: (1) Traditional Safer Sex (53%), those who mostly use condoms and has lowest HIV risk; (2) Newly Sexually Active (20%), those who are much younger, mostly untested for HIV, and unaware of post-exposure prophylaxis (PEP) or PrEP; and (3) Current Style (27%), those who practice condomless anal intercourse. PrEP was the most effective message, with 67% reporting successfully understanding the campaign. However, messages relating to understanding U=U (40.1%) and HIV testing (59.8%) were not as well received.

CONCLUSIONS/NEXT STEPS: Our research has identified three distinct patterns, which may help care providers and policy makers develop tailored strategies that facilitate the uptake of PrEP by such key population appropriately. More research is needed to understand the challenges to population struggles in understanding U=U, an important concept to improve HIV prevention, and lowering stigma.

PED0991

CHANGES IN HIV RISK AND PREVENTION BEHAVIORS AMONG MEN WHO HAVE SEX WITH MEN IN CHINA OVER TIME FROM 2012-2018

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BACKGROUND: Men who have sex with men (MSM) have a disproportionate burden of HIV infection and high rates of risky HIV-related behaviors.

This study aimed to explore the changes of the characteristics in HIV risk and prevention behaviors in China over time from 2012-2018 among MSM.

METHODS: The data were collected (n=22,532) in Chengdu city between 2012 and 2018 through standardized face-to-face interviews. The participants were recruited among MSM who received voluntary counselling and testing services (VCT) provided by the largest local nongovernmental organizations (NGOs). We used Chi square test to explore trends in behavioral changes and run logistic regression models to determine risk factors associated with HIV-related risk behaviors.

RESULTS: Of all the 22,532 MSM, 92% aged 18-45; 64.1% attended college or university; 75.1% were single. MSM who aged 46-72 with low-level education is more likely to engage in anal sex without condoms. Results reveal significant changes in sexual risk and prevention behavior over time, including an increase in the rate of sexual prevention activities including life-time HIV testing rate and consistent condom use rate, but also an increase in rate of some sexual risk behavior, such as having multiple sexual partners. The prevalence of condomless sex rate decreased from 58.8% in 2012 to 39.4% in 2018 and prevalence of life-time HIV testing increased from 51.7% in 2014 to 75.5% in 2018). Significant increase was found in the number of sexual partners in the past six months (the prevalence of having more than 5 sexual partners increased from 7.3% at 2014 to 11.6% at 2018). In addition, significant changes in the modes of partner-seeking: the percentage of MSM who seek partners through online social media increased from 43.7% in 2014 to 70.3% in 2018).

CONCLUSIONS: We found significant improvement for condom use and HIV testing among MSM over time. Besides, the number of sexual partners over time was significant , which may due to that gay apps and online platforms have rapidly expanded their partner-seeking opportunities. Future research is warranted to investigate risk factors and behaviors associated with gay app use as well as explore potential sexual health interventions via these apps.

PED0992

HIV SELF-TESTING TECHNOLOGIES AND THE IMPORTANCE OF "THE RELATIONAL": THE PERSPECTIVES OF MEN WHO HAVE SEX WITH MEN ON ORAQUICK KITS IN KENYA

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BACKGROUND: Men how have sex with men (MSM) in Africa are highly vulnerable to HIV infection, owing to individual, socio-environmental and structural risk factors. These factors continue to influence access to HIV services, including HIV testing. HIV self-testing (HIVST) technologies are not only convenient but may also address access barriers related to stigmatization, which inhibits HIV testing. Our qualitative study aimed to examine the feasibility of introducing HIVST as part of a larger intervention focus on MSM. The goal was to generate evidence to inform program planning to reach, earlier, the undiagnosed segment of MSM populations.

METHODS: Following a community-based approach, we conducted an exploratory qualitative study in three counties in Kenya— Kisumu, Mombasa and Kiambu—working in close collaboration with community-led organizations. In total, 72 MSM agreed to enroll in the prospective qualitative cohort, to be followed over a one-year period, and to participate in open-ended, semi-structured interviews at three time points. We report on the first time point. We trained community researchers to design and use an interview guide that examined participants' reactions to and perceptions of a sample HIVST testing kit provided to them. Data were analyzed using a participatory approach that involved community researchers and their supervisors. Ethical clearance was gained through Kenyatta National Hospital and the University of Manitoba.

RESULTS: Participants' generally reacted favorably when given the kits to examine. In individualistic terms, they thought the technology was convenient to use, the directions clear, and the users would have control over the time and space for testing. Participants envisioned problems with the kits, however, in relational terms. Some participants anticipated HIV status disclosures during the kit's disposal, worrying that neighbors or partners might find the kits. Although some participants felt the technology could discreetly fit into a bag, others commented that the kits were not "pocket friendly" for sex work.

CONCLUSIONS: HIVST holds considerable potential for reaching undiagnosed MSM by increasing testing uptake. However, policy makers and program planners need to consider the relational concerns of MSM living in crowded contexts (such as informal settlements, where privacy is not easily afforded) and doing sex work.

PED0993

COMMUNITY MSM-LED SERVICE DELIVERY: HIV POSITIVITY RATES AND TARGETED TESTING TOWARDS HTS EFFICIENCIES AMONG 10,000 MSM IN SOUTH AFRICA

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BACKGROUND: While constitutionally protected, MSM in South Africa remain stigmatized and marginalized from health services. Bisexual MSM are a bridging population between MSM and the general population. OUT is an MSM-led South African LGBT NGO with 25+ years of experience. With funding from USAID, OUT established the Engage Men's Health (EMH) program to improve HIV case finding, ART and PrEP coverage for MSM in South Africa.

DESCRIPTION: EMH began services in April 2019 and offers HTS, ART and PrEP. A drop-in-center and five outreach teams operate in Johannesburg, and a team in each Nelson Mandela Bay and Buffalo City. During HTS, clients provide demographic and behavioral information to promote data-use towards a client-centric approach. 10,263 clients were provided HTS during start-up (April – September 2019). 87% self-identifying as bisexual, gay or MSM, though nearly 60% indicated sex with both men and women. Overall 489 positives (140 known and 349 new) were identified (4.76%). 33.4% of those accessing HTS were first time testers, which accounted for 32% (110/349) of new positives. Highest positivity rates were seen among MSM age 40-44 years (8.62%, 67/710), followed by those 45-49 years (7.66%, 35/421). Higher positivity rates were seen among MSM reporting sex with men only (7.64%, 210/2534), than among MSM reporting sex with men and women (3.22%, 190/5,715).

LESSONS LEARNED: Leveraging the reputation of a local and recognized peer-led MSM organization resulted in client trust and HTS uptake. Behavioral data aligned to HTS results, in that predictors of

positivity included older MSM, gay/MSM-identified, sex with men only, and receptive anal sex. Skilled peer outreach workers and on-the-ground management is required to actively identify high-risk and older MSM rather than passive presence within social venues.

CONCLUSIONS/NEXT STEPS: Programs should transition from strategies that reach and identify MSM at friendly social venues, to broader outreach coverage to more effectively reach older and first-time testers. High levels of bisexuality suggest MSM should also be considered a bridging population, with increased effort made to identify and provide HTS to female partners of MSM. To reach all MSM, programs should include non-gay branding and market services as male SRH services.

PED0994

USE OF DRUGS, CHEMSEX AND RISK OF HIV AND OTHER SEXUALLY TRANSMITTED INFECTIONS AMONG MSM IN MOSCOW REGION

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BACKGROUND: There is a lack of integrated HIV-prevention and Harm Reduction services aimed at MSM in Russia. Community-Based VCT (CBVCT) MSM clients informally report use of different types of drugs. Between July 2018 and June 2019, a quantitative survey was conducted to define the risk profile of MSM drug users, monitor the HIV/Hepatitis C prevalence and find appropriate ways of introducing drug use risk reduction counselling into CBVCT activities.

METHODS: All clients of the LaSky Community Service Center completed the survey about use of psychoactive substances, incl. Chemsex, sexual behavior, sociodemographic characteristics and rapid testing results. In total, 1348 MSM giving their information consent were interviewed. Differences between MSM drug users and non-users with respect to risks of HIV/Hepatitis C contraction were studied.

RESULTS: 27,3% of MSM reported use of psychoactive substances: 26,7% - non-injectable and 3,3% injectable ones. 12% of Chemsex-users were HIV-positive. Stimulants are the most frequent type of drugs: 52,7% of MSM non-injectors used mephedrone, ecstasy, amphetamines, GHL/GBL, cocaine, crystal methamphetamine and ketamine. 59,5% of users took drugs to make sex feelings longer and intensive. Compared to non-users, MSM drug users (predominantly non-injectors) were more likely to be young men aged 21-30 and 'internal' Russian migrants. In the last twelve months, users were more likely to be engaged in penetrative sex with PWUDs (54,1% and 17,3%, p.<0,01) and HIV-positive men whose HIV-status they were aware of (47,4% and 32,7%, p.<0,1).No differences were found between users and non-users with respect to condom use (60,6% and 61,7%), prevalence of HIV (11,8% and 11,4%) and Hepatitis C (2,8% and 1,4%, respectively).

CONCLUSIONS: Most MSM drug users are vulnerable to HIV and STIs due to younger age and migration status. High level of STIs and absence of difference in HIV-prevalence between users and non-users can be explained by the facts that overwhelming majority of users takes non-injecting substances and about half of users consume substances associated with Chemsex. Existing CBVCT services are preferable place to engage drug using MSM and extend integration of Harm Reduction services into HIV/STI prevention programs for MSM.

PED0995

REACHING HIGH CLASS MEN-WHO-HAVE SEX WITH MEN (MSM) THROUGH SOCIAL MEDIA: A TOOL FOR IMPROVING ACCESS TO HIV SERVICES FOR HARD-TO-REACH MSM

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BACKGROUND: The conventional peer education approach to reach men-who-have sex with men (MSM) usually leaves out high profile MSM, who are very discrete with their sexuality and mostly do not participate in community-level HIV programs. However, most civil society organizations in Ghana implementing MSM programs are yet to fully understand and utilize social media as an intervention tool for reaching high-class MSM. Under the New Funding Model II Key Population (KP) HIV program being led by West-Africa Program to Combat AIDS & STI (WAPCAS) in collaboration with CEPEHRG, a Sub-recipient implementing part of the MSM program, the use of social media was piloted to reach this category of MSM and refer them for services.

DESCRIPTION: The program adopted the use of social media handles including Facebook, WhatsApp, Grinder and Planet Romeo targeting high-class MSM. A dedicated desk was set up solely to identify high profile MSM online. Clients reached through social media apps were referred to KP-friendly nurses from Ghana Health Service to access HIV testing services through an appointment-based system. Clients were provided the option of choosing the health facility they would like to visit due to several factors including proximity, fear of stigma, etc. MSM reached had physical contact with only healthcare providers without having direct contact with peer educators due to the issue of trust and their wish for unanimity.

LESSONS LEARNED: In 2019, this approach reached 62 MSM and referred same for HIV testing services (HTS). All the clients referred tested for HIV with no positive yield. However, the counseling sessions revealed that most of them were engaged in high-risk sexual behaviors hence the need to scale-up interventions for this sub-population.

CONCLUSIONS/NEXT STEPS: Follow-up this cohort of high-profile MSM and their sexual networks for index HIV testing, reach them with risk reduction messages, condoms and lubricants to ensure they remain negative. Pilot this strategy with high-class female sex workers for HIV and other reproductive health services.

PED0996

COMMUNITY SYSTEMS STRENGTHENING IS KEY FOR SUSTAINABLE HIV RESPONSE AMONG MSM AND TGH. EVIDENCE OF LONG TERM IMPACT FROM THE PEHCHAN PROGRAMME IN INDIA

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BACKGROUND: India HIV/AIDS Alliance along with consortium partners implemented Pehchan programme (from 2010 to 2015), a Global Fund supported program targeted toward MSM Transgender, and Hijra populations (MTH) in 18 priority states in India and has reached 436,000 MTH with value added services. The program fo-

cused around community system strengthening, capacity building of the 200 community based organizations, and creating evidences for policy changes related to MTH. India HIV/AIDS Alliance conducted a study to measure the long term impact of the program on the community and prgoramme outcome areas.

METHODS: Modified CRISP (Community, Resources, Institutional and Processes) methodology was adopted. Multistage sampling (three stages) method was used to select the respondents for the study with mixed method (quantitative and qualitative) data. 245 structured interview, 21 FGDs, 36 IDI/case studies, 82 KIIs were conducted. Descriptive and comparative analyses were carried out using Pehchan endline study as base. CRISP score was also calculated to understand the sustainability of the project.

RESULTS: 116 CBOs were functional at the time of closure of the project in 2015 in the study states. Findings showed that in 2019, four years after the program had ended, 85 (73%) of CBOs were still in existence of which 55 were implementing HIV services projects, 30 were existence but not having any projects. Community mobilization and collectivization continued upward after Pehchan ended (from 67% in 2015 to 83% 2019) as more community members being registered with local CBOs/networks. CRISP score for the Community Pillar was 69% which suggests that the impact of Pehchan on community-related aspects has been high. The CRISP consolidated score of availing HIV services was 86% which informed a very high long - term impact.

CONCLUSIONS: Evidence from this study suggests that community involvement, its rights-based collectivization, and mobilisation of MTH community members continued to have an impact after the program ended. Together these results show that investments in community systems are sustainable and can effectively complement formal health systems in expanding the reach to marginalised populations. More Investments on CBOs will lead more inclusive HIV response in long term achievement.

PED0997

ASK AND TELL: FACTORS ASSOCIATED WITH HIV SEROSTATUS DISCLOSURE AMONG 711 MEN WHO HAVE SEX WITH MEN IN CHINA

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BACKGROUND: HIV disclosure has been researched for years among men who have sex with men (MSM). However, majorities of the literature focused on HIV-positive MSM but ignored HIV-negative or unknown MSM, who are expected to present different knowledges, concerns, and behaviors. The aim of this study was to investigate multilevel factors associated with HIV disclosure among MSM with various status in China.

METHODS: A cross-sectional survey was conducted among 711 MSM who were recruited through 15 gay-friendly non-governmental organizations located in 15 cities of China during 2018-2019. Inclusion criteria were male older than age 18 years old and self-reported anal intercourse with at least one man in the last six months. We collected information on participants' HIV serostatus disclosure behaviors (ask and tell) and potential multilevel correlates using a structured questionnaire. Individual level correlates included self-reported HIV status, HIV specific health literacy, HIV testing history, and risk perception for HIV infection. Interpersonal level correlates included sex with different types of partners, inconsistent condom use, drug use during sex, venue to look for partners, and the role in the sexual intercourse. Validated scales were used for these measurements. Univariate and multivariate logistic regression were used for data analyses.

RESULTS: Of the 711 participants, 41.4% told all partners their HIV status all the time while 30.4% asked all partners about their HIV status all the time. Participants were more likely to tell partners HIV status if they reported themselves as HIV-negative (AOR=1.41; 95% CI: 1.01-2.11), presented high HIV literacy (AOR=1.10; 95% CI: 1.01-1.19), and had sex with regular partners (AOR=1.52; 95% CI: 1.05-2.28). However, participants were less likely to tell HIV status if they perceived lower risk of HIV infection (AOR=0.65; 95% CI: 0.47-0.88) and had receptive sex only (AOR=0.61; 95% CI: 0.42-0.89). Similar results were found for participants' asking behavior.

CONCLUSIONS: The overall HIV serostatus disclosure was low among this urban representative sample of Chinese MSM. Programs aiming to promote HIV serostatus disclosure should support HIV testing, increase health literacy, and inform risk for HIV infection. Subgroups who were less likely to ask/tell HIV status should be identified to provide additional support.

PED0998

SOCIAL COHESION, STIGMA, AND HIV RISK AMONG MEN WHO HAVE SEX WITH MEN, TRANSGENDER WOMEN AND GENDERQUEER INDIVIDUALS IN TWO CITIES IN ZIMBABWE

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BACKGROUND: Stigma and social cohesion may be associated with HIV risk. However, little data describing these associations are available among men who have sex with men (MSM) and transgender women/genderqueer (TGW/GQ) individuals in Zimbabwe.

METHODS: MSM and TGW/GQ individuals aged 18 years and older were recruited in Harare and Bulawayo for a bio-behavioral survey using respondent-driven sampling (RDS). Consenting participants (n=1511) completed questionnaires and received HIV testing. Sexual orientation and gender identity stigma was assessed with no/yes items inquiring about enacted discrimination in healthcare and community settings. Exploratory factor analysis was used to determine an internally consistent, Likert-type social cohesion scale (Cronbach's alpha=0.83). Measures were quantified by dichotomizing summed responses at the median. Multiple logistic regression models were used to assess associations of stigma and social cohesion with HIV risk adjusting for age and gender identity. Estimates are RDS-unadjusted as the sample did not reach convergence for HIV.

RESULTS: Prevalence of stigma above the median was 63.9% in Harare and 59.7% in Bulawayo. Stigma was associated with testing HIV positive in Harare [adjusted odds ratio (aOR)=2.00, 95% confidence interval (CI)=1.31-3.06] and Bulawayo (aOR=1.68, 95% CI=1.16-2.45). Stigma was not associated with condom use at last sex with a casual or main male partner or HIV testing. Prevalence of social cohesion above the median was 37.2% in Harare and 72.0% in Bulawayo. Social cohesion was associated with decreased condom use at last sex with a casual male partner in Harare (aOR=0.54, 95% CI=0.32-0.91) and Bulawayo (aOR=0.43, 95% CI=0.21-0.88), and was not associated with other outcomes (Table).

	Social Cohesion (high vs. low)		Stigma (high vs. low)	
Outcome Variable[1]	Harare	Bulawayo	Harare	Bulawayo
	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)
HIV positive	0.76 (0.51, 1.13)	0.70 (0.48, 1.02)	2.00 (1.31, 3.06)	1.68 (1.16, 2.45)
Used condom at last sex (main partner)	1.00 (0.72, 1.39)	0.88 (0.62, 1.24)	0.73 (0.52, 1.02)	1.10 (0.80, 1.51)
Used condom at last sex (casual partner)[2]	0.54 (0.32, 0.91)	0.43 (0.21, 0.88)	1.25 (0.73, 2.13)	0.67 (0.37, 1.21)
Ever tested for HIV	0.69 (0.43, 1.10)	1.03 (0.68, 1.55)	0.96 (0.59, 1.56)	1.16 (0.80, 1.68)

[1]All models were adjusted for age and gender identity [2]Models restricted to those with ≥1 casual sexual partner in last 6 months (Harare: n=362, Bulawayo: n=319)

[Table. Association of social cohesion and stigma with HIV-related outcomes and behaviors among MSM and TGW/GQ individuals in Harare and Bulawayo, Zimbabwe, 2019]

CONCLUSIONS: Findings suggest the need to address stigma among MSM and TGW/GQ individuals in Harare and Bulawayo. Decreased condom use with casual partners among those with high social cohesion suggests that trust between MSM and TGW/GQ individuals may influence HIV risk perception. Interventions should promote condom use among MSM and TGW/GQ individuals in Zimbabwe.

PED0999

INDEPENDENT ASSOCIATIONS OF STRUCTURAL DISADVANTAGE AND DISTRESS TOLERANCE WITH CONDOMLESS ANAL SEX IN A SAMPLE OF MEN WHO HAVE SEX WITH MEN WITH HISTORIES OF CHILDHOOD SEXUAL ABUSE

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BACKGROUND: Men who have sex with men (MSM) are at disproportionate risk for HIV/STI transmission through condomless anal sex. MSM with histories of childhood sexual abuse (CSA) are at more elevated risk for HIV/STI infection compared to those without such histories. Previous research has highlighted both psychological and structural correlates as risk factors associated with frequency of condomless anal sex. Few studies have focused on resiliency factors, which may buffer these associations. This analysis sought to examine the association of distress tolerance with condomless anal sex over and above the effect of psychological and structural risk factors.
METHODS: MSM with histories of childhood sexual abuse (CSA; N=108) completed informed consent, clinician-administered and self-report assessments. Hierarchical ordinary least squares regression was used to test associations between psychological risk factors (Post-traumatic stress disorder (PTSD) symptomology and crystal methamphetamine use), number of structural barriers (i.e., government-sponsored income, unstable housing, and neighborhood crime), and distress tolerance with number of condomless anal sex episodes in the past three months. All procedures were approved by Institutional Review Boards at Massachusetts General Hospital, Fenway Community Health, and University of Miami.
RESULTS: PTSD symptomology (B = 0.010, SE = 0.006, p = .086) and crystal methamphetamine use (B = 0.993, SE = 0.559, p = .079) were marginally associated with more episodes of condomless anal sex. When number of structural barriers and distress tolerance were added to the model, more structural barriers endorsed was associated with more episodes of condomless anal sex (B = 0.432, SE = .146, p < .01). Higher distress tolerance was associated with fewer episodes of condomless anal sex (B = -0.380, SE = 0.156, p <.05). The R2 value in the final model was 0.183.
CONCLUSIONS: Distress tolerance and structural disadvantage have independent associations with condomless anal sex in high risk MSM. Interventions among populations at high risk for HIV should be multilevel, considering both integration of existing evidence-based strategies (e.g., Dialectical Behavior Therapy) to improve distress tolerance as well as structural interventions (e.g., case management) to ameliorate structural disadvantage.

PED1000

LOW HIV TESTING AMONG MEN WHO HAVE SEX MEN IN GHANA: IMPLICATIONS FOR ACHIEVING THE FIRST 90 TREATMENT TARGET

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BACKGROUND: HIV testing remains the cornerstone of any HIV prevention effort. Reduction of HIV infection among Key Populations (KP) is one of the key priorities of the current National HIV and AIDS Strategic Plan (2016-2020). HIV impacts key populations such as men who have sex with men (MSM) disproportionately. The Prevalence of HIV among MSM is 18.1% which is 11 time higher than that of the general population.
METHODS: This study used secondary data of the 2017 Bio-Behavioural Survey (BBS) among MSM in Ghana. The inclusion criteria for MSM to participate in the BBS were if they were; biologically male; aged 18 years or older; consensual sex with another man in the last 12 months (self-reported) and if they lived/worked/socialized in either one of the study regions in Ghana. Response driven sampling was used to recruit 4,095 participants. Data was analysed using STATA 10.0, statistical significance was performed with significant level of 0.05.
RESULTS: HIV testing estimates across study regions and the number of HIV positive on treatment was found to be relatively low, only 24.3% of participants reported having accessed HIV testing in the last 12 months.
It was found that HIV testing estimates differed per study region. The highest testing prevalence was found in the Eastern region. 69.2% of the study sample in the Eastern Region reported ever having tested for HIV and received their results. The lowest testing prevalence were recorded for participants in Northern Ghana, where 24.1% of the study sample reported ever having tested and receiving their test results.
Region specific estimates also showed that those who have never tested for HIV constitute 72.5% of MSM sampled in Northern Ghana whilst 30.8% of MSM sampled in the Eastern region reported to have never tested for HIV.

CONCLUSIONS: To achieve the first 90 in Ghana by 2020, a targeted effort is required to reach MSM. This can be done making health facilities friendly for MSM community and promoting index testing.

PED1001

WELL-BEING OF LGBTI+ PEOPLE AS AN ESSENTIAL ELEMENT OF THE GLOBAL HIV RESPONSE

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BACKGROUND: Social, economic and structural factors can contribute to the higher transmission of HIV in sexual minorities, dissuade them from seeking treatment, and fuel mental health issues. Unfortunately, data about these factors are lacking in many low- and middle-income countries, hampering the HIV response among the community that needs it the most.
A global Lesbian, Gay, Bisexual, Transgender, Intersex and plus (LGBTI+) happiness survey was conducted to examine how various demographic, economic, socioecological, homophobic, psychosocial, attitudinal and behavioural variables potentiate HIV risk behaviour.
METHODS: We used a socioecological approach to identify the relevant variables, selecting established instruments with validated questions and scores.
Members of the LGBTI+ community were involved in each step of the survey, i.e. protocol development, pilot tests, implementation and analysis.
This anonymous survey was accessible in 30 languages from May to December 2019 through a secure encrypted internet link.
It was broadcasted worldwide through LGBTI+ social networks and social media. The survey was also promoted at country-level thanks to the support of national LGBTI+ organisations, activists, and development partners.
RESULTS: Responses were collected from a convenience sample of 115.644 LGBTI+ participants from 197 countries and territories. Our initial findings indicate that stigma and discrimination is keeping 34% of the participants away from accessing health care facilities for their sexual health or for HIV-related services. Moreover, 26.7% never had a HIV test. Globally, self-reported HIV prevalence is 10.6% among participants and 11% of those who report that they are living with HIV are not accessing treatment. Among those accessing treatment, 20.4% are not virally suppressed. Data show significant disparities between countries. The majority (55%) of LGBTI+ living with HIV are additionally confronted with HIV stigma, leading most (77.6%) of them to disclosure concerns. A large share (14%) of participants report severe psychological distress.
CONCLUSIONS: The survey brings new data on discrimination, inequalities, mental health and well-being of LGBTI+ population from 197 countries and territories. It additionally provides data on HIV-related behaviour, access to HIV services and HIV-related stigma. Forthcoming analysis of the relationships between these socioecological variables and the vulnerability to HIV infection could help shaping a better tailored HIV response.

PED1002

A MIXED METHODS STUDY TO EXAMINE DISCONTINUATION OF PREP AMONG YOUNG MEN OF COLOR WHO HAVE SEX WITH MEN (YMSM)

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BACKGROUND: While pre-exposure prophylaxis (PrEP) is an effective HIV prevention method, uptake among some of the most at-risk populations is slow. Young men of color who have sex with men (YMSM) are one of these populations; while awareness of PrEP is high among this group, uptake remains low. One area in which little has been reported are reasons for discontinuation of PrEP within this population.
METHODS: Data described here are a part of the Healthy Young Men's Cohort Study (HYM), a mixed-method study focused on the HIV prevention and care continua among YMSM of color (N=448). Using an explanatory, participant selection mixed-method design, we conducted analysis with four waves of survey data (representing two years) and one-on-one qualitative interviews (n=22) with YMSM who reported past and/or current PrEP use to better understand reasons for discontinuing PrEP use among YMSM of color.
RESULTS: Of the 82 YMSM who reported any PrEP use (22% of those eligible from cohort), 50 (61%) reported consistent PrEP and the remainder discontinued and/or were inconsistent. Quantitative analysis found that consistent users were more likely than those who discontinued use to have a partner on PrEP (p > .001), have a doctor who asked about their sexual activity (p>.001), have a higher number of sex partners (p > .01), and report recent use of poppers (p > .01). Qualitative data identified two primary reasons for discontinuing PrEP. First, changes in insurance status forced some YMSM to stop filling their PrEP prescriptions. These changes were related to aging out of the ACA mandates and as well as frequent changes in employment, which often translated into changes in insurance . Second, participants described conducting a risk assessment of their behavior, often concluding that they are not "high risk" and therefore do not need PrEP.
CONCLUSIONS: Risk profiles of YMSM are dynamic and their use of PrEP may change based on their own assessment of risk. Initiating PrEP use requires both access to providers through consistent insurance as well as providers who are willing to prescribe; discussions about YMSM's sexual behavior can help initiate discussions about PrEP and encourage YMSM to be adherent.

PED1003

REPRODUCTIVE INTENTIONS AMONG GAY AND BISEXUAL MEN INITIATING PREP IN THE SUSTAINABLE HEALTH CENTER IMPLEMENTATION PREP PILOT STUDY, UNITED STATES, 2014-2016

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BACKGROUND: The use of HIV pre-exposure prophylaxis (PrEP) by a partner without HIV can reduce the risk of sexual HIV transmission. PrEP use does not adversely affect male fertility or pregnancy outcomes, and a man's reproductive intentions might influence PrEP use during condomless sex while attempting conception with a partner who has HIV. Studies have assessed PrEP use and reproduc-

tive intentions among HIV-negative women. Few studies have examined the reproductive intentions of HIV-negative gay and bisexual men (GBM) . We assessed reproductive intentions and associated correlates among GBM enrolled in the Sustainable Health Center Implementation PrEP Pilot (SHIPP) study.

METHODS: We analyzed baseline data from men who self-identified as gay or bisexual (n=1,275) who participated in the SHIPP study. SHIPP was a prospective cohort study of PrEP implementation in five community health centers in Chicago, Jackson, Philadelphia, and Washington, D.C. conducted from 2014 through 2016. Participants completed audio computer-assisted self-interviews that queried intentions to have a child in the future, sexual orientation, whether they previously fathered a child, marital status, HIV status of their sexual partner(s), and condom use. We estimated the association between GBM's reproductive intentions and their characteristics using Poisson regression models and calculated unadjusted and adjusted prevalence ratios (aPR) with 95% confidence intervals (CI).

RESULTS: Approximately 46.6% (n=594) of GBM indicated their intentions to have a child in the future. Black/non-Hispanic (aPR =1.40; 95% CI: 1.10, 1.78) and other/non-Hispanic GBM of color (aPR=1.40; 95% CI: 1.01, 1.93) were more likely to report intentions to have a child in the future. Respondents were less likely to report intentions to have a child in the future as age increased (30-39 years, aPR=0.80, 95% CI: 0.64, 0.99; 40-49 years, aPR=0.49, 95% CI: 0.33, 0.72; 50+ years, aPR=0.07, 95% CI: 0.02, 0.21).

CONCLUSIONS: Nearly half of respondents reported intentions to have a child in the future. GBM of color were more likely to report intentions to have a child in the future. Health care providers offering PrEP to GBM of color at increased risk for HIV acquisition should assess their reproductive intentions and incorporate family planning counseling into their healthcare when indicated.

PED1004

PARTNERSHIP TYPE AND SEXUAL PARTNER SEROCONCORDANCE ARE ASSOCIATED WITH CONDOMLESS ANAL INTERCOURSE AMONG MSM SEXUAL PARTNERSHIPS IN SAN FRANCISCO

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BACKGROUND: 60% of newly diagnosed HIV cases disproportionately affect cis-gender men who have sex with men (MSM) in San Francisco, CA. Most studies focus on individual-level characteristics for reducing high risk sexual behavior rather than understanding partnership-level characteristics. We conducted this analysis to examine if there is an association between condomless anal intercourse and partner type, partner disclosure of HIV status, and sexual partner seroconcordance.

METHODS: We conducted a secondary analysis of sexual partnerships (up to three most recent partners) from a cross-sectional MSM study in San Francisco, CA from March 2015 to July 2017. We conducted bivariate analysis among exposure variables of interest. We used Student-Newman's coefficient to evaluate whether the partners were similar across MSM networks by partner type (primary vs casual), HIV status, partner disclosure of HIV status and sexual partner seroconcordance. The variables that were similar (above p>.20) were placed in a multi-variate analysis. Multivariable generalized estimating equation logistic regression model was used to evaluate association between condomless anal sexual intercourse with partner type, HIV status, sexual partner seroconcordance, where they met the partner, receptive anal sex, and partner disclosure of HIV positivity.

RESULTS: This analysis is from 227 MSM with 535 of their most recent sexual partnerships in the past 6 months. 154 (37%) of the partners were HIV positive, of whom 44 engaged in condomless anal intercourse with detectable viral loads (n=36, $\lambda 2$ =58.6, p=.00). Of the HIV negative partners, only 27% were taking PrEP and engaged in condomless anal intercourse (n=86, $\lambda 2$ =13.3 p=.00). In partnerships of known HIV status, 76% of the MSM were in sexual relationships with their same known serostatus (n=44, $\lambda 2$ =24.3 p=.00). In multi-variate analysis, condomless anal intercourse was significantly associated with casual or primary partner (aOR=0.896, 95% CI =0.834- 0.956, p=.00) and partner seroconcordance (aOR = 0.753, 95% CL=0.656-0.865, p=.00) were associated with lower odds of condomless anal sex.

CONCLUSIONS: Partner type and sexual partner seroconcordance are protective exposures for condomless anal intercourse among MSM. These finding suggest that partner-level interventions should be taken into account when developing HIV prevention interventions.

PED1005

SOCIAL AND DATING ONLINE PLATFORMS AS AN OPPORTUNITY TO REACH NIGERIAN MSM WITH HIV SERVICES. THE EXPERIENCE OF THE LAGOS COMMUNITY HEALTH CENTRE

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BACKGROUND: Provision of HIV prevention, care and treatment services for key populations (KPs) is priority for achieving 95-95-95 targets and epidemic control in Nigeria. The DOD HIV Walter Reed Program in Nigeria and HJF Medical Research International collaborate with Population Council Nigeria in deploying a One Stop Shop (OSS) model that actively engages KP influencers as trained peer educators and service providers in the seamless integration of HIV services provided at the OSS community health center and though mobile Community ART teams (CART). In 2019 the OSS identified social and online dating MSM sites as emerging "hotspots" for providing HIV information and linkage to services.

DESCRIPTION: Five trained MSM peer influencers and mentors were selected amongst existing MSM peers, based on communication skills, use of social and dating platforms, and influence on peers. The intervention included mapping of top Nigerian MSM online social and dating sites and the development of a list and schedule of "hot-topics" information (OSS services, clinic information and contact information of peers). This information is visible on dating status page and basic tracking systems identify OSS/CART service users who were reached in chat rooms and on dating platforms.

LESSONS LEARNED: Based on utilization, WhatsApp chat rooms and Grindr were selected for the intervention. Since implementation started in January 2019, WhatsApp and Grindr were referenced by 1,958 MSMs who showed up at the OSS and at mobile CARTs, by 196 MSM who accessed first time HIV testing, and by 60 MSM newly diagnosed with HIV. An important segment of the MSM who were reached through social media were male sex workers, representing 10% of the 19,582 MSM reached by the program as of October 2019.

CONCLUSIONS/NEXT STEPS: The utilization of existing online MSM social and dating platforms presents an opportunity to scale up the reach of different MSM typologies and their partners with HIV information, escorted referrals and linkages to the OSS and mobile CART team HIV and STI services. This especially important, in societies characterized by the strong presence of stigma and discrimination, human rights abuse and weak community and social support.

PED1006

DEPRESSION, HIV RISK BEHAVIORS, AND PERCEPTIONS OF RISK AMONG YOUNG BLACK MEN WHO HAVE SEX WITH MEN (YBMSM) IN LOS ANGELES COUNTY, CALIFORNIA

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BACKGROUND: YBMSM continue to experience higher rates of new HIV infections compared to other population groups within the United States. Depression has been associated with high-risk sexual behavior and injection drug use. Thus, we sought to understand the relationship between depression and HIV behavior and perceptions of HIV risk among YBMSM in Los Angeles County.

METHODS: Between November 2016 and September 2018 peer health educators recruited YBMSM (n=250) aged 18-24 years from public venues and partner organizations for the PPOWER project. PPOWER explored the influence of peer support on HIV protective behaviors among marginalized YBMSM. Interviewer-assisted questionnaires included measures of sexual risk behaviors, depression symptoms (CES-D), sexual self-efficacy, substance use, and perceptions of HIV risk.T-tests and Spearman correlations were utilized to analyze the quantitative data.

RESULTS: At baseline, 40.0% reported exchanging resources (drugs, money, or shelter) for unprotected sex, 29.6% had unprotected sex with a partner known/suspected to have HIV/STI, 21.2% had unprotected sex with a partner known/suspected to inject drugs, 63.4% had sex under the influence of drugs/alcohol. Higher mean depression scores (n=249) were associated with all four high-risk sexual behaviors as follows: 1) Exchanging unprotected sex for resources (t(246)= 5.392, p<.001), 2) Unprotected sex with a partner known/suspected to have HIV/STI (t(247)= 2.883, p<.001), 3) Unprotected sex with a partner known/suspected of injecting drugs (t(245)= 7.314, p<.001), and 4) Sex under the influence of drugs/alcohol (t(246)=3.177, p<.01). Higher mean depression scores were also associated with lower sexual self-efficacy with non-main sexual partners (rs=-.211, p<.05), lower perception of risk of harm related to sharing unsanitized needles (rs=-.315, p<.001) and lower perception of risk of sex without a condom or dental dam (rs=-.137, p<.05).

CONCLUSIONS: Depression among YBMSM is associated with high-risk sexual behaviors, lowered sexual self-efficacy, and low perception of risk for HIV risk behaviors, which can result in adverse health outcomes including HIV/STIs. These findings point to the need for innovative interventions to address mental health issues, perceptions of HIV risk, and strategies for reducing sexual risk behaviors. A collective commitment to improve mental health and quality of life among YBMSM is required to decrease current HIV seroconversion rates among YBMSM.

PED1007

ANTICIPATED AND ACTUAL EXPERIENCES OF DISCONTINUING PREP REFLECT THE 'IMAGINED FUTURES' AND EVERYDAY CONCERNS OF GAY AND BISEXUAL MEN, RATHER THAN HIV RISK: IMPLICATIONS FOR SERVICE PROVISION AND HEALTH PROMOTION

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BACKGROUND: Now that many barriers to accessing pre-exposure prophylaxis (PrEP) in Australia have been removed, there is increasing interest in the reasons people discontinue PrEP. While clinical guidance documents for prescribers recommend discussing PrEP discontinuation with patients, these documents generally focus on HIV risk, and adherence to the dosing requirements, rather than on contextual factors that may be more pertinent to PrEP users.

METHODS: In-depth interviews were conducted with 59 participants from two PrEP demonstration projects conducted between 2014 and 2018 in Victoria, Australia. Of these participants, 42 also took part in follow-up interviews approximately 18 months later. Participants were asked to anticipate reasons why they might stop taking PrEP in the future, and to describe any experiences of taking a break from, or discontinuing, PrEP. Interviews were digitally recorded and transcribed. NVivo12 software was used to manage and code these data, and the material was examined using a Critical Discourse Analysis (CDA) approach.

RESULTS: All 59 participants were gay or bisexual men, including 2 trans men. Anticipated reasons for discontinuing PrEP were framed in terms of participants' everyday concerns or 'imagined futures', rather than being explicitly related to HIV. Entering a new relationship was cited as a potential reason for discontinuing PrEP, although usually framed in terms of 'love' or 'monogamy' rather than HIV risk. Similarly, re-evaluations of personal HIV risk were framed in terms of imagined futures that included decreased sexual activity due to ageing and/or decreased sexual desirability; and worries about side-effects and/or toxicity were related to body image concerns, as well as beliefs about pharmaceuticals and HIV antiretrovirals. Some participants anticipated being able to stop PrEP only when they were in a better state emotionally, with PrEP representing control that extended beyond HIV. Among participants who actually discontinued PrEP due to entering a relationship, this discontinuation symbolised the meaningfulness of the relationship to one or both partners (with HIV risk de-emphasised).

CONCLUSIONS: These findings provide useful insights for service provision and health promotion interventions. Reframing PrEP in ways that correspond to the actual concerns of users is vital in supporting patients/clients to anticipate discontinuation, and to prevent unintentional breaks.

PED1008

LINKING KENYA HOUSING POLICY, HIV PREVENTION AND QUALITY OF LIFE AMONG QUEER REFUGEES: A STUDY OF RONGAI, KAJIANDO-BASED REFUGEE SHELTER, 2017-2019

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BACKGROUND: An LGBTIQQ identity, non-citizen status and social status provide problem contexts affecting housing stability. Kenya has an ambivalent refugee policy, legal dispensation and policy strategies targeting refugees help reduce housing dispossession and health-related morbidity. The aim of the study was to highlight the link between housing policy and Queer refugee housing stability.
METHODS: Research design N-48; research methods were Key Informant, questionnaire administering, checklist analysis, eligibility testing (48 eligible out of 59). Only respondents who had lived in Kenya since 2017 were eligible.
RESULTS: In the last 1 year, rent, utilities and food were paid for. All respondents reported that both a refugee and LGBTIQQ identity could lead to eviction or dispossession without recourse to courts of law for compensation. 6 respondents living with HIV stated that housing and nutrition provided through Shelter programmes were crucial for ARV Adherence and viral suppression. The Civil Servants (Housing Scheme Fund) Regulations, 2004, bars refugees from benefitting from equity release clauses, they can't own homes and cannot benefit from the „affordable housing scheme". This affects one's social mobility and stable housing. Lacking right documentations and not earning the required salary caps disqualify refugees from accessing social services including access to home loans or housing units under the Kenya housing schemes programme.
CONCLUSIONS: There is a link between identity, financial, political, religious, social, cultural and legal status. These not only affect housing stability but can lead to other vulnerabilities such as poor ARV adherence for those living with HIV. Ensuring proper documentation enhances one's eligibility for social support but for Queer refugees this means seeking safer spaces too.

PED1009

PRACTICAL STRATEGIES TO IDENTIFY TRANSGENDER, GAY AND MEN WHO HAVE SEX WITH MEN AND LINK TO HIV SERVICES: EXPERIENCE FROM RWANDA

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BACKGROUND: The risk of HIV acquisition in 2018 globally was estimated to be 28 times higher among men who have sex with men (MSM) as compared to heterosexual men (UNAIDS special analysis, 2018). In Rwanda the prevalence of HIV among adults aged 15- 49 is approximately 3% and among MSM is estimated to be 4%. Although homosexuality is not criminalized in Rwanda, MSM face extensive stigmatization and systematic discrimination. This in turn leads to poor health seeking behaviors and a reluctance to disclose their status as MSM and affect services tailored to this population.
DESCRIPTION: Numerous strategies and steps have been used to reach isolated MSM and refer them to HIV services in Kigali City and three districts of Southern Province over a period of five years (2015-2019). Those include: Engaging leaders of existing LGBTIs associations-- Involving MSM peer educators-- Organizing MSM community events to target influential MSM who may not be involved in associations/groups-- MSM Key informants-- Recruitment of MSM Community Health Workers-- Training of Health Care Providers-- Use of Technologies (social media including watsapp groups etc.)-- Index partners and partner notification for those diagnosed HIV positive-- Selection of locations for MSM services delivery sites by measuring the neighboring community behaviors towards the MSM lifestyle—Educating/sensitizing surrounding community and law enforcers to reduce stigma--Regular supply of MSM products (water-based lubricants and condoms).
LESSONS LEARNED: Over the course of the five years of this program, over 2500 new MSM in Kigali City and three districts of Southern Province were reached with over 160 HIV positive diagnosed and high achievable linkage to treatment. Which is the highest figure in whole country for programs implemented targeting transgender, Gay and MSM. Implementing stated innovative strategies, proved a highly effective way of reaching more MSM.
CONCLUSIONS/NEXT STEPS: Engagement and training of service providers and the general community need to continue to encourage integration of this marginalized and often vulnerable population. In order to curb the spread of HIV and improve heath seeking behaviors, especially among MSM, innovative strategies for integration and access to services specifically tailored to MSM are vital.

PED1010

KNOWLEDGE, ATTITUDES AND PRACTICES OF POLICE OFFICERS TOWARDS KEY POPULATIONS IN ZIMBABWE

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BACKGROUND: Among other reasons, the high HIV prevalence among key populations has been related to abuse and stigma from police officers. To understand the Zimbabwean situation better, we conducted a study to assess the knowledge, attitudes and actions of police officers towards sex workers and men who have sex with men. The study also sought to identify advocacy and capacity issues for improving police officers attitudes and practices towards KPs.
METHODS: A descriptive cross sectional study design was used. Quantitative and qualitative data was collected from police officers, sex workers and organisations that deal with MSM. 424 police officers were interviewed through Interviewer administered questionnaires, 20 focus group discussions were conducted with sex workers and five key informants were interviewed. Epi Info version 3.5.3 statistical package was used to analyse quantitative data. Thematic content analysis was carried out for the focus group discussions.
RESULTS: 75.6% of the study participants had limited knowledge of HIV prevention methods whilst 6% had no knowledge. Regarding KPs vulnerability to HIV, 10% (95%CI: 7.3%-13.3%) of study participants agreed with the statement that all key population are HIV positive with 90% (95% CI: 86.7%-92.7%) disagreeing. 60% of the study participants had arrested FSW, 14.3% had arrested MSM in the past two years. 269 police officers(64%) expressed their willingness to build collaboration with key populations in their work. Only 10 (2.4%) disagreed on building collaboration with key populations. The majority 68% of the study participants were of the attitude that they can help in eliminating unequal treatment of key populations. The majority

(63.6%) of the study participants would accept their relative or colleague if they belong to any of the key population subgroups and are willing to be reoriented (90.1%) to improve the policing of key populations. However they were some study participants (36.4%) who responded that they will not accept either a relative or colleague identifying as KPs.

CONCLUSIONS: Most of the police officers have limited knowledge on HIV prevention methods and had limited knowledge on groups that constitute key populations. The majority of the officers have arrested sex workers while the minority had arrested MSM for various reasons.

PED1011

DO I TELL MY DOCTOR? FACTORS ASSOCIATED WITH MSM SEXUAL ORIENTATION DISCLOSURE IN HEALTH CARE, RESULTS FROM THE LATIN AMERICAN MSM INTERNET SURVEY (LAMIS)

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BACKGROUND: In most Latin American countries, stigma related to non-heteronormative sexualities impacts health policies and the personal relation with health care providers. In some countries/societies, disclosure of same-sex sexual behavior in health care settings is associated with access to prevention strategies. This study aimed to examine factors associated with disclosure in health care in Latin America (LA).

METHODS: LAMIS was a cross-sectional online survey responded by 64,655 adult MSM in Latin America, from January to May of 2018, assessing demographics, sexual behavior, mental health, HIV and other STI data. For this analysis, the outcome "Disclosure in health care" was defined based on reporting that the health care professional (HCP) at the most recent STI test (in the last 12 months), "definitely knew" they had sex with men. A multivariable Poisson regression model adjusted by country was used to measure associations between this outcome and demographic variables, including sexual identity, "outness" towards family and friends, and HIV status. We used data from 18 Latin American countries, excluding participants with discrepant answers.

RESULTS: In total, 25.482 participants had an STI test in the last 12 months, of which 14.486 (56.85%) reported disclosure of same-sex sexual contacts towards the HCP, with proportions ranging from 28% on Venezuela to 63% in Mexico and 87% in Guatemala. Compared to men aged 18-24, all older age strata had a lower adjusted prevalence ratio of disclosure in health care. Living in cities larger than 500.00 inhabitants were positively associated with disclosure (aPR:1.07;95%CI:1.03-1.11). Overall outness was positively associated with disclosure (aPR:2.12;95%CI:1.91-2.35 for "out" to all vs. "out" to none), so as diagnosed HIV (aPR:1.30,95%CI:1.28-1.33).

CONCLUSIONS: Even with the disparities between Latin American countries, more than half of the sample reported disclosure of sexual orientation to their HCP. Living in larger cities, coming out to family and friends and diagnosed HIV are social experiences that could facilitate the expression of sexuality at health services. A societal climate allowing for general outness, particularly in smaller settlements, might facilitate disclosure and therefore better health care access in LA.

PED1012

PREVALENCE OF CHEMSEX AMONG MSM IN INDONESIA AND ITS ASSOCIATIONS TO HIV RISK BEHAVIOURS

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BACKGROUND: A bulk of evidence from previous research inform that chemical use during sexual encounter (Chensex) among MSM has been a significant risk factor to HIV transmission among MSM. HIV prevalence among MSM is 25% in 2015, the highest among key affected populations in Indonesia. No data available for this phenomenon and as a consequence, no programmatic effort has been developed. This study aims to estimate prevalence of chemsex among MSM and to identify its associated factors.

METHODS: A cross-sectional web survey using adapted questionnaire from European MSM Survey (EMIS) was used to collect the data from 1881 respondents across 32 out of 33 provinces in Indonesia. A descriptive statistic was used to provide the prevalence of the chemsex and logistic regression was used to determine the associations between chemsex and independent variables.

RESULTS: About one out of three MSM reported chemsex in the last 12 months. Almost all (91percent used poppers as the main substance. Only 14,63 percent reported crystal methamphetamine in the chemsex in the same period. MSM who practice chemsex were more likely having commercial sex, sexual partners, HIV positive, STI experience and mental health problems than MSM who do not practice chemsex.

CONCLUSIONS: MSM who practice chemsex are at the higher risk of HIV acquisition due to the high prevalence of HIV among MSM in general. Therefore it is a mandatory for the HIV program in Indonesia to integrate harm reduction approach targeting MSM who practice chemsex into the existing MSM program.

INTERSECTIONAL IDENTITIES AND MULTIPLE VULNERABILITIES TO HIV AND CO-INFECTIONS

PED1013

MULTILEVEL PREDICTORS OF PREP USE AMONG MEN OF COLOR WHO HAVE SEX WITH MEN IN THE UNITED STATES

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BACKGROUND: Men who have sex with men (MSM) of color in the United States (US) are at disproportionate risk for HIV, and despite its availability, Blacks and Latinos account for the smallest percentage of PrEP prescriptions. Furthermore, although >50% of HIV diagnoses in 2017 occurred in the South, residents of this region only just accounted for 25% of PrEP users. The data suggests that minority identity as well as regional factors may be important drivers of PrEP uptake.

METHODS: May 2015-March 2016, we conducted a cross-sectional survey among a geographically diverse sample of MSM in the US. Based on participant residential zip code, the survey data was linked

to publicly available state-level data, including state-level LBGTQ+ and racial equality measures. Multilevel logistic regression was used to explore the association of variables at the individual, social, and state-level with current PrEP use.

RESULTS: Of 1,465 HIV-negative participants, 13.6% were currently taking PrEP. In the adjusted regression model, residents of states with high LGBTQ+ equality had significantly higher odds of taking PrEP compared to those in low equality states (aOR=2.0, P=0.03). In addition, those who did not identify as gay (i.e. MSM who identified as heterosexual, bisexual, or other) (aOR=0.5, P=0.01) and those who identified as Hispanic (aOR=0.7, P=0.05) or Asian (aOR=0.5, P=0.02) had lower odds of PrEP use compared to those identifying as gay and Black respectively.

Those of middle age had higher odds of PrEP use (30-39 years: aOR=1.5, p=0.04) compared to the youngest group (<29 years). Social measures such as having a main partner who was HIV+ (aOR=3.6, p=0.001) or HIV-negative and on PrEP (aOR=12.8, p<0.0001) was associated with a higher odds of PrEP use, as was having a higher number of partners in the past 3 months (2-5 partners: aOR=3.9, p=0.0005; >5 partners: aOR=6.7, p<0.0001 versus 0 partners) and a recent STI diagnosis (aOR=2.6 P<0.0001).

CONCLUSIONS: Several individual and social-level factors were associated with PrEP use among MSM of color. In addition, state-level LGBTQ+ equality may facilitate PrEP uptake. Implementation of policies that reduce equality may hinder expansion of PrEP in this high-risk group and impact our ability to end the epidemic.

PED1014

MEETING THE NEEDS OF PEOPLE LIVING WITH HIV/AIDS AND EXPERIENCING HOMELESSNESS IN SAN FRANCISCO THROUGH INTERAGENCY PARTNERSHIP AND MOBILE MULTI-DISCIPLINARY MEDICAL ENGAGEMENT

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BACKGROUND:

HHOME takes a mobile, multi-disciplinary approach to meeting the needs of PLWHA experiencing homelessness. It targets PLWHA not engaged in HIV treatment, with low CD4 count, detectable viral load, high emergency department/hospital utilization, no primary care, substance use disorders, severe mental illness, and homelessness. Program goals include offering low-barrier, client-centered medical, psychiatric, and addiction treatment outside of clinics, offering medication adherence support, increasing access to shelter and supportive housing, decreasing emergency department/hospital utilization, and strengthening citywide coordination of care.

DESCRIPTION: The HHOME team comes from four city agencies and consists of a physician, nursing staff, a housing case manager, a medical case manager, and two peer navigators. The staff work in mobile dyads at shelters, streets, encampments, hospitals, and treatment programs, and operate two weekly drop-in clinics. The team engages clients with a harm-reduction approach. HIV medications are started as soon as possible; otherwise, treatment begins with options including vitamins, psychiatric/addiction medication, and prophylaxis. The team links clients to shelter and permanent housing. To locate disengaged clients, the team uses persistent outreach. Once clients have two appointments in a clinic, are stably housed, have benefits, and are at a lower acuity, they transition to less-intensive case management.

LESSONS LEARNED: Since 2014, the HHOME program served over 160 individuals, of which 61 participants were enrolled in a longitudinal study from 2014 to 2017. At 12 months after enrollment, 83.6% had two HIV primary care appointments, 60% were virally suppressed, 83.6% transitioned to stable placement, and 73.8% entered supportive housing. The authors will review and summarize long-term data now available, including death rate, disengagement from care, and eviction, to update these findings. Multi-disciplinarity, mobility, and system re-organization are key elements in HHOME's success. Team collaboration facilitates close linkages between clients' primary care, HIV treatment, and housing process.

CONCLUSIONS/NEXT STEPS: HHOME is a successful model for treating medically acute and socially complex clients. It offers lessons that can be applied to other locations and populations. This upstream investment in system reorganization and mobile, high-intensity, and client-driven care improves community viral suppression and leads to cost savings by increasing care efficiency and reducing utilization of emergency services.

PED1015

AMANDA SELFIE, A TRANSGENDER CHATBOT: INNOVATIONS TO IMPROVE ACCESS TO HIV INFORMATION AND PREP SERVICES AMONG ADOLESCENT MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN BRAZIL

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BACKGROUND: HIV infection has increased among adolescent men who have sex with men (AMSM) and transgender women (ATGW) in Brazil. Pre-exposure prophylaxis (PrEP) may contributed to reduce HIV incidence in these groups. Nevertheless, two main challenges are to be overcome: scaling-up information about PrEP and linking AMSM and ATGW to healthcare facilities. Aiming to respond to these challenges, we have developed an artificial intelligence chatbot (AIC).

DESCRIPTION: The AIC, named "Amanda Selfie", is part of PrEP1519, a demonstration study among AMSM and ATGW aged 15-19 years, ongoing in three Brazilian cities: Salvador, Belo Horizonte and São Paulo. Amanda was developed with the participation of AMSM and ATGW and conceived to be a transgender robot. Available 24/7 on Facebook Messenger, it emulates chat-based conversations on sensitive subjects: STI, PrEP and combination prevention (CP). Through an on-line quiz, it can identify those in high risk for HIV, inform about CP and schedule appointments to PrEP1519 clinics.

LESSONS LEARNED: As part of Amanda's development, an experimental phase took place between June-December 2019. 747 people accessed the chatbot and 63 (8.4%) were AMSM and ATGW 15-19 yo; among those, 73% reported HIV risk practices. Most frequently asked topics were PrEP, HIV/AIDS and PEP. Doubts related to sexual experience, sexual orientation and gender identity were frequent. 20% of those accessing Amanda and belonging to the target groups (n=13) scheduled appointments to PrEP1519 clinics and 10% showed up to consultations.

CONCLUSIONS/NEXT STEPS: Frequently asked topics show a high demand for information on HIV/AIDS and Amanda's potential to improve AMSM and ATGW information on CP. Questions on sexuality indicate Amanda was seen as a reliable space to talk about personal experiences. Its capacity to reach the target group is still limited and might be due to: being hosted in a new page, unknown by adolescents beforehand; being linked to a single social network (Facebook); and depending on user's initiative. The low number of adolescents scheduling appointments through Amanda may be due to its limited conversation flow. Next steps include linking Amanda to existing applications, pages, and groups used by AMSM and ATGW. Also, implementing a shorter, multiple-ended dialogue flow.

PED1016

WALKING A FINE LINE: UNDERSTANDING THE OVERLAP OF SEX WORK AND YOUNG WOMEN IN SOUTH AFRICA

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BACKGROUND: Adolescent girls and young women (AGYW) account for a disproportionate number of new HIV infections globally. In South Africa, as many as 25% of AGYW engage in intergenerational, transactional relationships for material gain. These are often driven by socioeconomic factors. Thus, the sex for money transaction becomes a viable survival mechanism. Studies from across South Africa have shown that HIV prevalence amongst sex workers ranges from 40-90%, and that 30-40% of sex workers are under 25 years of age, with an elevated HIV risk profile. Thus, understanding the overlap of AGYW and sex work is becoming a central tenet to epidemic control in South Africa, especially within the context of highly targeted funding mechanisms which may inadvertently overlook high risk AGYW, or younger Sex Workers.

METHODS: A cross-sectional national survey of Female Sex Workers (FSWs), using a chain referral sampling method, was conducted across 12 sites in South Africa between February-July 2019. Study procedures included a questionnaire component: assessing demographics, past and current sexual behaviour, substance use, HIV testing and treatment history, and a clinical component HIV rapid testing and laboratory testing for viral load.

RESULTS: Preliminary findings show that 13.2% (398/3005) of our sample were aged 18-24 years, with a median age of first coitus being 16 (IQR:14-17) years and 6.3% (25/396) entering into sex work before 16 years, with the primary reason being economic sustainability. More than half (67.7%, 268/396) had been pregnant and a quarter (25.4%, 101/397) report having used drugs within the last year. HIV prevalence was 39.2% (156/398), with 17.9% (28/156) of AGYW FSWs being recently infected. Of the 127 known positives, 95.2% (101/106) were on treatment and 57.1% (56/98) of those on treatment were virally supressed. Though not significant, HIV prevalence was higher in those who started selling sex before 16 than after 16 years (44.0% vs. 38.5%; p=0.5881).

CONCLUSIONS: Our data has the ability to retrospectively model the continuum of vulnerability that AGYW experience, thus outlining the drivers of entry into sex work and also understanding which interventions should be developed and implemented with the goal of increased HIV prevention, viral suppression and linkages to care.

PED1017

LESBIAN, BISEXUAL AND TRANSGENDER WOMEN FROM BRAZIL: WOMEN'S LIVES MATTER?

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BACKGROUND: In Brazil, a woman is raped every 11 minutes and 12 women are killed daily. Lesbian, bisexual and transgender (LBT) women are disproportionately affected by sexual and gender-based violence (SGBV). Brazil registers more than 50,000 rapes/year, less than 30% of rapes are reported, and less than 2% of criminals prosecuted. Since 2008, Brazil has had the highest worldwide rate of homicide among LBT women. LBT women are more likely to experience SGBV, under-report crimes and not receive appropriate care and legal support, including HIV PEP (post-exposure prophylaxis) and post-rape care. Mental disorders are highly prevalent among LBT women experiencing SGBV. There is a lack of accessible and LBT friendly interventions in the country.

DESCRIPTION: The Brazilian National Lesbian Association, in partnership with other LGBTQ+ associations the Brazilian Ministry of Health and international donors, is collaborating with the development of a mobile health intervention to SGBV against LBT women in Brazil. The "Rainbow Resistance" will facilitate SGBV online reporting, map risky areas and LBT friendly services. It is our major goal to improve crime reporting, access

LESSONS LEARNED: Community-based participatory research (CBPR) fostered a close and productive collaboration between researchers, health professionals and LBT activists from Brazil. CBPR is a key methodology allowing this intervention to be developed 'for and by LBT women', in synch with a key motto for successful interventions targeting marginalized groups: "Nothing About Us Without Us!". The "Rainbow Resistance" strategy was launched in December 2019, and our app reached more than 1,000 downloads in the first weeks.

CONCLUSIONS/NEXT STEPS: Our intervention was developed to facilitate LBT survivors of SGBV an quickly connection with the support they need. This link include referral to free legal support, shelters for those experiencing domestic violence, suicide crisis support 24/7, referral to health and mental care, including post-rape care (HIV testing, PEP etc). Our next steps include the evaluation of Rainbow Resistance feasibility and acceptability, and it's impact on SGBV reporting and access to health services among survivors.

PED1018

CONTEXTUALIZING HIV RISK: EXPLORING RELATIONSHIPS BETWEEN MARIJUANA, POLYSUBSTANCE USE, MENTAL HEALTH, AND SEXUAL RISK BEHAVIORS AMONG YOUNG BLACK MEN WHO HAVE SEX WITH MEN (YBMSM) IN LOS ANGELES COUNTY, CA

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BACKGROUND: Marijuana, alcohol, and polysubstance use are HIV risk factors for YBMSM in urban settings where structural and social stressors prevail. They experience elevated rates of condomless sex, STIs, and higher numbers of sex partners. Marijuana use can precede and influence other substance use. Cognitive impairment with marijuana use can result in risky sexual behaviors amplified by other drugs. The legalization of recreational marijuana necessitates a better understanding of marijuana use and risk within groups disproportionately burdened by HIV.

METHODS: The PPOWER Project examined problem marijuana, alcohol, and other drug use and sexual risk among 250 YBMSM ages 18-24 in Los Angeles County from November 2016 through September 2018. Baseline data are reported.

RESULTS: Eighty percent reported marijuana use. Self-reported 30-day substance use included: marijuana (59.2%), alcohol (70%), other drugs (26%), marijuana and alcohol (32.4%), and marijuana, alcohol, and other drugs (19.6%). Risk behaviors included: sex while high (62.4%), trading unprotected sex for shelter/drugs (40.0%), no previous condom experience (12.4%), no condom/barrier during last sex (55.2%), and unprotected sex with someone known/suspected to have HIV/STI (29.6%). Almost half (48.4%) did not consider sex without a condom/barrier, or while high (59.2%), to be a harmful risk. The majority (87.3%) reported no prior use of either PrEP/PEP, 26.4% reported no previous HIV test, and 22 (8.8%) self-reported HIV-positive-status. Problem marijuana use was correlated with each HIV risk behavior measured. However, problem marijuana use was also correlated with problem use of alcohol ($r(248)=0.48$, $p<0.01$) and other drugs ($r(249)=0.48$, $p<0.01$). In the final analysis, variance in sexual risk variables were largely accounted for by problem alcohol use. Notably, higher 30-day CES-D depression score and emotional problems caused by alcohol/drugs remained significantly correlated across our models.

CONCLUSIONS: Findings emphasize specific HIV risk factors for YBMSM and point to the importance of investigating relationships between social contexts, polysubstance use, and sexual behavior. Marijuana was the pervasive drug of choice, but was frequently used with alcohol, a known sexual health risk factor. Ameliorating the public health injustices evidenced by HIV inequalities requires concerted efforts to address contextual environments and to support YBMSM in developing and sustaining positive mental health.

PED1019

INTEGRATING RESILIENCY INTO MEDICATION ADHERENCE MESSAGING FOR BLACK MSM LIVING WITH HIV IN THE URBAN U.S. THROUGH PHOTOVOICE AND DOCUMENTARY FILM

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BACKGROUND: Black men who have sex with men (BMSM) in the U.S. report low HIV medication adherence compared to other groups with HIV. Current adherence messaging stresses the RISKS of non-adherence, which may not resonate with BMSM. We asked BMSM to describe their medication adherence challenges AND strengths, and consider ways to include BMSM's resiliency in adherence messaging.

METHODS: We engaged men in a community-based research process. We used Photovoice to allow men to depict their experiences through images and group and individual interviews. Thematic analysis captured patterns in the photos and interviews. Upon presenting the themes to the participants, they requested an additional set of video interviews, to create a documentary that used their stories to educate emerging health professionals about their challenges and strengths. They believed the documentary was important to help translate their experiences to action, a key component of community-based research.

RESULTS: On average, participants' (N=19) were 34 years old and were living with HIV for five years. Via photos and discussions, men reported four adherence challenges: traumatic medical care experiences, incarceration fears (re HIV disclosure), intersectional stigma (HIV/racism/ heterosexism), and community/familial isolation (Black church, father figure). Adherence facilitators/strengths were: persistence, chosen families, self-love, and taking control over HIV. Video interviews expanded on these themes to create a 20-minute documentary that included footage of men discussing the themes to explain BMSM's resources, challenges, and needed support to adhere to treatment. We presented the documentary to 100 college-level health professional students.

CONCLUSIONS: BMSM face notable socio-structural challenges but do possess individual strengths. When applied to HIV medication adherence messaging, men suggested messages should highlight men's self-care abilities and persistence; that men deserve love; and that men can control/survive HIV. Participants said that HIV policies against incarceration for sex while positive and supportive HIV testing/treatment programs would help BMSM openly disclose their HIV status and access treatment. Participants believed that mechanisms like the documentary they created were essential to expose men's challenges; show BMSM with HIV as complex, resilient and able to overcome challenges; decrease stigma; and increase support in communities and in medicine for treatment adherence.

PED1020

BARRIERS TO HEPATITIS C TREATMENT AMONG PEOPLE LIVING WITH HIV/HCV COINFECTION IN THE PRE- AND POST-DAA ERAS

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BACKGROUND: Treatment of Hepatitis C virus (HCV) has evolved from interferon (IFN)-based treatments with low cure rates to more efficacious direct-acting antiviral (DAAs) regimens, yet barriers to cure persist amongst HIV/HCV coinfected populations. We sought to better understand these barriers among patients and providers in the DAA era at our academic urban medical center via the mixed methods CHANGE (A Proposal to Cure HCV and Guide Engagement among People Living with HIV) study. Of 1,948 patients living with HIV, there were still 61 patients with untreated chronic active HCV infection at the initiation of the study.

Characteristic	2013 n = 18	2019 n = 12
Gender	Male: 12 (75%) Female: 4 (25%)	Male: 8 (67%) Female: 3 (25%) Transgender: 1 (8%)
Age (median, range)	59 (33-68)	49 (35-69)
Race/Ethnicity	African-American: 12 (69%) Hispanic/Latino: 3 (17%) White: 1 (5%) >1 Race/Ethnicity: 2 (11%)	African-American: 6 (50%) Hispanic/Latino: 4 (34%) White: 1 (8%) >1 Race/Ethnicity: 1 (8%)
Social History	Self-Reported History of Injection Drug Use: 11 (61%) History of Incarceration: 9 (50%)	Self-Reported History of Injection Drug Use: 10 (83%) History of Incarceration: 7 (58%)
Years since HCV Diagnosis (median, IQR)	11 (6-16)	6.5 (2-5)
Years since HIV Diagnosis (median, IQR)	18 (12-25)	17 (12-24)

[Table 1. Patient Demographics]

METHODS: As a part of broader study activities, we conducted and thematically analyzed 21 in-depth interviews with PLWHIV and untreated HCV and their providers. An organizational assessment was also conducted. We compared emerging themes with previously collected site data from 2013, including 26 in-depth interviews with providers and coinfected patients.

RESULTS: Many barriers prevalent prior to the release of DAAs continue to impact accessibility to treatment, including substance use; housing instability; incarceration; lack of social support throughout therapy; and finally, comorbidities being prioritized over treating HCV.

Systemic barriers also persist across both generations of HCV treatment, including burdensome insurance policies and prior authorizations. Provider hesitancy to prescribe to those with unstable HIV and/or complex psychosocial needs due to the prohibitive cost of and difficulty in re-authorizing repeat prescriptions of DAAs has also proven to be a new deterrent to treatment.

HCV treatment and cure is more widely understood now than in 2013. The evolution of infectious disease physicians, rather than hepatologists, as HCV treatment providers is also a stark difference between the two time points.

Characteristic	2013 n = 8	2019 n = 9
Credentials	7 MDs (4 ID, 2 HIV-trained, 1 internist) 1 NP	6 MDs (5 ID, 1 HIV-trained) 3 NPs
Experience	Median 14 years experience (range 3-36 years) Providers' Coinfected Patient Panel Size: <3 patients: 16 providers 5 patients: 1 provider 25-30 patients: 1 provider	Years' Experience treating HIV: <5 years: 4 providers 5-15 years: 2 providers <15 years: 3 providers Years' experience treating HCV: 1-2 years: 2 2-5 years: 3 5-15 years: 2 >15 years: 1

[Table 2. Provider Demographics]

CONCLUSIONS: Despite ease of treatment and cure with DAAs, multidisciplinary case management and behavioral health care remain essential to successfully treat HIV/HCV coinfected individuals. These findings also demonstrate successful de-specialization of HCV treatment.

PED1021

INTIMATE PARTNER VIOLENCE AMONG YOUNG BLACK GAY AND BISEXUAL MEN: AN UNDEREXPLORED RISK FACTOR FOR HIV

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BACKGROUND: Young Black Gay and Bisexual Men (YBGBM) are disproportionately impacted by HIV in the U.S. Emerging data suggests that Intimate Partner Violence (IPV) may play a role in HIV acquisition and also prevent survivors from achieving viral suppression. The majority of IPV research has traditionally focused on heterosexual women. Limited research has established the rate or types of IPV experiences YBGBM face. Therefore, we quantitatively examined the types of IPV experienced by YBGBM.

METHODS: Young BGBM 15-24 years old in Baltimore, Washington DC, and Philadelphia were recruited utilizing several methods including clinics, social media, community-based outreach, and respondent driven sampling. Eligibility included: self-identified as Black, cisgender, with a history of oral or anal intercourse within the last 12 months with another man. Participants were asked to complete a rapid HIV-1 antibody test and a self-administered 45-minute electronic socio-behavioral health survey (eg.HIV risk perceptions, PrEP utilization, sexual partner matrix). IPV was measured (eg: recent IPV experience within the last 3 months), using a recently developed and validated measure for MSM. Data was analyzed using Stata.16.

RESULTS: N= 349 participants identified as Black/African-American with a mean age 20.7 years (SD=2.46). Approximately 23% reported that arguments escalated to physical violence within the previous three months. Additionally, 11% were forced or pressured to perform sexual activities, 11% reported being pressured to have sex without a condom after asking the sexual partner to use a condom, 17% report-

ed being insulted or threatened, 9% was prevented from communicating with family or friends, and 9% reported that they felt afraid within their relationship. Collectively, 34% of YBGBM experienced any form of recent IPV.

CONCLUSIONS: To achieve 95-95-95 treatment and prevention goals, a deeper understanding of how IPV impacts YBGBM is imperative. Our findings suggest that in urban cities, YBGBM experience IPV at levels similar to women globally. However, there is a dearth of research and services available to support YBGBM who experience IPV. Additional Information regarding the social and cultural drivers of IPV among this population, its relationship to HIV risk, and how to ensure that experiences of IPV do not accelerate HIV transmission among this population is key.

OTHER POPULATIONS VULNERABLE IN SPECIFIC CONTEXTS

PED1022

ACCESS OF YOUNG PEOPLE, SEX WORKERS AND MEN WHO HAVE SEX WITH MEN TO COMBINED HIV PREVENTION SERVICES IN A VERY REPRESSIVE CULTURAL AND RELIGIOUS CONTEXT, IN MAURITANIA

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BACKGROUND: In Mauritania 44.4% of men who have sex with men and 4.4% of sex workers are infected with HIV. Because of the law that condemns sex work to prison terms and same-sex sex to the death penalty, MSM had no access to HIV care. Unmarried young people do not have access to services because of social and religious constraints. With funding from Amplifychange in early 2019, we have set up a service center adapted to this population in Nouakchott.

DESCRIPTION: Our strategy, in partnership with the national AIDS program and others stakeholder, first identified group leaders and mobilized them as peer educators. These people made it possible, through focus groups, to define the activity package suited to their needs. These people have been of great help in building trust. The main actions carried out are screening services, treatment of transmissible sexual infections and a legal clinic with discussion groups. We also offer continuous condom distribution and therapeutic education for people living with HIV among the group.

LESSONS LEARNED: In seven mouth, 217 female sex workers, 174 men who have sex with men, 386 adolescent girls and 34 migrants are tested for HIV for the first time. 82% of the group had wanted to take the test for months, but never had the ideal setting to do it. Test results since the center's launch are 3.71% positive among sex workers, 26.33 among MSM and 1.8% among migrants. In addition, 157 cases of sexually transmitted infections were treated, 16 legal consultation sessions, 138,880 condoms were distributed.

CONCLUSIONS/NEXT STEPS: For a better impact of the fight against the epidemic, intervention with key populations is imperative. It is possible to intervene with men who have sex with other men and sex workers, as well as adolescents in a difficult context, provided that you identify group leaders and involve them in everything. This practice deserves to be extended in the country and in similar contexts and encourage better involvement of civil society in the response to HIV.

PED1023

ONLINE/OFFLINE – AN IMPORTANT INTERFACE FOR THE PROVISION OF LOCAL AND RESPONSIVE CONTRACEPTIVE EDUCATION AND SEXUAL HEALTH EDUCATION FOR YOUNG PEOPLE IN MTWARA, TANZANIA

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BACKGROUND: Young people in Tanzania need better information on contraception and sexual health. Sixty-seven percent of unmarried, sexually active women aged 15-19 are using a modern method of contraception but only 10% of these who had recent contact with a health care professional had discussed contraception and HIV/AIDS with them (Tanzanian DHS, 2015-16).

The 'COTC club' is a student-led, voluntary organisation based at the Clinical Officer Training College (COTC) in Mtwara, Tanzania that has provided interactive and informal contraceptive education and comprehensive sexual health education in schools for 10 years. The club visits 10 local schools/colleges per year to reach 2000 young people, linking COTC to its local community. They offer small group teaching by knowledgeable and well-respected 'near-peers'.

Good information on contraception and sexual health is available online and 78% of Tanzanian households have a mobile phone (TDHS, 2015-17). However, effective use of this resource requires private internet access, the ability to find suitable websites, skills to assess the quality of the information provided and links to local providers.

DESCRIPTION: We developed and piloted an intervention based on the value of linked online/offline support. The intervention adds support to classroom based contraceptive and sexual health education sessions by providing a phone number for young people to send anonymous questions by text message and posting these anonymised questions with answers a Facebook page "Tuongee Uzazi wa Mpango" (contraceptives conversations).

LESSONS LEARNED: The phone number received more than 87 sexual health questions which were answered and posted on the Facebook page which gained 2000 followers and stimulated an additional 23 questions. here are some of the questions.

Myths and misconceptions	2	No	
What is the best method of contraception?	3	Yes	How contraceptives work Natural family planning Best contraceptives for new couples Best contraception method for lactating mothers
Fertility	10	Yes	When to have sex to get a male baby
Menstrual problems	4	No	
Sexual health/HIV	4	Yes	Can masturbation cause infertility? Does family planning increase rate of HIV/AIDS infection.
Total	87		23

CONCLUSIONS/NEXT STEPS: Linking traditional contraceptive and sexual health education in schools and colleges with an online resource to provide opportunities for additional questions and continuing support is a feasible strategy for increasing access to contraceptive information and information on HIV/AIDS.

References: Tanzanian DHS, 2015-16. https://dhsprogram.com/what-we-do/survey/survey-display-485.cfm

PED1024

INFORMAL / UN-ORGANIZED SECTOR LABOR - NEEDS ASSESSMENT STUDY TO DESIGN A MULTI-PRONGED STI/HIV/TB PREVENTION STRATEGY

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BACKGROUND: The Informal/unorganized sector labor is a humongous workforce in India. The National AIDS Control Program (NACP), so far covers migrant labor in the industrial sector, but there are many groups of informal and unorganized labor such as construction workers, small scale industries, catering services, garment sector workers are left out. The GAP NGO conducted a needs assessment surveys in three districts of Gujarat State India, supported by an international labor organization (ILO) to understand the vulnerabilities of such workforce to STIs, HIV, and TB develop a multi-pronged HIV prevention strategy.

METHODS: GAP conducted a mapping exercise in all the three districts of Gujarat State. GAP team including PLHIV prepared survey questionnaires and subsequently collected data from 1200 informal through face to face interviews. The data collection and analysis process continued from August to December 2019. Some of the key findings are as follows.

RESULTS:

- The mobile lifestyle increases their vulnerability to STIs and HIV.
- About 20.36% of people responded that they have had unprotected sex with more than one sex partner in the last one month.
- The survey revealed a number of hidden female sex workers and MSM.
- As high as 91% of the laborers had inadequate to no knowledge about STIs/HIV and AIDS. Though there were aware of TB.
- Condoms were not available in work-places or in their residential areas.
- ANC women laborers were not covered for the HIV test.
- About 78% of the respondents were agreeable to voluntarily HIV tests in their workplace, provided it was free of cost. Similarly, they were willing to TB screening.

CONCLUSIONS: There is an urgent need to engage with key stakeholders of this large constituency of un-organized labor, who cannot be ignored if 90:90:90 targets for HIV and sustainable development goals have to be realized.

PED1025

REPRODUCTIVE ASPIRATIONS, CONTRACEPTION USE AND DUAL PROTECTION AMONG ADOLESCENT MOTHERS LIVING WITH HIV

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BACKGROUND: Recently, adolescent mothers living with HIV (AMLHIV) are a group of increasing interest to policymakers and program implementers. To better shape services and health outcomes, we need evidence on reproductive aspirations and contraception use in this high-risk group.

METHODS: Between March 2018-July 2019, interviews were conducted with 1,712 adolescent girls and young women: 293 AMLHIV, 497 nulliparous adolescent girls living with HIV (ALHIV), 734 HIV-negative adolescent mothers (control adolescent mothers), and 188 HIV-negative nulliparous adolescent girls (nulliparous controls), in a mixed rural-urban district in South Africa. Standardized questionnaires included socio-demographic measures, reproductive health and contraception experiences. Ethical approvals were obtained from Universities of Oxford, Cape Town and Departments of Health and Education. Multivariate logistic regression and marginal effects models in STATA 15 were used to test associations between HIV status, adolescent motherhood and outcomes of reproductive aspirations, contraception use, and dual protection, controlling for covariates.

RESULTS: Nearly 95% of all adolescent mothers reported that their first childbearing pregnancies were unintended. Irrespective of HIV-status and motherhood, over two-thirds of all participants wanted multiple children. Hormonal contraception, condom use and dual protection were low across all groups. In multivariate regression modelling, ALHIV (mothers or nulliparous) were less likely to report dual protection (OR0.68 95%CI 0.51-0.92 p=0.013) and more likely to report no protection at last sex (OR2.99 95%CI 2.15-4.16 p≤0.001. In marginal effects modelling, adolescent mothers were least likely to report condom use at last sex. Despite higher probabilities of using hormonal contraception, rates of dual protection were low: 16.9% among control adolescent mothers and 16.3% among AMLHIV. Adolescents mothers had the highest probabilities of not being protected with any method: 28.6% among control adolescent mothers and 23.5% among AMLHIV.

CONCLUSIONS: Among adolescent girls and young women living in HIV-endemic communities, reproductive aspirations and contraceptive practices closely overlap with HIV risk and infection. Tailored service provision must account for their reproductive aspirations and contraception use and support them to practice dual protection. Adolescent-responsive health services could help young women to plan their pregnancies for when they are healthy and well-supported, as well as help interrupt the cycle of HIV transmission.

PED1026

ADVANCING THE 1ST AND 2ND 90 HIV/ AIDS GOALS THROUGH SURGE WITHIN THE OVC CONTEXT - A CASE STUDY OF 13 DISTRICTS IN WESTERN AND CENTRAL UGANDA

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BACKGROUND: In 2015, Uganda committed to ensure that 90% of all people living with HIV know their HIV status, of those 90% will receive sustained ART, and 90% of those on ART will be virally suppressed by 2020. Uganda has approximately 95,000 children <15 yrs living with HIV, 65,000 are on ART. HIV incidence declined to 50,000 infections per year while HIV related mortality declined to 20,000 in 2017 (UPHIA 2016-2017).

By end of 2017, results showed Uganda was not reaching its targets, with a deficit of 300,000 HIV Positives, this was attributed to the fact that Evidence-based strategies for some national guideline areas were not being rolled out uniformly, especially index/APN testing and same day initiation.

Uganda through guidance from PEPFAR adopted the SURGE Strategy which aimed at rapidly identifying individuals living with HIV and initiating them into ART. The USAID supported Sustainable Outcomes for Children and Youth (SOCY) project implemented by CRS aims at contributing to achievement of the global 90:90:90 targets through adopting SURGE Approach across all its implementing districts within the OVC context.

DESCRIPTION: SOCY used the surge Approach to identify new positives and link them into care within the OVC context. These key strategies include

Ø Establishment of district-based SURGE teams
Ø Development of District based SURGE Strategies/ SOPs
Ø Clients with unknown HIV status were identified as index
Ø Conducting HIV Risk assessment
Ø Collaboration with clinical partners to provide testing and weekly reporting to track progress and support same day linkage and ART initiation
Ø Targeted testing Approaches
Ø Application of short learning cycles and rapidly adopting other strategies

LESSONS LEARNED: SOCY implemented SURGE from April 2018 to December 2018 in 13 districts. 1,546 children 0-17 years were at risk and were tested. 35 tested HIV Positive (New) representing 2.3% HIV Yield and all the 35 (100%) children were linked to care. By end of 2018, Uganda had met the 1st 90 and 2nd 90 a remarkable achievement that SOCY is proud to have contributed too.

CONCLUSIONS/NEXT STEPS: SURGE within OVC Context has played a critical role in propelling Uganda towards the path of achieving the 90:90:90 global targets

PED1027

EDUCATION, HEALTH AND SOCIAL SECURITY FOR ORPHAN AND VULNERABLE CHILDREN:INDIA'S RESPONSE TO HIV PREVENTION

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BACKGROUND: In India 42% of new HIV infection is among children, the prevalence is even higher in orphan and vulnerable children. This encouraged the Indian government to device programme for welfare of vulnerable children.

There is a consistent pattern of unsafe health care practices and lack of attention to HIV/AIDS amongst children in health policy. Therefore, it was pertinent to provide nutrition, stigma-free education and comprehensive care for vulnerable children.

The objective of the project was to reduce vulnerability of children of KPs by improving their access to health, education and social protection and to improve parental capacity to meet children's needs.

DESCRIPTION: The project was implemented in five states with highest HIV prevalence i.e. Andhra Pradesh (East Godavari, Guntur, Krishna), Maharashtra (Mumbai, Thane, and Pune), Manipur (Imphal East & West), Mizoram (Aizawl) and Nagaland (Dimapur).

In each district, NGOs were hired to identify children of key populations and conduct activities in structured manner.

Semi-structured interviews were conducted for key population and their children, and caregivers to assess their understanding of health, nutrition, education, psychosocial support, and social protection needs.

District specific activities were then conducted through ToTs, workshops, seminars and awareness camps on health & hygiene, HIV prevention and sexual violence, life skill education, interpersonal skills and Parenting Education on Child needs.

LESSONS LEARNED: During one year of intervention from October 2018 to September 2019, approx. 28977 children of KPs were identified of which 25173 (86.88%) children were assessed. 15575 (61.87) children were linked to various services like health need, education, social protection etc. Besides, 5338 caregivers were linked to services. Out of all the children screened for HIV, 1116 children were tested. 91 children were found positive and 81 children initiated on treatment. The focus was laid on strategies to enhance identification, assessment and service delivery to these children.

CONCLUSIONS/NEXT STEPS: Project has been quite successful in terms of mapping of children of KP and extension of security assuring them safe and HIV free life. Key findings from Phase-I of this project was disseminated through National Workshop and project was scaled up to other states during Phase II.

PED1028

TARGETED COMMUNITY-BASED SCREENING IN HIGH PREVALENCE POCKETS INCREASE THE IDENTIFICATION OF NEW POPULATION GROUPS AT-RISK FOR HIV AND UNREACHED KEY POPULATIONS IN INDIA

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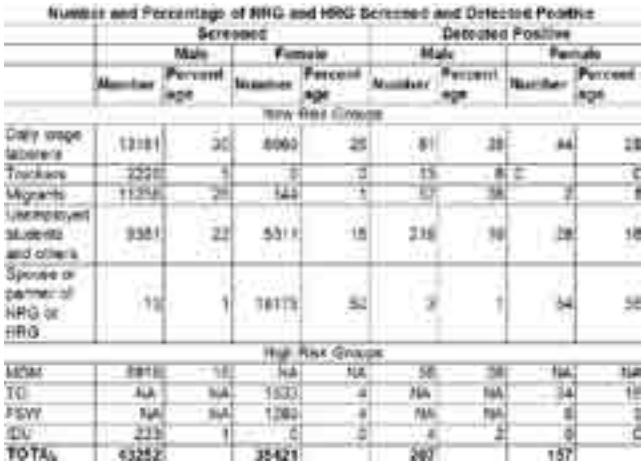
BACKGROUND: India has a concentrated epidemic with high prevalence among high-risk groups (HRG), and ANC prevalence of 0.22%. However 30% of the HRG are not reached with prevention interventions. Recent surveillance reported new epidemic trends, with 84% of the new infections occurring among New Risk Groups (NRG). Towards helping detect new HIV cases among NRG and unreached HRG, SAATHII, in collaboration with National AIDS Control Organisation, seven grass-root organizations (GRO) and support from MAC AIDS Fund, scaled-up community-based screening (CBS) in 35 districts of seven states between November 2017- December 2019.

DESCRIPTION: High prevalence and low-coverage geographies were selected for the intervention. Subsequently, GRO staff sensitized the local stakeholders and organized 1,510 CBS camps in collaboration with the government for unreached migrants, truckers, FSW, MSM/TG, construction factory and farm-workers, students, and unemployed. Camps entailed counseling, collection of data on demographics, HIV-related vulnerabilities and history of testing, and screening for HIV. Those screened positive were accompanied to the government facilities for confirmation and treatment.

LESSONS LEARNED: Over 28 months, 78,773 individuals were counseled and screened for HIV and 95% of these have never been tested before. Among these 42,962 were men, 34,276 women, and 1,535 trans-women. NRG comprised 87% of the screened with 0.40% positivity and HRG 13% with 0.91%. The new risk groups identified included daily wage laborers and unemployed and their spouses (Refer to Table 1 for details).

The location and timing of the camps held as per the convenience of the beneficiaries helped reach large populations and the family-based approach helped screen large numbers of women. The program detected 364 new HIV+ individuals and 91% of these were linked to treatment services.



[Table]

CONCLUSIONS/NEXT STEPS: Targeted community-based testing is a cost-effective strategy for reaching emerging At-Risk populations, unreached high-risk populations, and their female partners and family members.

PED1029

ASSOCIATION OF ALCOHOL USE WITH HIV AMONG MEN & WOMEN IN HOIMA DISTRICT, MID-WESTERN UGANDA

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BACKGROUND: Alcohol is the most commonly used psychoactive substance worldwide and is linked to engagement in risky sexual practices (such as unprotected sexual intercourse and multiple sex partners) that increase risk of HIV. We present findings of association between alcohol use, HIV risk behaviors and HIV prevalence among men & women in Hoima, an oil mining district in Uganda.

METHODS: We analyzed cross-sectional data of 2,291 men and women (13-80 years) participating in the Africa Medical and Behavioral Sciences Organization's (AMBSO) Population Health Surveillance study. Participants were recruited between February and April 2019. Alcohol use and HIV risk behavior in the past year were documented. Blood samples were tested for HIV using standard Ministry of Health testing algorithm. Chi square test was used to determine association between alcohol use, risky sexual behaviors and HIV among the participants. Multivariable regression was used to adjust for potential confounders including gender, age, marital status, level of education, number of sex partners and condom use.

RESULTS: Thirty one percent (31%) of participants reported alcohol use in the past year. Women were disproportionately burdened by HIV compared to men (9.3% vs 4.5%: p<0.05). HIV positive participants were more likely to drink alcohol daily or weekly compared to HIV negatives (among females: 10% vs 5%:p=0.004; among men 56% vs 38%;p=0.037). Women and men who drank daily/weekly were more likely to be HIV positive than those who don't drink alcohol (women: 17.9% vs 8.1%; p<0.05; Men 6.4% vs 3.5%; p<0.05). HIV positive participants were more likely to take alcohol before sex compared to HIV negatives (24% vs 15%: P<0.013). After adjustment, alcohol use was associated with high HIV prevalence (p=0.035).

CONCLUSIONS: This research confirms a positive association between alcohol use and HIV status. Interventions to reduce alcohol use need to be designed for this community.

PED1030

CHALLENGES OF DEAFNESS OVERSHADOW THE CHALLENGES OF AGING WITH HIV IN PALM SPRINGS, CALIFORNIA

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BACKGROUND: Deaf individuals face language barriers that cause limitations in access to health services. Lack of understanding of Deaf culture from providers further exacerbates social marginalization that the community faces. To date, there is little to no research that ascertains the challenges of aging with HIV while Deaf.

METHODS: In Spring of 2019 we conducted an American Sign Language (ASL) focus group of self-identified Deaf older (55+) people living with HIV (PLWH) and their caregivers in Palm Springs, California. A community advisory board of PLWH (including older Deaf persons), determined the focus group questions. Deaf participants and their caregivers were asked about three topics: major health issues experienced by older PLWH, resiliencies allowing people to age successfully with HIV, and priority research topics regarding HIV and aging. Focus group facilitators were Deaf and one was living with HIV. The session was video-recorded, then interpreted and transcribed into written English by Deaf researchers. The rigorous and accelerated data reduction (RADaR) technique was used for systematic analysis of the written transcripts.

RESULTS: The focus group consisted of 3 Deaf PLWH and 4 caregivers of deaf PLWH. Of the participants with HIV, all were white with a mean age of 68 years. The central concern was the lack of access to health care due to communication barriers, such as scarcity of visual aids and information available in ASL, exacerbating lower levels of health literacy. Participants stated a need for improved standards for ASL interpreters in medical settings and a dire need for health care providers with knowledge of medical ASL. Social isolation and HIV-related stigma were also an important concern. When asked about resiliencies for aging with HIV, participants mentioned social support, medication adherence, and health information videos in ASL.

CONCLUSIONS: This study highlights gaps in knowledge about the priorities of the Deaf community living with HIV, particularly in the setting of health care research. The study revealed that the Deaf community needs improved support when accessing healthcare, irrespective of HIV care. This study emphasizes how the intersectional identities of PLWH must be kept in mind as other identities may greatly impact aspects of living with HIV.

PED1031

PREDICTORS OF HOSPITALIZATIONS DUE TO MENTAL HEALTH AMONG VULNERABLE YOUTH AT RISK FOR HIV: IMPLICATIONS FOR HIV PREVENTION

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BACKGROUND: Tremendous advancements in HIV prevention have led to aspirational efforts to end the HIV epidemic. However, this goal will not be achieved without addressing the significant mental health and other risks among youth vulnerable to acquiring HIV. Among vulnerable youth, mental health impairments increase risk for HIV acquisition and lead to negative health outcomes at each step in the HIV prevention continuum. We assessed the prevalence of hospitalization due to mental health and various vulnerability indicators among youth recruited from a large prospective Adolescent Medicine Trials Network (ATN) CARES study.

METHODS: As part of the ATN CARES Study, 469 cis-heterosexual men (n=259) and women (n=120) and non-heterosexual female (n=89) youth aged 12-24 years old were recruited through social service agencies, homeless shelters, HIV care clinics, and by clinic referral in Los Angeles (n=218) and New Orleans (n=251). Hospitalization for Mental Health (HMH) was defined by participants reporting whether they have ever stayed overnight in a hospital for mental health problems in their lifetime. Vulnerability Composite Score (VCS) was derived by summing across the following indicators: moderate to severe anxiety, moderate to severe depression, homelessness, incarceration, intimate partner violence, sex exchange, suicide attempt, sexual abuse and four trauma-related indicators, alcohol abuse, illicit drug use, marijuana use, and lack of physical activity.

RESULTS: The median age at the time of enrollment was 21 years, range [14-24]. The majority of the sample were African-American (74.9%), followed by Latino (13.1%), White (7.5%), and others 5%. More than a third (40.1%) were hospitalized due to mental health in their lifetime. The mean VCS was 7.3 (SD=3.2; range [1-15]). The findings show evidence of 25% increase in the odds of HMH for a one-unit increase in VCS (aOR: 1.25, 95% CI (1.16, 1.34)), adjusting for demographic characteristics.

CONCLUSIONS: We observed a high rate of HMH and presence of multiple vulnerability risk indicators among our youth. The findings from this study underscore the importance of addressing multiple vulnerabilities negatively impacting youth at risk for HIV. Optimizing HIV prevention among vulnerable youth would require an integrated response to address mental health challenges and other risks facing youth.

PEOPLE WHO USE DRUGS (INCLUDING BY INJECTION)

PED1032

DENIAL OF PAIN MEDICATION POSITIVELY ASSOCIATED WITH ATTEMPTED SUICIDE AMONG A COHORT OF PEOPLE LIVING WITH HIV WHO USE ILLICIT DRUGS

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BACKGROUND: A global public health concern, chronic pain is prevalent among people living with HIV (PLWHA), and people who use illicit drugs (PWUD), especially illicit opioids. Recently, chronic pain's role as a contributing factor to the ongoing opioid overdose crisis has garnered attention, however, the consequences of denial of pain medication remain largely unexplored, especially among PLWHA who use illicit drugs living with chronic pain. Thus, we sought to measure the prevalence of being denied pain medication among PLWHA who use illicit drugs. We also sought to investigate correlates of pain medication denial among this population.

METHODS: Data were derived from the ACCESS study, an ongoing prospective cohort study of people living with HIV who use illicit drugs in Vancouver, Canada. At baseline and biannually, participants complete an interviewer-administered questionnaire eliciting information on sociodemographic characteristics, behaviours (including illicit drug use patterns, healthcare access and social/structural exposures. We used generalized estimating equations (GEE) to identify correlates of being denied pain medication among participants reporting chronic pain.

RESULTS: Between December 2011 and May 2016, 506 individuals were recruited and contributed 1950 interviews. At baseline, 49 (10.49%) individuals reported being denied pain medication in the previous six months. Over the study period, 214 individuals (11.89%) reported being denied pain medication in the past six months. In a multivariable GEE model, we found that being denied pain medication in the last six months was significantly and positively associated with self-management of pain (adjusted odds ratio [AOR] = 4.86, 95% CI: 3.16 – 7.47), and attempted suicide in the previous six months (AOR = 3.41, 95% CI: 1.77 – 6.58).

CONCLUSIONS: In our sample of PLWHA who use illicit drugs living with chronic pain, being refused pain medication was associated with self-management of pain and attempted suicide. These findings suggest that limiting access to pain medications among vulnerable populations may increase risks associated with exposure to illicit opioids through self-medication of chronic pain and elevate the risk of suicide. Future research should investigate the complexity of chronic pain, clinical responses, and policies around access to prescription analgesics among people living with HIV who use illicit drugs.

PED1033

EXPANDING ACCESS TO HIV TESTING AND DIAGNOSIS AMONG PEOPLE WHO INJECT DRUGS IN HIGH HIV BURDEN AREAS OF THE RURAL UNITED STATES

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BACKGROUND: HIV is increasingly impacting rural areas in the United States, tied to the ongoing opioid epidemic, growing stimulant use, and widespread drug injection. Kentucky is among states with the heaviest rural HIV burden and increasing rates of new diagnoses; in 2017, 36% of women had IDU as a transmission factor, as did 9.5% of men. Availability of HIV testing, as well as infrastructure to deliver PrEP and HIV care is limited in many rural areas of the state. However, syringe service programs (SSPs) have been implemented widely since 2015, following an HIV outbreak among injectors in southern Indiana. Many of these SSPs are located in rural communities experiencing disparities in services for people who inject drugs (PWID). This presentation examines uptake of HIV testing by PWID in 3 Appalachian Kentucky counties.

METHODS: Data is from an ongoing NIDA-funded epidemiologic study enrolling 350 PWID to examine drivers of SSP uptake. Eligible participants have injected drugs at least once in the past month and are 18+ years of age, recruited using Respondent-Driven Sampling. Enrollment occurs in health department SSPs and community-based locations serving PWID, and includes eligibility screening, informed consent and a structured interview using validated instruments.

RESULTS: 324 PWID enrolled between February 2018 and October 2019. The sample is 50.0% female and largely White (90.7%); 4 (1.2%) reported being HIV+. A majority were utilizers of SSPs (58.3%). The most frequently injected drug was methamphetamine (52.2%). Just 31.5% reported HIV testing in the prior six months. Recent HIV testing was associated with having a regular source of healthcare, having been in SUD treatment within the past year, being currently prescribed suboxone, and reported worry or concern about health behaviors. Although 48 individuals reported discussing HIV testing at the SSP, only 19 received HIV testing in these venues.

CONCLUSIONS: We observed suboptimal uptake of HIV testing among PWID in Appalachian Kentucky, including within SSPs. Increasing availability and accessibility of testing for at-risk PWID is of critical importance to stem the growth in rural HIV diagnoses. HIV self-testing has potential to decrease concerns around stigma and confidentiality in rural areas.

PED1034

COMMUNITY AFFILIATION AND ITS ASSOCIATION WITH METHAMPHETAMINE INITIATION IN YOUNG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN: THE PINK CARPET Y COHORT STUDY

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BACKGROUND: Young gay, bisexual and other men who have sex with men (YMSM) are especially vulnerable to the risks associated with substance use, including HIV and other sexually transmitted infection (STI) acquisition. The use of amphetamine-type substances such as methamphetamine among YMSM in sexual contexts has been established as a major risk factor for HIV/STI acquisition, however less work has explored how varying measures of community affiliation may simultaneously be associated with substance use. This study explores the association between community connectedness, outness, and age of sexual debut with methamphetamine initiation among a sample of YMSM in Singapore.

METHODS: Results of this study were derived from baseline data of the Pink Carpet Y Cohort Study in Singapore. The Pink Carpet Study is Singapore's first prospective cohort study among YMSM, comprising a sample of 570 non-heterosexual, gender-diverse men aged 18 to 25 years old who were HIV-negative or unsure of their HIV status upon recruitment. Participants were recruited for the baseline between May to September 2019 through social media and a network of community-based groups. Statistical analyses were conducted through descriptive statistics and multivariable Poisson regression.

RESULTS: Among 570 participants who comprised the baseline sample of the cohort, 4.9% (n=28) of the sample reported ever using methamphetamine. The mean age of sexual debut was 17.7 years (SD=3.08). Multivariable analyses revealed that community connectedness (aPR=0.92, 95%CI 0.84-1.00) and an older age of sexual debut (aPR=0.86, 95%CI 0.79-0.94) were negatively associated, while ever having suicide ideation (aPR=3.81, 95%CI 1.50-9.70) and outness to family (aPR=1.28, 95%CI 1.00-1.64) were positively associated with ever using methamphetamine.

CONCLUSIONS: Results suggest that a younger age of sexual debut, or being exposed to sexual networks at a younger age, as well as other psychosocial risks associated with suicide ideation and being out to one's family were associated with methamphetamine initiation in this sample of YMSM. Future interventions should consider developing harm reduction interventions addressing the potential risks associated with methamphetamine use, and psychosocial interventions to YMSM who are sexually active or more out at an earlier age.

PED1035

RELIGION AND INTERNALIZED STIGMA AMONG HIV-POSITIVE PEOPLE WHO INJECT DRUGS (PWID) IN KAZAKHSTAN

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BACKGROUND: Kazakhstan's HIV epidemic is concentrated primarily among people who inject drugs (PWID). Internalized or self-stigma among HIV-positive PWID can hinder both disclosure of HIV status and treatment-seeking behaviors, thereby perpetuating the spread of the virus. Despite this, there has been little regional research on the structural drivers of internalized stigma, including social and cultural determinants such as religion. This study seeks to explore the association between religion and internalized stigma among HIV-positive PWID in Kazakhstan.

METHODS: We recruited and enrolled 616 HIV-positive PWID between 2017 and 2019 in four cities in Kazakhstan. Participants completed a computerized self-assessment, which included questions on religion's influence in their lives and religious service attendance. It also included the PLHIV Stigma Index, which has a 15-item subscale for internalized stigma. We used descriptive statistics and multiple regression analyses to describe and examine the association between religious affiliations and internalized stigma.

RESULTS: Participants were mostly male (n=450, 73.1%) and of Russian ethnicity (n=360, 58%). The majority (n=413, 67.1%) identified as Christian. When asked how much influence religion had on their life, 182 (32.2%) reported no influence, 238 (42.0%) reported some influence, and 146 (25.8%) reported a large influence. Participants of all religious backgrounds reported experiencing internalized stigma. More than half reported that they felt guilty (n=364, 59.1%), or blamed themselves (n=367, 59.6%) for their HIV status. Many reported self-stigmatizing avoidance behaviors in response to their HIV status, the most common being deciding not to marry (n=130, 21.1%) or have more children (n=167, 27.1%). Multiple regression showed that both an increase in the influence of religion (b=.117, 95% CI: 0.121, 0.729) and increased frequency of church attendance (b=.126, 95% CI: 0.069, 0.318) were significantly associated (p<.01) with a higher number of affirmative responses on the internalized stigma subscale.

CONCLUSIONS: HIV-positive PWID in Kazakhstan exhibit high level of internalized stigma, which may present barriers to testing and treatment among this key population. Our results suggest that stronger religious affiliation is associated with increased experience of internalized stigma. This suggests the importance of including faith leaders and faith-based communities in stigma reduction efforts in the region.

PED1036

PUBLIC OR PRIVATE - WHICH WAY TO GO? A QUALITATIVE STUDY OF HIV-POSITIVE PATIENTS' NAVIGATION OF ADDICTION CARE IN SAINT PETERSBURG, RUSSIA

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BACKGROUND: Less than a quarter of HIV-positive people who inject drugs (PWID) in Russia utilize addiction care. This qualitative study explored experiences of HIV-positive PWID navigating addiction care at private and public facilities.

METHODS: We conducted 41 qualitative in-depth interviews with healthcare providers (n=26: 13 physicians at addiction, HIV, TB, general care clinics and prisons; 6 social workers and 7 psychologists; median age 36 years, 58% female) and patients (n=15, median age 35 years, 33% female) from medical facilities and nongovernmental organizations in St. Petersburg, Russia. Purposive sampling aimed to recruit those most insightful about care organization and navigation in clinical settings. Thematic data analyses using NVivo 11 were guided by a socio-ecological healthcare model considering policy, institution, care team, and patient level factors of care in the public and private sectors.

RESULTS: Perspectives of providers and patients were consistent for policy, institution, and care team barriers; those included: the bureaucratic burden of registration as a PWID, which is required for free addiction care at public settings and limits citizen rights, raising confidentiality concerns; high care costs in the private sector; the lack of an ineffective use of resources for sufficient delivery of rehabilitation programs; ineffective communication between providers and patients; in consideration for patients' health literacy; and failure to use motivational approaches with patients. Providers reported that private addiction clinics lacked preventive HIV services and linkage to community organizations with HIV clinical services. On a patient-level, the providers perceived patients as demanding and unmotivated, while patients perceived treatment as ineffective. Patients in both settings felt powerless and hesitated accessing addiction care due to previous negative experiences.

CONCLUSIONS: Registration policy is the public sector's major barrier for care utilization, while the private sector lacks HIV prevention and linkage to rehabilitation. Healthcare providers in both sectors should be offered motivational training, while patients should be offered empowering interventions to help access and navigate addiction healthcare.

PED1037

ENACTED DRUG USE STIGMA AS A BARRIER TO HIV VIRAL SUPPRESSION AMONG PEOPLE WHO INJECT DRUGS IN INDIA

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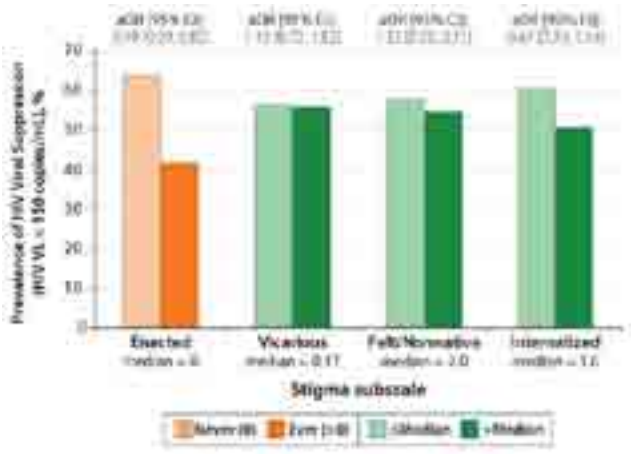
BACKGROUND: HIV viral suppression among PWID in most low-and-middle-income settings is well below the UNAIDS 2030 target. In the era of universal ART, it is critical to understand residual barriers to viral suppression among PWID. Despite the pervasiveness of drug-related stigma, limited data exist regarding its association with viral suppression.

METHODS: A cross-sectional sample of 11,721 PWID was recruited from 12 Indian cities using respondent-driven sampling (8/2016-5/2017). Participants had to be ³18 years and report injection drug use (IDU) in the past 2 years. Surveys captured data on four domains of drug use stigma: enacted, vicarious, felt/normative, and internalized (5-6 items/domain). Each subscale had a range of 0-3 (Cronbach's a >0.85 for all). For each item and subscale, multilevel logistic regression examined associations with viral suppression (VL<150 copies/mL) among previously diagnosed HIV-infected participants who were ART-eligible according to concurrent national treatment guidelines. Analyses used RDS-II weights.

RESULTS: Of 2,517 HIV-infected PWID, 987 were diagnosed and ART-eligible (81% male; median age, 38 years) of whom 56.1% were virally suppressed. The median scores for vicarious, felt/normative and internalized stigma were 0.17, 2.0, and 1.6, respectively; 34.8% reported enacted stigma. After adjustment for age, sex, education, alcohol use, active IDU, and region, those who reported any experience of enacted stigma had half the odds of viral suppression (aOR=0.49 [95%CI=0.29-0.82]) (Figure). Of the individual items, those who had ever received a threat of physical harm because of their drug use were less likely to be virally suppressed (aOR=0.46 [95%CI=0.33-0.64]), as were individuals who felt that they use drugs because they are paying for their karma or sins (aOR=0.49 [95%CI=0.29-0.82]).



[Figure]

CONCLUSIONS: Among PWID in India who were aware of their HIV status and should have been on ART, experiences of stigma related to drug use, not necessarily just within healthcare settings, were a significant barrier to viral suppression.

PED1038

PERCEPTIONS OF OPIOID SUBSTITUTION THERAPY AMONG PEOPLE WITH HIV WHO INJECT DRUGS AND THEIR INTIMATE PARTNERS IN KAZAKHSTAN

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BACKGROUND: Eastern Europe and Central Asia is the only region globally in which rates of incident HIV infections continue to rise, primarily due to injection drug use. Opioid substitution therapy (OST) may help individuals overcome drug dependency and increase adherence to antiretroviral therapy, but such programs are not yet widely available. In Kazakhstan, pilot methadone programs have been implemented in several cities, but the government must decide whether to expand or reduce them. To provide insight, this study examines perceptions of OST among HIV-positive people who inject drugs (PWID) and their intimate partners in Kazakhstan.

METHODS: Interviews were conducted with 20 HIV-positive PWID and 18 of their intimate partners as part of a couple-based study in Almaty, Kazakhstan. Interviews were conducted in Russian, transcribed verbatim, and then translated into English. Transcripts were coded using thematic analysis.

RESULTS: Many participants expressed negative perceptions of OST that stemmed from mistrust or misperceptions about methadone. Participants reported concerns that methadone was more harmful than illegal narcotics and was only another addictive substance. Other concerns included the time-intensive nature of the treatment, potential legal problems registering with a narcotics center, and apprehensions that the government could revoke the program and leave people to suffer without treatment. Some participants recounted anecdotes from the media about detrimental effects of methadone. Fewer participants expressed positive perceptions of methadone; perceived benefits included improved quality of life (work, relationships), positive effects on health, and reduced legal concerns because it is a decriminalized substance. All three participants currently using methadone reported feeling satisfied with the treatment, appreciated its health benefits, and were grateful for an improved quality of life. The two participants who previously used methadone but stopped treatment reported experiencing negative physical and psychological effects.

CONCLUSIONS: Many PWID and their partners in Kazakhstan express negative perceptions of methadone. Misperceptions about OST may stem from media campaigns in neighboring countries that have strict bans on OST. If OST programs are to continue in Kazakhstan, a concerted effort should be made to combat misperceptions to increase uptake. Additionally, introducing new OST methods that are not susceptible to abuse, such as buprenorphine, could benefit this population.

PED1039

SELF-STIGMA FACED BY PEOPLE WHO INJECT DRUGS IN KACHIN STATE, MYANMAR

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BACKGROUND: Injecting drugs is one of the main drivers of HIV/AIDS in Myanmar, especially in northern Kachin State. The 47% prevalence of HIV/AIDS among people who inject drugs (PWID) in Kachin is significantly higher than the already high (35%) national prevalence of HIV/AIDS among PWID. The compounded stigma against HIV/AIDS and PWID can present a major obstacle in care-seeking, and therefore prevention and control of HIV/AIDS at local, national, and global levels. In Kachin, organizations like Metta Development Foundation combat stigma against HIV/AIDS and PWID through community education and mobilization to encourage social reintegration. This study aimed to characterize the level of self-stigma that PWID in Kachin State experience.

METHODS: From May-July 2019, a survey was conducted in four townships in Kachin state where Metta implements HIV/AIDS prevention programs. Snowball sampling was used to interview PWID who had received HIV/AIDS- and/or methadone-related health services. The 40-item Substance Abuse Self-Stigma Scale (Luoma et al.) with a 5-point Likert scale was translated into local languages to assess self-devaluation, fear of enacted stigma, stigma avoidance, and values disengagement.

RESULTS: Among 222 participants (Mean age 31.8, SD±7.7), all were male (98%) and used heroin (99%) but poly-use was common (61%). Participants having monthly income <US$64 were significantly associated with higher self-stigma and higher value disengagement compared to those who had monthly income >US$64 ($p<0.05$). Respondents who were widowed or divorced experienced more self-devaluation than those who were single ($p<0.05$). Prior arrest for drug use was associated with higher fear of enacted stigma ($p=0.04$).

CONCLUSIONS: PWID reported experiencing multiple dimensions of self-stigma, and factors like marital status, income, and prior arrest for drug use increased the level of self-stigma for specific domains. Planning social integration and support of PWID as part of HIV/AIDS-related service delivery should take these factors into consideration. While the drug use epidemic in Myanmar is concentrated in men, the study sample reflects the challenges of reaching the "hidden population" of female PWID. A Substance Abuse Self-Stigma Scale that is culturally adapted for the local context in Myanmar should be developed and validated for future studies.

PED1040

SYPHILIS INFECTION AMONG PEOPLE WHO USE DRUGS AND INJECT DRUGS IN CAMBODIA: FINDINGS FROM A NATIONAL SURVEY USING RESPONDENT DRIVEN SAMPLING METHOD

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BACKGROUND: Globally, syphilis is a cause of significant health burden, and one of the four most frequent curable sexually transmitted infections (STIs). Although STI control is recommended as part of harm reduction and HIV programs, research and services devoted to syphilis among people who use and inject drugs (PWUD/PWID) remain limited, particularly in low- and middle-income countries. We conducted this cross-sectional study to explore the prevalence and correlates of syphilis infection among people who use and inject drugs (PWUD/PWID) in Cambodia.

METHODS: This national survey was conducted in 2017 among PWUD/PWID recruited from the capital city and 11 major provinces using the Respondent Driven Sampling method. We used a structured questionnaire for face-to-face interviews, and syphilis was diagnosed using SD Bioline HIV/Syphilis Duo test. A multivariable logistic regression model was constructed to identify independent risk factors associated with syphilis infection. The National Ethics Committee for Health Research (NECHR) of the Ministry of Health, Cambodia (No. 193 NECHR) approved this study.

RESULTS: After excluding 62 participants who did not meet the eligibility criteria, this study included 1677 PWUD/PWID, with a mean age of 28.7 (SD= 7.9). The prevalence of syphilis among PWUD in the study was 3.4% (95% CI= 2.4-4.6). After adjustment, syphilis infection was positively associated with being female (AOR= 2.97, 95% CI= 1.26-7.01), living on the street (AOR= 3.44, 95% CI= 1.27-9.32), having an average monthly income in the past 6 months of <US$300 (AOR= 2.25, 95% CI= 1.05-4.82), having transactional sex in the past three months (AOR= 2.40, 95% CI= 1.25-4.61), and having been to a rehabilitation center in the past 12 months (AOR= 2.54, 95% CI= 1.01-6.57). Syphilis infection was negatively associated with having attained at least high school level of formal education (AOR= 0.28, 95% CI= 0.08-0.98).

CONCLUSIONS: This study identified several socio-demographic, behavioral, and structural factors that may determine syphilis infection among PWUD/PWID in Cambodia. We suggest that harm reduction policy should incorporate training of harm reduction staff on STI screening and education and strengthening the availability of point of care test using dual HIV/syphilis test, particularly for marginalized PWUD/PWID.

PED1041

SOCIO-COGNITIVE FACTORS INFLUENCING ACCESS TO HIV PREVENTION SERVICES AMONG PEOPLE WHO INJECT DRUGS IN DAR ES SALAAM, TANZANIA

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BACKGROUND: Globally, People Who Inject Drugs (PWID) have limited access to health services. There is a paucity of data on factors influencing access to Comprehensive HIV Intervention Package (CHIP) in Tanzania. We assessed socio-cognitive factors affecting access to different HIV prevention services among PWID in Dar es salaam, Tanzania.

METHODS: A cross-sectional survey using respondent driven-methodology was performed among PWID aged 18 and above living in Dar es Salaam. Data on access to HIV services and socio-cognitive factors were collected through face-to-face interviews. Weighted logistic regression analyses were used to measure associations between socio-cognitive factors and access to HIV prevention services. Adjusted Odds Ratio (aOR) and corresponding 95% confidence Interval (CI) were reported. All the analyses were two tailed and significance level was set at 5%.

RESULTS: A total 611 participants (94%=male) with a median 34 years (IQR 29-38) were recruited. High perceived risk of HIV was significantly associated with decreased odds of access to; HIV testing services (HTS) [aOR=0.3; CI95%: 0.1-0.5], condom [aOR=0.1; 95%CI: 0.02-0.5], use condom [aOR=0.2; 95%CI: 0.2-0.8], peer educator service [aOR=0.4; 95%CI: 0.2-0.8], clean needle [aOR=0.1; 95%CI: 0.1-0.3]. Being employed [aOR=4.9; 95%CI: 1.3-18.5] was associated with increased access to HTS. Being a female, [aOR=8.3; 95%CI: 1.3-54.3], having completed primary education [aOR=1.8; 95%CI: 1.1-3.2] and having correct comprehensive HIV knowledge (CCHK) [aOR=1.8; 95%CI: 1.1-2.9] were associated with increased condom use. Internalized stigma (aOR=2.9; 95%CI: 1.3-6.2] and exposure to physical and sexual violence (aOR=4.4; 95%CI: 1.3-15.3) were associated with higher odds of utilization of peer education services. Exposure to sexual violence was associated with decreased odds of accessing clean needle (aOR=0.4; 95%CI: 0.1-0.9).

CONCLUSIONS: The results suggest that socio-cognitive factors play a major role in influencing access to different HIV prevention services among PWID. There is an urgent need for health education interventions to strengthen CCHK and impacting HIV risk perception. Addressing both physical and sexual violence as well as stigma and discrimination will go a long way in promoting access to health services. These results will inform ongoing efforts to "closing the tap" and realize the 90-90-90 targets in Tanzania.

PED1042

HIV PREVALENCE AND TREATMENT CASCADE AMONG OPIOID-USING PROBATIONERS IN THREE CITIES, UKRAINE

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BACKGROUND: In Ukraine, many offenders sentenced for drug-related crime are not incarcerated, but are put on probation and reside in the community. They are living with or are at risk of HIV transmission due to high prevalence of injecting drug use. Access to HIV prevention and treatment for drug users and probationers is limited due to high level of stigma and multiple systemic barriers. The objectives of this study is linking probationers to Opioid Agonist Treatment (OAT), an evidence-based method of opioid dependence treatment and HIV risk reduction.

METHODS: We used baseline data from project MATLINK, studying an intervention for OAT enrollment for probationers. Potential participants were referred by officers to interviewers for study screening during regular probation visits. The eligibility criteria included being registered in probation in the study catchment area, meeting criteria for opioid dependence and not receiving OAT for at least 15 days. Eligible participants completed baseline assessment including an HIV test and a structured interview. History of incarceration was analysed as predictor of access to services using multivariate logistic regression.

RESULTS: We screened 1298 people in three cities of Ukraine; 182 met the eligibility criteria. 129 (70%) of them consented to participate and completed baseline assessment. 111 (86%) were males, mean age 36 years old. HIV prevalence was 44% (95%CI: 35.3%-52.7%), significantly higher among participants with incarceration history compared to those without (53.2% versus 27.9%, OR=2.9, 95%CI:1.3-6.5). In all sample, 74.6% were tested previously and were aware of their HIV status; this proportion was higher among those with incarceration history (93.6% vs 74.4%, OR=5.0, 95% CI:1.6-15.6). Among HIV-positive participants, 74.1% (95%CI:63.0%-86.1%) knew their status; proportion registered in care was 61.8% (95%CI:49.0%-74.7%), proportion receiving ART was 41.8% (95%CI: 28.8%-54.9%), with no signficiant difference by incarceration history.

CONCLUSIONS: We found that HIV prevalence in this population is high - almost double of that among drug injectors in other studies. History of incarceration increases the odds of being HIV-infected. Access to HIV testing among probationers is quite high, however access to treatment for HIV-positive is far from reaching the universal coverage goals, calling for additional programmatic efforts for this priority population.

PED1043

HOW 'INVISIBLE' WOMEN WHO USE DRUGS (WWUDS) IN COASTAL KENYA BECAME 'VISIBLE' IN ACCESSING HEALTH, SRHR THROUGH THE EFFORTS OF MUSLIM EDUCATION AND WELFARE ASSOCIATION (MEWA) WORKING WITH COMMUNITY LEADERS

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BACKGROUND: WWUDs in Mombasa have been silently suffering while trapped in addiction, crippled by culturally-entrenched stigma and discrimination; and exposed to HIV and other infectious diseases. They have been regular victims of GBV, from both Police and the community. Cultural taboos and religious restrictions have had adverse effect, forcing them to be 'invisible'. Programs and interventions that mainly targeted men exposed WWUDs to further exploitation and marginalisation.

High HIV prevalence rate was evident as risky sexual behaviours with multiple sex partners was widespread.

DESCRIPTION: MEWA a local NGO partnership with Mainline Foundation delivers harm reduction services for PWUDs since 2012. MEWA's 2016 early client records indicated that approximately 1% of their clientele at the drop-in centres (DICs) was female accessing health and rights care. However, observations indicated a high number of WWUDs were not accessing services.

MEWA pioneered intervention programs targeting WWUDs by providing a variety of services from outreach to free detox, addiction treatment, clinical services, nutritional support and clothing. Working with law enforcers, religious leaders and the general community overcome their resistance to programs.

LESSONS LEARNED: Mapping undertaken by MEWA identified WWUDs in isolated dens. MEWA introduced daily meals in 'drug dens' followed by NSP and residential rehabilitation services for opioid withdrawal. Residential adherence services for HIV/TB/Methadone enabled compliance with the 90-90-90 UN HIV cascade.

WWUDs are open to SRHS when integrated within the DICs. Uptake of family planning and condoms remains low because WWUDs want to have children and those engaging in sex work are paid more when having unprotected sex.

CONCLUSIONS/NEXT STEPS: MEWA services achieved sustained viral load suppression at 83% and 100% TB cure rates among WWUDs. Additionally, disclosure and partner risk tracing has been established in the 'drug dens' for women who test positive for STIs. The introduction of special 'female space' at the DICs Increased uptake of services. Messages on GBV were developed leading to increased reporting of cases. Male involvement in programming increased as we opened up spaces that supported effective communication and improved parenting skills for couples and spouses. A final aspect of our program with WWUDs is entrepreneurship training and mentorship programs to build resilience.

PED1044

THE ROLE OF CANNABIS IN INFLUENCING ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG PEOPLE LIVING WITH HIV WHO USE ILLICIT DRUGS: A QUALITATIVE STUDY

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BACKGROUND: Achieving optimal adherence to antiretroviral therapy (ART) remains a challenge for many structurally vulnerable people living with HIV (PLHIV) who use illicit drugs. Given the high prevalence of cannabis use among PLHIV and evidence to support the efficacy of cannabis use in ameliorating HIV-related symptoms and co-morbidities, previous studies have sought to assess the relationship between cannabis use and adherence to ART. However, further research is needed to better understand this dynamic. This qualitative study examines how cannabis use influences ART adherence among PLHIV who use illicit drugs.

METHODS: From September 2018 to April 2019, we conducted in-depth interviews with 25 PLHIV who use illicit drugs (ages 35-64, 15 women, 10 men) in Vancouver, Canada, focusing on experiences with cannabis. All participants were ART-exposed and regularly used cannabis as well as illicit drugs. Interviews were audio-recorded, transcribed, and coded. Salient themes were identified using inductive and deductive approaches.

RESULTS: While several participants reported that cannabis had no to minimal impacts on ART adherence, others reported that cannabis use facilitated ART adherence by: (1) improving mood and motivation; (2) alleviating ART-related side effects (e.g., nausea, insomnia); and (3) improving daily functioning through management of co-morbidities (e.g., depression, chronic pain). While participants indicated a preference for cannabis over prescription (e.g., dimenhydrinate for nausea) or illicit (e.g., heroin) drugs to achieve these results, access to cannabis through medical providers was limited, and most participants continued to obtain cannabis from alternate sources (e.g., illicit market, compassion club), even after the legalization of recreational cannabis use. Illegal sources provided participants with access to their preferred cannabis strains, as well as cannabis that was free or affordable. For some participants, the closure of multiple unlicensed dispensaries after cannabis legalization posed a new challenge to cannabis access.

CONCLUSIONS: Cannabis use may improve adherence to ART for some PLHIV who use illicit drugs. Our findings offer further evidence to support the therapeutic role of cannabis in the context of HIV treatment, and suggest the need for concrete efforts to ensure equitable access to cannabis, including medical education that supports its authorization by healthcare providers, for enhanced HIV treatment and care.

PED1045

A SPATIAL ANALYSIS OF RETAIL OPIOID PRESCRIPTIONS IN U.S. COUNTIES, 2010 - 2017

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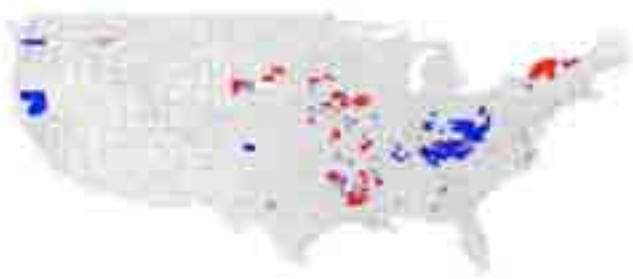
BACKGROUND: Examining spatial dimensions of the opioid crisis can yield important insights for identifying local geographies of risks for HIV and Hepatitis C virus (HCV). This analysis seeks to identify spatial patterns of changes in rates of retail opioid prescriptions between 2010 and 2017 in the United States.

METHODS: This analysis utilizes geographic information systems (GIS) software to generate statistically significant clusters (hotspots, coldspots, and spatial outliers) of changes in rates of retail opioid prescriptions per 100 persons. Rates of retail opioid prescriptions per 100 persons are publicly available at the state and county level, through the Centers for Disease Control and Prevention (CDC). Clustered and non-clustered counties are compared using American Community Survey variables including poverty, race, and rural geography.

RESULTS: There are 2,734 counties in the U.S. with data points for both 2010 and 2017. 83.8% of all counties experienced a decrease in rates of retail opioid prescriptions per 100 persons. The median rate change in retail opioid prescriptions decreased by 58 prescriptions per 100 persons. Spatial analysis shows 57 high-high clusters (in red), 105 low-low clusters (in blue), 30 low-high spatial outliers (in light blue), and 18 high-low spatial outliers (in light red) (Figure 1). Clusters of counties with above average decreases in rates of retail opioid prescriptions were concentrated in the Appalachian region of the U.S.. County residents in low-low clusters, which represent counties with above average rate decreases, were 92.6% white compared to 79.8% of residents in non-clustered counties ($p<0.05$).



[Figure 1.]

CONCLUSIONS: Public health professionals can utilize opioid-related spatial data and spatial statistics to identify local geographies at elevated risks for opioid-related HIV transmission. Street-acquired opioid use could increase in counties that experience a decrease in rates of retail opioid prescriptions without an increase in availability of government subsidized drug treatment programs or syringe exchange programs.

PED1046

"TREAT THEM WHERE THEY'RE AT:" MEDICATION LOCKERS AS A MODEL FOR HIV AND HCV TREATMENT AND MEDICATION ADHERENCE AMONG PEOPLE WHO INJECT DRUGS EXPERIENCING HOMELESSNESS

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BACKGROUND: People who inject drugs (PWID) experiencing homelessness are underserved in traditional models of medical care and experience significant health disparities, notably in HIV/HCV infection. While HCV can be cured and HIV managed successfully with daily medication, people experiencing homelessness in San Francisco can struggle with medication adherence since they lack a stable, consistent place to store and keep medications. In addition, displacement by police sweeps create significant challenges for securing belongings, including medications. In SF, only 33% of HIV-positive homeless PWID are virally suppressed compared to 74% of HIV-positive individuals overall, and 68% of active HCV infections are among PWID who comprise less than 3% of the city's population. To address these issues, San Francisco AIDS Foundation (SFAF) developed a medication locker program to improve medication adherence.

DESCRIPTION: SFAF's Harm Reduction Center is a warm and welcoming space providing injection equipment, overdose prevention, HIV/HCV/STD testing, on-site HCV and STI treatment, linkage to HIV care, health education, medical care, and the "Luv Your Liver Lounge," an HCV treatment program. Since approximately 80% of people accessing services at the Harm Reduction Center are people experiencing homelessness or unstably housed, we make available 144 medication lockers to individuals who need a safe and secure place to store HIV, HCV, PrEP or other medications. From February, 2016 to December, 2018, our HCV treatment program achieved a completion rate of 85%, with 105 of the 124 individuals who initiated HCV treatment achieving a cure.

LESSONS LEARNED: With accessible systems of care and support, PWID experiencing homelessness can successfully adhere to treatment, achieve an HCV cure, and create opportunities for increased positive health outcomes.

CONCLUSIONS/NEXT STEPS: Integrating HCV care at syringe access sites is a crucial part of addressing HCV cure rates among PWID and providing access to lockers is a model for HIV medication adherence and PrEP with this population. Building on these successes, SFAF is expanding to mobile syringe access sites with an outreach van staffed with medical providers, HCV program staff and medication storage lockers to engage individuals beyond the Harm Reduction Center.

PED1047

AMPHETAMINE-TYPE STIMULANT USE AND HIV RISKS AMONG TRANSGENDER WOMEN IN CAMBODIA: A NATIONAL SURVEY USING RESPONDENT DRIVEN SAMPLING METHOD

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BACKGROUND: Globally, transgender women are among the most vulnerable to HIV. The use of amphetamine-type stimulants (ATS) is prevalent and associated with increases in HIV infections and several other negative health outcomes in HIV key populations. However, studies on ATS use among transgender women, particularly in low- and middle-income countries have been scant. In this study, we identified the prevalence and factors associated with ATS use among transgender women in Cambodia.

METHODS: In 2016, we collected data from 1375 transgender women recruited from 13 provinces for the National Integrated Biological and Behavioral Survey using the Respondent-Driven Sampling method. We collected information on demographic characteristics, sexual behaviors, substance use, depressive symptoms, stigmatization and social support, gender-based violence, and adverse childhood experiences. Weighted multivariable logistic regression analysis was conducted to identify independent correlates of recent ATS use. This study was approved by the National Ethics Committee for Health Research (No. 420 NECHR).

RESULTS: Overall, 10.4% of the survey participants reported ATS use in the past three months. After controlling for potential confounders, recent ATS use remained negatively associated with living in rural areas (AOR= 0.47, 95% CI= 0.26-0.84) and having higher level of formal education (AOR= 0.34, 95% CI= 0.13-0.88). For HIV risks, recent ATS use remained positively associated with involvement in transactional sex in the past three months (AOR= 2.70, 95% CI= 1.83-3.98). Recent ATS use also remained positively associated with other substance use including higher frequency of binge drinking (AOR= 5.37, 95% CI= 2.77-10.42) in the past three months. Regarding mental health problems, recent ATS use remained negatively associated with a feeling that co-workers or classmates were supportive regarding their transgender identity (AOR= 0.49, 95% CI= 0.30-0.78) and positively associated with having depressive symptoms (AOR= 1.80, 95% CI= 1.21-2.66) and experiences of emotional abuse during childhood (AOR= 2.12, 95% CI= 1.33-3.39).

CONCLUSIONS: ATS was the most common illicit drugs among transgender women in Cambodia. Our findings suggest that developing and implementing additional harm reduction strategies tailored to ATS use among transgender women are needed. Integration of HIV and mental health interventions into harm reduction programs should be more focused.

PED1048

PREVALENCE AND RISK FACTORS OF HIV INFECTION AMONG PEOPLE WHO INJECT DRUGS IN CAMBODIA: FINDINGS FROM A NATIONAL SURVEY USING RESPONDENT DRIVEN SAMPLING METHOD

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BACKGROUND: People who inject drugs (PWID) continue to be among the most vulnerable populations to acquire HIV and hepatitis C virus (HCV) infection globally. Despite increasing program implementations, scientific data related to this key population in developing countries remain scarcely available. This study explores the prevalence of HIV and factors associated with HIV infection among PWID in Cambodia.

METHODS: This national biological and behavioral survey was conducted in 2017. Participants were recruited from 12 major provinces nationally using the Respondent Driven Sampling method. Face-to-face interviews were conducted using a structured questionnaire, and blood samples were collected for HIV, syphilis, and HCV testing. Multivariable logistic regression analysis was conducted to identify risk factors for HIV infection. All analyses were estimated with sampling weights that corrected for non-response and sample design. This study was approved by the National Ethics Committee for Health Research (No. 193 NECHR).

RESULTS: This study included 310 PWID with a mean age of 31.8 (SD= 7.8) years. The prevalence of HIV was 15.2%. Almost two-thirds (61.4%) of the HIV-positive PWID were co-infected with HCV, and 44.7% were not aware of their HIV status prior to this study. After controlling for potential confounding factors, HIV infection remained positively associated with being female (AOR= 1.88, 95% CI= 1.03-4.04), being in an older age group of ≥35 (AOR= 2.99, 95% CI= 1.33-9.22), being widowed/divorced/separated (AOR= 2.57, 95% CI= 1.04-6.67), living on the streets (AOR= 2.86, 95% CI= 1.24-4.37), and having HCV infection (AOR= 3.89, 95% CI= 1.86-8.15). On the other hand, having completed at least 10 years of formal education (AOR= 0.44, 95% CI= 0.13-0.83) and higher monthly income of ≥US$200 (AOR= 0.20, 95% CI= 0.05-0.74) reduced the odds of HIV infection.

CONCLUSIONS: The prevalence of HIV among PWID in Cambodia remains high, but is reducing compared with the 24.8% reported in the 2012 national survey. Findings from this study provide critical information for stratifying and developing HIV risk profiles for PWID and tailoring interventions based on identified vulnerabilities and risk factors for HIV. In addition, the findings underline the importance of social structural factors in HIV epidemiology among PWID, which require mitigation.

PED1049

RISK PROFILE AND ATTITUDES OF FILIPINO CISGENDER MEN WHO HAVE SEX WITH MEN TOWARD SEXUALIZED DRUG USE ('CHEMSEX') AND ACCESS TO QUALITY SEXUAL HEALTH SERVICES IN THE PHILIPPINES

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BACKGROUND: As of December 2018, there are 49,078 men who have sex with men diagnosed with HIV yet condom use among this population remains below ideal (32%). Moreover, limited access to sexual health services among the subpopulation of cisgender MSM engaged in sexualized drug use (cMSM-SDU) presents a gap in HIV treatment cascade that should be addressed. This study aimed to determine the risk profile, perception, and needs of cMSM-SDU in accessing sexual health services in the country.

METHODS: A cross-sectional, online survey via social media was conducted among cMSM who use drugs from August to November 2019. A 5-point Likert scale (Cronbach's alpha=0.65) was used to determine their perception toward SDU and sexual health. Descriptive and regression analyses were used to summarize quantitative data.

RESULTS: A total of 126 cMSM who use drugs participated in the online survey (average age=33, SD=7.3). More than half were HIV positive (52.4%), 90/126 (71.4%) were engaged in SDU, 22/126 (17.5%) were injecting drug users, and 16/126 (12.7%) shared needles. Methamphetamine ('Shabu') and nalbuphine (Nubain) were the most common drugs used (19.8% and 8.7% respectively). Regression analysis found that cMSM who use drugs were twice more likely to have condomless sex (OR=2.333, 95%CI=1.055–5.161, p=0.036) and almost three times at risk for HIV (OR=2.766, 95%CI=1.193–6.415, p=0.018). There were 112/126 (88.9%) who did not have any idea where to access health services on Chemsex in the country, and 77/126 (61%) prefers to access Chemsex-related health information online. Likert scale results from 90 cMSM-SDU showed that majority agreed or strongly agreed that they knew how to safely use drugs and should get tested for HIV and other STIs because of their Chemsex behavior (67.8% and 82.4% respectively).

CONCLUSIONS: Filipino cMSM-SDU are at higher risk of HIV infection. Despite knowing their needs in accessing Chemsex-related health services, actual harm reduction programs remain inaccessible in the country. Thus, access to evidence-based sexual health information and services for cMSM-SDU should be widened through online-based outreach programs. Moreover, combined prevention strategies such as increased pre-/post-exposure prophylaxis intake and intensified condom campaigns are necessary to augment the risks associated with SDU.

PED1050

OCCASIONAL INJECTION DRUG USE AMONG RESPONDENTS TO THE GLOBAL DRUG SURVEY 2019

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BACKGROUND: Injection drug use is associated with increased risk for HIV and Hepatitis C infections. It is usually assumed that people who inject drugs do this daily and that syringe access programs and supervised consumption facilities are the best way to prevent harm related to the practice or actual substance use. However, there are also people who inject drugs occasionally and little is known about their polysubstance use behavior that may increase the risk for HIV infections.

METHODS: Data from the Global Drug Survey (GDS) 2019, the largest anonymous web survey on drug use, were analyzed to explore substance use behavior and overdoses among people who recently injected drugs. In addition, all respondents were asked to indicate whether they think that supervised consumption facilities are an effective strategy to reduce the risks of injection drug use.

RESULTS: Of 112,246 respondents who answered the question on supervised consumption sites, only 83.4% agreed that this was an effective strategy to reduce the risks from injection drug use. Of the sample, 7.1% reported ever having injected a drug, only some of them used heroin, less than half injected in the last 30 days (2.9% on average, highest in the U.S. with 6.9%) and the median number of days injected in the last 30 days was 7. Only 120 people reported overdosing on heroin and one third was administered naloxone. Recent heroin use was associated with self-reported depression and psychosis (p<.001).

CONCLUSIONS: This is the first multinational analysis that analyzed substance use patterns of people who inject drugs mostly occasionally. In addition to providing harm reduction services to prevent HIV and Hepatitis C people who inject drugs occasionally may also benefit from mental health treatment and open dialogues that help reduce stigma related to injection drug use.

PED1051

IMPACT OF RECREATIONAL DRUG USE ON CLINICAL OUTCOMES, EMOTIONAL WELL-BEING AND HEALTH-RELATED QUALITY OF LIFE IN PEOPLE LIVING WITH HIV: A MULTICENTER OBSERVATIONAL RETROSPECTIVE COHORT STUDY

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BACKGROUND: This study analyzed the impact of recreational drug use (RDU) on clinical outcomes, emotional well-being, and health-related quality of life (HRQoL) in people living with HIV (PLHIV) in Spain.

METHODS: Two cohorts of PLHIV taking antiretroviral therapy (ART) for at least one year were recruited between April 2017 and May 2018 according to their RDU: frequent RDU (consumption ≥1 drug ≥10 times a year, excluding the use of methadone, morphine, and cannabis as a single drug) vs. no-RDU. We collected the following retrospective last 12-month clinical data from clinical records: ART adherence (pharmacy refill), CD4, CD4/CD8 ratio, viral load, resistance to and adverse effects of ART, previous clinical conditions, and use of health services. ART adherence, HRQoL, and psychological well-being were measured through validated tools (CEAT-VIH, WHO-QoL-HIV-BREF, and GHQ-12). These variables and self-reported sexually transmitted infections (STIs) were collected at the inclusion visit through a cross-sectional survey. Differences between groups were analyzed through Chi-square, Student T for independent samples, and mixed analysis of variance (ANOVA) using SPSS v.22.

RESULTS: A total of 275 PLHIV were included; 12 were excluded by protocol deviation. The final sample was composed of 51.3% RDU and 48.7% non-RDU. Most participants were male (93.5%) with an average age of 45.8±10.8 years. RDU patients presented lower scores of ART adherence (p=.017, and p=.006, for multi-interval adherence and self-reported adherence respectively), more visits to the emergency unit (p=.046), and marginally more non-AIDS related events (p=.061) but fewer visits to their specialist physician (p=.059). ANOVA results showed that there were significant interactions both between the group membership and the change between the first determination vs. the last in the percentage of CD8 and the CD4/CD8 ratio (p=.020, and p=.024 respectively) during the follow-up year. While the percentage of CD8 decreased among non-RDU, it remained stable among RDU; and while the CD4/CD8 ratio increased among non-RDU, it decreased among RDU. RDU presented lower scores in HRQoL (p< .0001) and emotional well-being than non-RDU (p< .0001).

CONCLUSIONS: This observational retrospective cohort study shows evidence that recreational drug use could worsen PLHIV health outcomes.

PED1052

INJECTION BEHAVIOR AMONG PWID RECRUITED BY PEER DRIVEN INTERVENTION

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BACKGROUND: HIV epidemic is concentrated among key populations, specifically among PWID and MSM population in Georgia. Among all HIV registered cases IDU associated transmission is 38.1%. Needle and syringe program operating in Georgia since 2001 have a strong positive impact on individual and community health. Only 62% of PWID population are covered by harm reduction program, significant part remains hidden and their behavior not assessed.

METHODS: Peer-driven intervention including cross sectional study design and snowball/Respondent Driven sampling was applied to reach hidden population. HIV risky behavior and knowledge were assessed by standardized instrument Risk Assessment Battery (RAB) among PWID that were never covered by harm reduction program before. Overall 1820 PWID were recruited for the study during 9 month in 2018-2019 in 11 cities of Georgia. Uni and bi-variation analysis was performed by SPSS v.21.

RESULTS: Study results showed that 53% participants are sharing injecting paraphernalia (bottle, spoon, boiling pan/glass/container, cotton/filter) and 34% only syringe during last 6 months. Paraphernalia sharing practice is more common is small cities. 73.2% of participants reported injection in a big group (up to 3 members). 30% of respondents say that they are cleaning the used syringes by: boiled water

(57%), soapy water (27%). Few people use chlorine, alcohol, soda and urine for syringe cleaning. Main source for syringes (80%) is Needle and Syringe programs, 33% got syringes at drug cooking places or from drug dealers, 11 persons used syringes that were found in the street. A quarter of respondents indicate to use not sterile cotton for drug filtering. Knowledge of HIV transmission among study participants is rather satisfactory, 80% of them answered all 5 questions correctly; In total RAB index is 0.6 (max rate is 1).

CONCLUSIONS: The study results show that using non-sterile equipment is more common among PWID that don't use harm reduction services. Use of paraphernalia is more frequent that using needles/syringes. Increased efforts should be done to educate PWID on safer injection practice, paying attention on using sterile injection tools and discuss the disadvantages of widespread syringe rinsing practices; and motivate them to be involved in existing harm reduction programs.

PED1053

PROMOTING A "ONE-STOP-SHOP HARM REDUCTION MODEL" FOR WOMEN WHO USE DRUGS IN HARD TO REACH SETTINGS – FINDINGS FROM A DEMONSTRATION PROJECT IN INDIA

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BACKGROUND: In India, an estimated 177000 people who inject drugs (PWID) and HIV prevalence among the PWID is 9.9%. Women injecting drug users in India is estimated around 30,000. Women face more severe consequences because their drug use may severely transgress gender roles and social norms. In India, harm reduction services for women are available scarcely and are not comprehensively implemented in line with WHO recommendations. India HIV/AIDS Alliance is the Principle Recipient of the Global Fund Regional Harm Reduction Advocacy grant (2017-2020) across seven Asian countries (HR Asia) and implements a women-centric harm reduction services to demonstrate effectiveness and feasibility of the same in the project countries leading to 90-90-90 in India.

DESCRIPTION: India HIV/AIDS Alliance developed an integrated harm reduction strategy building on a 2 pronged approach i.e., a) community mobilization and outreach and b) a one-stop-shop women-friendly comprehensive model that directly provides all 9 WHO recommended harm reduction services at one location. As a result, 150 WWIDs are registered till date and are receiving a one-stop-shop woman-friendly comprehensive harm reduction services at one location. The initial findings from the first 9 months of implementation led to HIV testing (98%), Hepatitis C testing (89%), initiated on OST (51%), 33% of women are tested for TB, 11% of women received NSP services and 83% (n=12) of HIV positive clients initiated ARV treatment.

LESSONS LEARNED: Integration of HIV and harm reduction services in one place needs convergence and mainstreaming of different ministries. Providing all harm reduction services at one location may be cost-effective, feasible and replicable. Integration of community approach and providing comprehensive services at one place increases the accessibility for harm reduction services among WWUDs.

CONCLUSIONS/NEXT STEPS: Replicate the one-stop-shop women-friendly comprehensive harm reduction model at the sub-national, national and regional in Asia based on the cost-effectiveness, feasibility etc.

PED1054

TRANSACTIONAL SEX AS A PATHWAY FOR HIV AND RISING SEXUALLY TRANSMITTED INFECTIONS AMIDST THE OPIOID EPIDEMIC

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BACKGROUND: Recently, the United States has experienced increases in associated human immunodeficiency virus (HIV), sexually transmitted infections (STIs) and opioid use disorder. Discussion of HIV/STIs in association with the opioid epidemic typically center on injection drug use and needle-sharing. However, there are other pathways of infection associated with substance use, in particular the exchange of oral, anal or vaginal sex for drugs (i.e., transactional sex). The purpose of this study was to examine the prevalence and associated factors of transactional sex among a sample of chronic opioid users.

METHODS: Individuals entering one of 91 treatment centers across the United States for opioid use disorder (N=1,594) in 2018-2019 were surveyed on sociodemographic variables, opioid use patterns, the trading of sex (e.g., oral, anal or vaginal) for drugs, and history of HIV/STI diagnosis/treatment.

RESULTS: Transactional sex was endorsed by 24.0% of treatment-seeking opioid users. Sexual minorities had exceptionally high rates compared to heterosexuals (56.0% vs. 18.8%, p<0.001), as did females compared to males (41.7% vs. 13.5%, p<0.001) and opioid injectors compared to non-injectors (31.8% vs. 18.1%, p<0.001). In terms of HIV/STI history, those who exchanged sex for drugs were significantly more likely than those who have not to have been diagnosed with HIV (3.7% vs. 1.3%, p=0.002). In addition, transactional sex was associated with a greater prevalence of least one STI (59.7% vs. 27.6%), syphilis (16.1% vs. 1.8%), genital herpes (24.2% vs. 5.3%) chlamydia (30.1% vs. 11.9%) and gonorrhea (32.3% vs. 11.4%).

CONCLUSIONS: The exchange of sex for drugs was endorsed by a significant proportion of chronic opioid users and associated with higher rates of HIV/STIs, notably syphilis. While transactional sex was higher among females and opioid injectors, what was most striking is the high engagement of this behavior among sexual minorities. Opioid users, in particular sexual minorities, should receive increased engagement with prevention and intervention programs designed to mitigate potential infection from transactional sex.

PED1055

WHERE WE CAN FIND UNDIAGNOSED HIV-POSITIVE PEOPLE WHO INJECT DRUGS TO IMPROVE TREATMENT CASCADE? EXPERIENCE FROM UKRAINE

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BACKGROUND: People who inject drugs (PWIDs) in Ukraine is the largest of the key population groups with HIV prevalence of 23%. The recent treatment cascade among MSM is 59%-90%-80%. We investigated where we should look to improve HIV case finding in this population.

METHODS: Data from the integrated bio-behavioural survey conducted in 2018 [Sample size 10076 PWIDs, and 2261 HIV positive cases diagnosed during the survey] were analysed using descriptive sta-

tistic and multilevel logistic regression model. The regression model assessed associations between unknowing the HIV positive status before being tested during the survey (previously not detected HIV case) as outcome and various socio-demographic and behavioural characteristics. Not knowing HIV positive status included those who self-reported before testing either being negative or never tested before. For the programmatic purposes we also used oblast/city level PWIDs size estimation data to see where the biggest numbers of undiagnosed HIV cases are located.

RESULTS: Quarter of PWIDs was never tested for HIV. To be not previously detected were more likely those aged between 35 and 44 y.o. (odds ratio [OR] 5.4, 95% confidence interval [95%CI]: 3.5-8.5), male sex (OR 1.9, 95%CI 1.6-2.3), were previously incarcerated (OR 1.7, 95%CI 1.5-2.2), single (OR 1.2, 95%CI 1.1-1.4), those who were not exposed to prevention services (OR 2.1, 95%CI 1.9-2.6). Majority of 21 000 undiagnosed HIV cases among PWIDs located in biggest four sites: Kyiv, Dnipro and Kryviy Rig cities, and Odessa region (64% of all undiagnosed cases). Five more cities will contribute to the detection of 80% of remaining cases.

CONCLUSIONS: Knowing the profile of those who are more likely to be HIV positive but yet not detected is important to prioritize the HIV case detection services. To improve the case detection among PWIDs, focus should be paid to males injecting drugs, single people, those who are not yet a client of prevention services, and those who are at older age. Focus cities level approach should be used to prioritize program efforts. Additional factors could be further accessed.

PED1056

ARE NEW LONG ACTING MEDICATIONS FOR OPIOID USE DISORDER (OUD) ACCEPTABLE? A DISCRETE CHOICE EXPERIMENT TO INFORM IMPLEMENTATION STRATEGIES FOR OUD TREATMENT AND HIV/HCV PREVENTION

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BACKGROUND: A central component of HIV/HCV prevention are medications for opioid use disorder (MOUD), which now include new long-acting injectable and implantable formulations. These are especially favored in the highly-vulnerable correctional settings and can potentially pair with long-acting HIV PrEP and treatment. However, we know little about patient preferences to inform scale-up and retention.

METHODS: Discrete choice experiments present hypothetical medication profiles measuring trade-offs and estimating patient preferences. In 12 choice-tasks, participants selected between 2 hypothetical medications or "none." Each profile included 5 attributes: initiation process; location/administration route; mortality reduction; side effects; and withdrawal symptoms from discontinuing. We surveyed participants with OUD initiating care July 2018 – July 2019 at the APT Foundation, a not-for-profit community treatment center in Connecticut.

RESULTS: We surveyed 530 patients survey, with 59% of participants men, 72% with any history of incarceration, 27% incarcerated in last 30 days (3 days median since release), and 36% were court-ordered to care. 56% of selections were driven by location and route of MAT administration. Fewer were concerned about withdrawal (21%), initiation (18%), even fewer about side effects (2%) and risk of death (3%). Expectedly, patients preferred medications with the most comfortable induction process (average utility 40.7), maximum mortality benefit (13.2), and no withdrawal (38.0). The most acceptable side effects were headaches and sleep changes (14.0, associated with buprenorphine) more than those associated with methadone (-13.7, sleepiness, weight gain, constipation, sexual problems) or those associated with injection/ implant (-0.4,irritation at the site of administration). Less expectedly, patients strongly preferred oral route of administration – preferring to pick up oral tabs from a pharmacy monthly (37.2) and even daily supervised dosing (19.7) over receiving a monthly injection (-24.8) or twice-yearly surgical implant (-32.2).

CONCLUSIONS: Although novel long acting formulations may seem appealing for less frequent visits and dosing, the required injection and surgical implant routes of administration were less popular than oral medications, especially buprenorphine. Scaling up MOUD is critical for addressing the HIV and HCV epidemics driven by the opioid crisis. Although there is progress in increasing availability and options for MOUD, accounting for patients' preferences will be critical for program strategy, uptake, and retention.

SEX WORKERS

PED1057

THE INTERSECTION OF EXCHANGE SEX AND HIV: EXAMINING THE WAYS IN WHICH WOMEN FIND EXCHANGE SEX PARTNERS

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BACKGROUND: Globally, exchanging sex for money or drugs plays an important role in HIV transmission. Studies estimate that HIV prevalence among women who exchange sex in the US is between 0.3% and 30%. HIV risk may vary by the ways in which women find men or other partners to exchange sex with (referred to here as modalities). A better understanding of modalities is needed to inform HIV prevention efforts, but data on modalities in the US are sparse. Using qualitative data, we documented modalities of exchange sex among women from 5 US cities.

METHODS: During the 2016 National HIV Behavioral Surveillance (NHBS), five cities (Chicago, Detroit, Houston, New York City, and Seattle) conducted semi-structured in-depth interviews and focus groups with self-identified women who exchange sex for money or drugs. Women were asked open-ended questions about their own experiences and their perceptions of modalities. Written notes and quotes were summarized by interview staff at each site and these data were analyzed using a directed content analysis approach.

RESULTS: In total, 105 women were interviewed (43 in one-on-one interviews, 62 in 12 focus groups). While most women interviewed (65%) reported primarily finding exchange sex partners through walking the street or "stroll", additional modalities were commonly identified and described including massage parlor or brothel, es-

cort service, exotic venues or strip clubs, online, drug dealer or drug house, and boyfriend or husband/friends/family/neighbors. The majority of women also reported using multiple modalities. Engaging in high-risk practices, including drug use practices that may increase risk for HIV, and fear of violence, were frequently mentioned and varied by modality reported.

CONCLUSIONS: In this study women who exchange sex reported variations in modalities used to find exchange sex partners including using multiple modalities. Our findings also suggest that risk and safety concerns may vary across modalities. Additional research is needed to improve our understanding of how HIV risk may vary by modality, how to categorize modality meaningfully in subsequent quantitative surveys (particularly when multiple modalities are used), and how to best tailor prevention efforts toward the different contexts of exchange sex to most effectively reach different women.

PED1058

EVOLUTION OF CONDOM USE WITH CLIENTS AND STEADY PARTNERS OF FEMALE SEX WORKERS IN ZAMBIA

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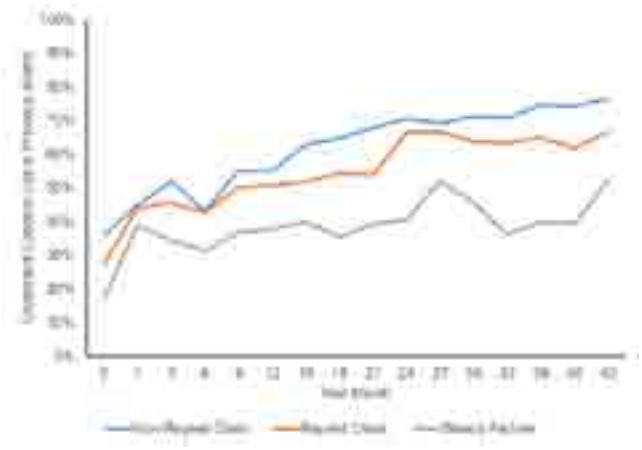
BACKGROUND: With pre-exposure prophylaxis in its infancy, consistent condom use remains a pillar of HIV prevention in sub-Saharan Africa. Female sex workers (FSW) have multiple concurrent partners with whom condom use is inconsistent, but it is unclear how participating in observational studies affects condom use by FSW over time. We studied condom use trends with clients and steady partners of Zambian FSW in an HIV incidence cohort.

METHODS: HIV-negative FSW in Lusaka and Ndola participated in an incidence cohort from September 2012 to September 2017. Follow-up occurred at Month 1 and every three months thereafter. In face-to-face interviews at each visit, nurses asked FSW how many times they had sex with/without a condom with their steady partners, repeat clients, and non-repeat clients in the previous month. FSW received HIV and family planning counselling with free condoms during visits.

Our outcome was consistent (100%) condom use during vaginal, oral or anal sex. To measure the evolution and differences in consistent condom use by partner type, we used generalised estimation equations with sociodemographic adjusted odds ratios (AOR) and 95% confidence intervals (CI).

RESULTS: Our sample included 389 FSW who had at least one follow-up visit. Median study duration was 33.5 months (Interquartile range: 30.1-42.7). Consistent condom use at baseline was 17% with steady partners, 28% with repeat clients and 36% with non-repeat clients. Compared to steady partners, FSW were over twice as likely to use condoms with repeat clients (AOR: 2.40, 95% CI: 1.85-3.13), and non-repeat clients (AOR: 2.66, 95% CI: 2.00-3.53) throughout the study.



[Figure.]

CONCLUSIONS: In a non-interventional FSW cohort, consistent condom use increased as the study progressed. This suggests the importance of sexual and reproductive health counselling with condoms for high-risk populations enrolled in observational studies. Future HIV prevention interventions should account for differential condom use between clients and steady partners of FSW.

PED1059

PERCEIVED CHALLENGES AND FACILITATORS TO ART INITIATION, ADHERENCE AND TASP AWARENESS AMONG FEMALE SEX WORKERS AND KEY INFORMANTS IN ETHEKWINI, SOUTH AFRICA

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BACKGROUND: Antiretroviral therapy (ART) to suppress viral load in people living with HIV (Treatment as Prevention [TasP]) is a key strategy to decrease new HIV infections. In 2015, only 25.6% of HIV-positive female sex workers (FSW) in eThekwini were accessing ART, far below the national average.

METHODS: We explored perceived challenges and facilitators to ART initiation, adherence and TasP awareness with 53 FSW ≥18 years, via 7 focus group discussions (3 with HIV-positive FSW, 4 with HIV-negative FSW) and in-depth interviews with 4 FSW (unknown HIV status), working in 5 hotels; and 29 key informant interviews (managers, bouncers, healthcare providers [HCPs], policymakers) in eThekwini, South Africa. Data analysis, using inductive and deductive approaches, was facilitated with NVivo.

RESULTS: While FSW described numerous reasons for not wanting to initiate ART: feeling healthy, high CD4 counts, denial of being sick, fear of stigma/rejection, resignation to death ("...I am already dying, what's the use"?), some had positive attitudes: staying healthy for their children's sake, knowing people who had done well on treatment. Participants in all cadres believed that TasP and ART increased life expectancy of HIV+ people, keeping them healthy and reduced chances of transmitting HIV to partners. However, few FSW understood the TasP rationale ("they suppress AIDS in your blood"). Challenges impacting ART adherence included side effects: body shape changes, weight gain, drowsiness, nightmares, nausea, and rashes; dislike and duration of taking pills regularly; judgement by others; forgetfulness ("you will ... see yourself high [on drugs] and ... just for-

get"); and belief that alcohol and ART cannot be mixed. Reminding each other, sharing pills with those who ran out, support ("You will gain power through me; when I take mine, she will also be taking hers…") were strategies noted by FSW to foster adherence. Some hotel staff and HCP suggested that access to ART in mobile clinics or workplace would fit FSW' lifestyle.

CONCLUSIONS: Attitudes to ART initiation were mixed and interventions to improve understanding of TasP and facilitate access to ART in the workplace are needed and should incorporate strategies proposed by FSW to support adherence.

PED1060

SEXUAL VIOLENCE EXPERIENCED BY FEMALE SEX WORKERS IN IRAN: A CROSS-SECTIONAL STUDY OF 13 CITIES

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BACKGROUND: Female sex workers (FSWs), the second most vulnerable population to HIV in Iran, are at a high-risk of physical, sexual and emotional violence. Little is known about the magnitude and correlates of sexual violence against FSWs in Iran. This study aimed to measure the prevalence of lifetime and recent (last-year) sexual violence, and examine the individual, interpersonal, and environmental factors associated with sexual violence among Iranian FSWs.

METHODS: Our analysis used data from the 2015 national bio-behavioral survey of FSWs that was collected in one-on-one interviews using a standard risk-assessment questionnaire across 13 cities in Iran. Sexual violence was defined as having experienced any act of forced/threatened sexual contact from a paid/unpaid sexual partner. Poisson regression models were built to investigate factors associated with recent sexual violence among FSWs. Adjusted prevalence ratios (aPR) along 95% confidence intervals (CIs) were reported.

RESULTS: A total of 1,335 FSWs (mean age [SD]:35.3 [8.8] years) responded to the sexual violence queries. Lifetime and recent sexual violence were reported by 40.1% (95% CI: 33.9, 46.6) and 16.9% (95% CI: 13.1, 21.6), respectively. Factors associated with recent sexual violence included lifetime substance use (aPR 1.63, 95% CI: 1.01, 2.62), last-year group sex (aPR 1.75, 95% CI: 1.25, 2.44), lifetime anal sex (aPR 1.89, 95%CI: 1.42, 2.50), last-month frequent number of clients (i.e. ≥5) (aPR 1.43, 95%CI: 1.06, 1.92), current unstable housing (aPR 1.75, 95% CI: 1.25, 2.46), and last-year incarceration (aPR 1.73, 95% CI: 1.23, 2.45).

CONCLUSIONS: Our findings indicated that sexual violence was prevalent among Iranian FSWs, particularly among those who reported substance use and high-risk sexual behaviors and who experienced structural vulnerabilities such as unstable housing or incarceration. Therefore, it underscores the need for community-empowerment interventions to address violence and its associated harms among FSWs, a population experiencing high levels of violence in Iran.

PED1061

HIV RISK BEHAVIOR AND HEALTH CARE SERVICE AVAILABILITY AMONG FEMALE SEX WORKERS IN YANGON, MYANMAR

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BACKGROUND: Myanmar is one of the 35 countries which accounts for 90% of global new HIV infection. HIV prevalence among FSW in Yangon is the second-highest in the Asia Pacific Region. Sex work in Myanmar is illegal and stigma and discrimination against FSW in the community and health care setting cause hindering them access to HIV services. The study was conducted to explore risk behaviors and availability of health care services related to HIV among Female Sex Workers in Yangon Myanmar.

METHODS: The study was was a cross-sectional analytical study with non-probability, targeted snowball sampling methods using quantitative questionnaires conducted from July 2018 until October 2018. The study included 220 participants of the FSW population residing in Yangon, Myanmar. Data collection was done with FSW peer outreach workers and analyzed with SPSS Version 23.

RESULTS: Consistent condom use among FSW was 20% with non-client partners and 30% with the clients. Less than 50% of participants used condoms at last sex with their non-client partners and 71% of FSW used condoms at last sex with the clients. HIV positive rate was 18.8% among FSW who did not use the condom at last sex with the clients compared to only 7.1% positivity among those who used condoms at last sex with the clients. There was a significant association between condom use at last sex with the clients and HIV status (Pearson Chi-Square: value 4.337, df 1, p-value 0.037). 92% of respondents received condoms from outreach and knew the place to go for HIV testing. 74% of the respondents tested HIV within one year and received results.

CONCLUSIONS: Condom use at last sex with paying clients has a significant association with HIV status and the practice of condom use is lower among female sex workers with regular or non-client partners. Most of the female sex workers usually went to key population service centers or NGO clinics for HIV services including HIV testing and treatment, STI treatment and prevention interventions. Providing key population friendly services and comprehensive continuum of prevention, HIV testing, treatment and retention in care as a free of charge, one-stop service should be promoted.

PED1062

ACCEPTABILITY AND WILLINGNESS TO USE HIV SELF-TESTING AMONG FEMALE SEX WORKERS IN ZAMBIA: IMPLICATIONS FOR DIFFERENTIATED TESTING MODALITIES IN HIV PROGRAMMING

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BACKGROUND: Efforts to bring routine HIV testing services (HTS) to scale have been compromised by access, financing, and implementation challenges. HIV self-testing (HIVST) promises to close these gaps, particularly in settings with generalized HIV epidemics like Zambia (adult prevalence: 12%) where marginalized and stigmatized subgroups – including female sex workers (FSWs) – are poorly

reached by existing HTS. To determine acceptability and identify appropriate strategies for scaling HIVST in Zambia, this study measured factors associated with willingness to use oral-fluid HIVST among FSWs in Livingstone, Lusaka, Ndola, and Solwezi districts.

METHODS: In March–July 2017, women 18yrs and older reporting exchanging sex for money in the past six months were recruited via respondent-driven sampling for a bio-behavioral survey. "Very willing" and "somewhat willing" responses to a single, five-point item were dichotomized as a proxy for HIVST acceptability. Responses were weighted using population size estimations to be representative of the study population. Bi- and multivariate logistic regression was used to identify socio-demographic, behavioral, and service use correlates of HIVST acceptability among FSWs who self-reported negative or unknown HIV status (n=1,312).

RESULTS: The median age of the sample was 25yrs (sd=6.14yrs) and most were never married (61.1%). The majority (80.1%) had an HIV test before, but few had heard of or used HIVST (23.2% and 4.7% respectively). Over half (57.5%) expressed willingness to use HIVST. FSWs currently married and who completed secondary school or higher reported willingness to self-test at significantly higher proportions than FSWs never-married (79.4% vs. 54.9%, p=0.005) and who never completed primary school (69.8% vs. 33.8%, p<0.001), respectively. In multivariate analysis, any prior HIV testing (Adjusted Odds Ratio [AOR]=1.75, 95% Confidence Interval [CI]: 1.15–2.66), previous HIVST use(AOR= 3.47, CI: 1.42-8.47), and current family planning (FP) use (AOR=1.61, CI: 1.01-2.56) were significantly associated with HIVST willingness. Sexual risk behaviors (e.g., condom use inconsistency, number of sexual partners) were not associated with HIVST.

CONCLUSIONS: Any prior HIV testing, prior HIVST, and current FP use surfaced as factors significantly associated with future willingness to use HIVST, which was moderately accepted. Findings highlight the role existing facility-based HTS and FP services could play in promoting HIVST for FSWs.

PED1063

ASSESSING STIGMA AND KNOWLEDGE OF HIV STATUS AMONGST FEMALE SEX WORKERS IN ZAMBIA: IMPLICATIONS FOR ACHIEVING 'THE FIRST 95'

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BACKGROUND: Female sex workers (FSW) are at high risk of HIV acquisition and transmission and face numerous barriers in accessing HIV services, with stigma and discrimination being a major barrier. This has important implications for reaching the UNAIDS 95-95-95 targets, particularly 'the first 95' (95% of HIV-positive individuals know their status). This study measured the association of sex work-related stigma on knowledge of HIV status amongst FSWs in Livingstone, Lusaka, Ndola, and Solwezi districts in Zambia.

METHODS: In March–July 2017, women 18yrs and older reporting exchanging sex for money in the past six months were recruited via respondent-driven sampling to participate in a bio-behavioral survey including HIV testing. Stigma was self-reported as experiencing at least one of the following as a result of being a sex worker in the past 12 months: denial of healthcare, employment, church/religious services, restaurant/bar services, housing, and police assistance. Amongst the 970 FSW who tested positive for HIV, the primary outcome was determined among those incorrectly identifying their serostatus or denying knowledge of their status prior to testing. Responses were weighted using population size estimations to be representative of the study population. A multivariate logistic regression model controlling for socio-demographic characteristics tested for an association between stigma and knowledge of HIV status.

RESULTS: The median age of the study population was 30yrs (standard deviation=6.48yrs). Only 44% of FSW who tested positive knew their status. Few had been refused healthcare (2.58%), restaurant/bar (1.55%), or religious services (2.58%), while refusal of employment (7.32%), police assistance (10.21%), and housing (18.76%) were more common. Over half (61.1%) of FSW reported experiencing at least one form of stigma. In multivariate analysis, stigma lowered the odds of knowing HIV status by 0.71 (p=0.026, 95% CI=0.53-0.96).

CONCLUSIONS: The alarmingly low rate of HIV positive FSW in Zambia that were aware of their status falls far below the UNAIDS 95-95-95 targets. The findings point to the importance of advocacy efforts to combat stigma against FSW in the community, and suggests that stigma mitigation efforts are needed to improve accessibility of HIV testing amongst FSW and improve the first 95-95-95 target.

PED1064

SOCIAL NETWORKING AND ICT USE AMONG YOUNG FEMALE SEX WORKERS IN KAMPALA, UGANDA: A BASELINE SURVEY OF A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Young female sex workers (YFS) are at high risk for HIV-infection in Uganda. About 2 in 5 YFS in Kampala, Uganda, aged 15-24 years, are living with HIV. Social networking and ICT provide a potential avenue for HIV prevention and management interventions in this population. We conducted a baseline survey to determine the level of social networking and ICT use among YFS.

METHODS: Data were collected from January 2017 to July 2019 using audio-computer assisted self-interviews from 236 HIV-negative YFS in Kampala as part of an RCT to test a combination structural and cognitive-behavioral prevention intervention.

RESULTS: About 23.3% (55) of the participants had completed at least 11 years of formal education (Ordinary Level of Secondary Education). About 67.4% (159) of the participants had mobile phones. However, only 4.2% (10) owned a computer or tablet. About 40.7%(96) reported having at least some computer use experience. Internet access was 30.8% (72); 4.8% (11) reported being very confident with using the internet with most participants relying on the use of SMS (64.2%). Internet was mostly used to access Facebook (51.4%) and Whatsapp (32.4%).

About half reported accessing Facebook at least once a week; the corresponding proportion for Whatsapp was 63.4%. The proportion of participants with at least some experience using Microsoft software packages was 21.1% (49) for Word, 4.7% (11) for PowerPoint and 3.9% (9) for Microsoft Excel.

		n(%)	95% confidence interval
Has a mobile phone		159(67.4)	61.1-73.1
Uses SMS		131(64.2)	57.4-70.5
At least some computer use experience		96(40.7)	34.5-47.1
Access the internet on the phone, tablet or computer		72(30.8)	25.2-37.0
Reasons for accessing the internet			
	Whatsapp	34(32.4)	23.6-42.2
	Facebook	54(51.4)	41.4-61.3

[Table: Social networking and ICT use among YFS in Kampala, Uganda]

CONCLUSIONS: YFS in Kampala have access to mobile phones; however, internet access is low. SMS is the most frequent means of telecommunication. Social networking and computer skills are low. Low-tech mobile phone solutions are the most viable vehicle for ICT Interventions in the HIV response for this population.

PED1065

IMPROVING HIV CASE FINDING AND TREATMENT INITIATION AMONG FEMALE SEX WORKERS IN MOZAMBIQUE: RESULTS FROM A PROJECT IN NIASSA, GAZA AND ZAMBEZIA PROVINCES

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BACKGROUND: Mozambican Female sex workers (FSW) are up to four times more likely to be living with HIV than general population women of reproductive age. HIV prevalence among Mozambican FSW has been measured at between 17.8% and 31.2%, depending on location. As a sub-recipient on the FHI360's USAID-funded PASSOS project, ADPP Mozambique is responsible for increasing access to and uptake of HIV services for FSW in 3 Provinces, especially HIV testing and treatment initiation.

DESCRIPTION: Since 2017, ADPP has been working in hotspots across three provinces providing HIV testing and treatment referrals for FSW. In 2019, to increase the positivity rate on its HIV testing component, ADPP introduced a tailored risk assessment tool used prior to testing to help identify FSW most at risk of HIV. The tool elicited information from FSW on risk factors such as condom use, drug use, and numbers of clients. In addition, bar/hotel owners in the targeted districts were asked to identify additional hotspots for HIV testing where they suspected undetected cases of HIV might be found. FSW found to be HIV+ were provided with additional support, such as being accompanied to clinics and weekly home visits during the first three months, to help ensure treatment initiation and adherence.

LESSONS LEARNED: Prior to introducing the new HIV testing tools and additional support for treatment initiation, the project's HIV testing component had a positivity rate of 12% (in 2017) and 6% (in 2018) and a treatment initiation rate of 65% (in 2017) and 77% (in 2018) among FSW found to be HIV+. In 2019, with the introduction of the additional measures, the project's positivity rate increased to 18% and treatment initiation rate increased to 82%.

CONCLUSIONS/NEXT STEPS: FSW are a highly heterogeneous group with a wide range of behaviors, risk profiles, and levels of access to and utilization of services. Outcomes on HIV testing among FSW can be improved by utilizing simple tools and methods to help ensure precious project resources are focused on those most at risk and by additional efforts tailored to the local context to ensure treatment initiation for all of those found to be HIV+.

PED1066

THE IMPLEMENTATION OF PEER EDUCATION AT COMMUNITY LEVEL TO IMPROVED KNOWLEDGE, ACCEPTANCE AND UTILIZATION OF FEMALE CONDOMS AMONG SEX WORKERS IN INDONESIA

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BACKGROUND: The utilization of condoms for HIV AIDS prevention in Indonesia is only in male condoms. In fact, there are many women at risk of sexual intercourse because men do not want to use condoms. This research aimed to explain the effectiveness of peer education at community level strategy among female sex workers (FSWs) to their knowledge, acceptance and utilization of female condom in Indonesia.

METHODS: The study applied an explanatory sequential mixed methods study in Indonesia during January – December 2019. The quantitative study component used a quasi-experimental design to test the implementation of peer education at community level strategy among 550 FSWs. The control group was 600 FSWs without peer education. We used Mann-Whitney u test for the data analysis.

RESULTS: FSWs in the intervention perceived higher awareness about the risk of HIV (86%), therefore even though they felt inconvenient to use the female condom, their acceptance (80%) and utilization (77%) is higher than the control group. The data findings revealed a significant better acceptance and utilization of FSWs to female condom in the intervention group to the control group ($p<0.001$).

CONCLUSIONS: Implementation strategies of peer education at community level among female sex workers improved utilization and acceptance of female condom. It could be an empowerment woman program which suggested to Ministry of Health for HIV AIDS prevention.

PED1067

PREVALENCE AND FACTORS ASSOCIATED WITH HIV INFECTION AMONG FEMALE ENTERTAINMENT WORKERS IN CAMBODIA: FINDINGS FROM A NATIONAL SURVEY

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BACKGROUND: Cambodia has made tremendous progresses in the fight against HIV epidemic. However, the country continues to face challenges in eliminating HIV among key populations, including female entertainment workers (FEWs). This study explored the prevalence of HIV and factors associated with HIV infection among FEWs in Cambodia.

METHODS: The National Integrated Biological and Behavioral Survey among FEWs was conducted in 2016 in the capital city and 17 other provinces with a large FEW population size and high burden of HIV. The study sample included 3,151 FEWs aged 18 years or older, recruited using a two-stage cluster sampling method. A multivariable logistic regression model was constructed to explore factors associated with HIV infection. This study was approved by the National Ethics Committee for Health Research (Ref: 297NECHR).

RESULTS: The mean age of the participants was 26.2 (SD= 5.7) years. The prevalence of HIV among FEWs in this study was 3.2% (95% CI= 1.76-5.75). After controlling for potential confounders, the risk of HIV infection was significantly higher in women older than 30 (AOR= 2.72, 95% CI= 1.36-8.25), women who were not married but living with a partner (AOR= 3.00, 95% CI= 1.16-7.79), women who reported using illicit drugs in the past three months (AOR= 3.28, 95% CI= 1.20-4.27), and women who reported having genital ulcers or sores (AOR=2.06, 95% CI= 1.09-3.17), genital warts (AOR= 2.89, 95% CI= 1.44-6.33), and abnormal vaginal discharge (AOR= 3.51, 95% CI= 1.12-9.01) in the past three months. The risk was significantly lower in women who had attained at least 10 years of formal education (AOR= 0.32, 95% CI= 0.17-0.83) and women working in a karaoke bar (AOR= 0.26, 95% CI= 0.14-0.50) and beer garden (AOR= 0.17, 95% CI= 0.09-0.54).

CONCLUSIONS: This study suggests that to reduce the prevalence of HIV among FEWs, priorities should be geared towards older women and FEWs working as freelance sex workers. While outreach interventions among venue-based FEWs remain essential, online and mobile-based programs should be tailored towards promoting consistent condom use, especially in non-commercial relationships, regular HIV testing, early screening and management of STIs, and reducing the harmful use of alcohol and illicit drugs.

PED1068

FACILITATORS AND BARRIERS TO TREATMENT ENGAGEMENT AND RETENTION AMONG FEMALE SEX WORKERS LIVING WITH IN INDONESIA: A COMMUNITY-LED STUDY

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BACKGROUND: Over the past few years, HIV response for female sex workers (FSWs) population in Indonesia has been employing a so-called 'new outreach model'. Despite its successes on reach and test, the approach seemed to fell short in adequately putting and retaining HIV-positive FSWs in care and treatment. This study aimed to explore barriers and facilitating factors associated with HIV treatment access and retention among HIV-positive FSWs in Indonesia.

METHODS: This is a community-led study performed by OPSI, the national network of Indonesian sex workers. We applied a mixed-method study design and collected quantitative and qualitative data from 80 HIV-positive FSWs and nine key informants in four cities of Indonesia.

RESULTS: Of all participants, over a third HIV-positive FSWs (34%) delayed their ART treatment if not started at all. The reasons of treatment delay were because they had high CD4 count (26%), worried of getting side-effects (22%), and felt healthy or had no symptom of opportunistic infections (22%). Our qualitative findings also highlighted that complicated referral system, have no legal identity, and not understanding treatment procedures were among the structural barriers that often occurred. Of those ever-started ART, 65 (86%) reported consistently taking their treatment. We found self-acceptance towards their HIV-positive status, family support, tailored ART service, and peer support were facilitating HIV-positive FSWs to stay on treatment. We also noted that complicated flow of ART services, treatment fatigue, feared of getting stigma, and felt ART worsening their condition were among factors caused some FSWs stopped their treatment. The qualitative findings revealed that self-acceptance towards HIV status, experienced any side-effect at the early days of treatment, rejections from family, and lured by the myth of herbal cure were among factors that had discouraged FSWs from staying on treatment. Moreover, participants with a history of treatment drop out revealed that having their condition worsened, persistence support from their peers, and having a 'treatment role model' were factors that have driven them back on treatment.

CONCLUSIONS: To ensure HIV-positive FSWs remain engaged across the HIV care continuum, attention should be paid to increase treatment literacy, guarantee social support, and reduce stigma and discrimination faced by FSWs.

PED1069

INCREASE IN RISK BEHAVIOR ALONGSIDE INCREASED ART COVERAGE AMONG FEMALE SEX WORKERS IN BOTSWANA: EVIDENCE FROM 2012 AND 2017 BIOLOGICAL AND BEHAVIORAL SURVEILLANCE SURVEYS

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BACKGROUND: Because female sex workers (FSWs) have multiple sex partners and face barriers to consistent condom use, they are highly susceptible to HIV. Under the USAID/PEPFAR-funded LINKAGES project, we compared data from the 2012 and 2017 Behavioral and Biological Surveillance Survey (BBSS) to examine trends in HIV prevalence, risk behaviors, and ART coverage among FSWs in Botswana.

METHODS: In both 2012 and 2017, eligible FSWs were recruited using time-location sampling at hot spot venues where face-to-face interviews and collection of biological samples were conducted. Percent changes and p values were calculated for comparisons between 2012 and 2017. Data analysis incorporated sampling weights and adjustments to standard errors for clustering on day-time sampling events.

RESULTS: FSWs continue to be highly affected by HIV in Botswana. The study found a nonsignificant decline in overall HIV prevalence (61.9% vs. 51.3%, p=0.19). However, this decline was statistically significant in Francistown from 53.5% to 37% (p=0.007). Consistent condom use declined with all partner types, most significantly among cohabiting partners (21.4% vs 78.3%, p=0.02). This lower condom use can be triangulated with a significant increase in syphilis prevalence among FSWs (6.7% vs 3.5%, p=0.07). Condom fatigue may be the reason; 7.3% of FSWs reported "not liking" condoms as one of the main reasons they are not used consistently compared to 0.8% in 2012 p=0.000). In 2017, FSWs appear to be more likely to accept more money for not using condoms in commercial sex compared to 2012 (56.1% vs 49.3%, p=0.00). Finally, ART coverage among HIV-positive FSWs improved significantly between 2012 and 2017 (87.8% vs. 24.9%, p=0.000).

CONCLUSIONS: There has been good progress since 2012 among FSWs in accessing HIV testing and treatment services, but in contrast, consistent condom use has declined, resulting in an increase in some STIs. Programs need to enhance combination prevention strategies to address this issue.

PED1070

COMMUNITY-BASED INDEX CASE TESTING (ICT) AMONG FEMALE SEX WORKERS AND THEIR SEXUAL PARTNERS IN ETHIOPIA: EFFECTIVE STRATEGIES FOR OVERCOMING BARRIERS

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BACKGROUND: Female sex workers (FSWs) in Ethiopia are disproportionately affected by HIV, with an estimated prevalence of 23% (national MARPs Survey, 2013, EPHI), compared to a national prevalence of 0.9% (EDHS, 2016). While index case testing and assisted partner notification (ICT/PNS) is recognized as an essential component of the HIV response, it has until recently been considered less feasible among FSWs, because there is a perception that their sexual networks are unstable and that FSWs are reluctant to disclose their partners names. PSI, under the USAID-funded MULU Activity, has developed successful approaches for ICT/PNS with FSW in two of the highest burden regions in Ethiopia: Addis Ababa and Amhara.
DESCRIPTION: MULU launched community ICT/PNS as its key HIV case finding modality in July 2018. The project applied various techniques to overcome barriers to disclosure and HIV testing uptake included: use of skilled nurses both to elicit contacts from FSW and to reach out to clients , reaching out to clients with a non-sensitive setting , and planning for repeated contacts with partners. the program utilized anonymous and disguised testing techniques for elicited contacts. Nurses have been trained to use a daily micro planning tool on number index clients counseled, number contacts elicited, number contacted and tested. Standard operating procedure by all community level staff for effective interpersonal communication between client and health provider was implemented.
LESSONS LEARNED: In FY19, 3,471 individuals (FSWs and their sexual partners) were tested through ICT/PNS, with 721 new HIV positives identified (20.8% yield). This significantly exceeded HIV case finding through other modalities: VCT (2.9% yield); mobile (3.6%) and PITC (2.8%). Nurse counslors screen index clients for risk of intimate partner violence (IPV), and then check if the client is comfortable disclosing HIV status to her partners. An average of 3 contacts per index client were elicited.Effective interpersonal communication by skilled health providers, fidelity to daily micro planning tool , as well as teamwork, has paved the way for active tracing of elicited contacts.
CONCLUSIONS/NEXT STEPS: ICT/PNS is the most effective and efficient case finding modality among key populations to be scaled up at all high impact HIV hot spots.

PED1071

RISK COMPENSATION AND RISK OF TRANSMISSION AND REINFECTION OF HIV AMONG HIV+ FEMALE SEX WORKERS USING MODERN CONTRACEPTIVE IN ZAMBIA

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BACKGROUND: Preventing pregnancy is often a greater concern to sexually active unmarried women in Zambia than preventing HIV/STIs. This is of particular concern among HIV+ Female Sex Workers (FSWs) who are at high risk of HIV reinfection and transmission. Using modern contraceptives helps HIV+ female sex workers to prevent pregnancy, but puts them at greater risk of HIV reinfection and transmission. This analysis assessed risk compensation and risk of reinfection/transmission of HIV/STI among HIV+ female sex workers using modern contraceptive in Zambia.
METHODS: In March–July 2017, women 18 years and older reporting exchanging sex for money in the past six months were recruited via respondent-driven sampling to participate in an integrated bio-behavioral survey—administered in Lusaka, Livingstone, Ndola and Solwezi Districts. Low condom use was defined as using condoms in less than half of their sexual encounters in the past 12 months. Among the 965 HIV+ female sex workers, bivariate chi-square, logistic regression and treatment effect analysis were conducted to assess the causal effect of modern contraceptives on condom use.
RESULTS: The median age of the sample was 30 years. Almost half (45%) were formally cohabiting with a male partner and 35% had a primary school education. Modern contraceptive use was moderately prevalent (54%) and among those, 17% had low condom use. Injectable contraceptive use accounted for 20% and bivariate analysis shows that injectable contraceptive use was significantly associated with STIs (p=0.004). After controlling for sociodemographic variables female sex workers using injectables had higher odds (AOR=1.6, CI=[1.02-2.41]) of low condom use . Average condom use fall by an estimated 6% when every woman is on injectable contraceptive relative when no woman is on injectable contraceptive.
CONCLUSIONS: Female sex workers who are HIV+, and at risk of HIV transmission or reinfection, are less likely to use a condom, in particular when they are already using an injectable contraceptive method for pregnancy prevention. Therefore, modern contraceptives should be provided to female populations at higher risk of HIV and STIs complimentarily with condoms.

PED1072

REDUCING STIGMA AND DISCRIMINATION IN HEALTH FACILITIES TO INCREASE SERVICE UPTAKE AMONG KP AND PLHIV. A CASE STUDY FROM 15 SELECTED HEALTH FACILITIES IN GHANA

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BACKGROUND: In 2017 Ghana conducted an assessment on human rights (HR) and access to health care services. The findings indicated stigma and discrimination (S&D) was a major barrier to access health care services, critical was the mention of stigma in health facilities

(HF). The findings of the assessment became the basis for developing a HR intervention for Ghana to complement existing HIV/TB interventions for maximum impact.

DESCRIPTION: The HR intervention funded by the Global Fund (2018-2020) is implemented by WAPCAS.

One of the key activities under the HR intervention is the training of health care providers from selected facilities to reduce S&D. The current intervention focuses on 15 Ghana Health Service (GHS) facilities with the objective of training facility staff to provide quality services in a stigma-free environment.

The 15 facilities were grouped into 2; the first 7 and the second batch of 8 facilities. The consent and approval were sought from the Director-General of the GHS for the rollout of the intervention.

The intervention was structured into phases; the trainer of trainers (ToT) for each facility with not less than 5 persons including a PLIHV, using the ToTs to step down the training of 70% of the facility staff, identification of a S&D Champion team in each facility after training, Champion Team identifying specific interventions to reduce S&D in the HF, develop a work plan on the rollout of the identified interventions, and then roll out the intervention.

LESSONS LEARNED: In all 3,500 staff from 15 HF have been trained and sensitized on HR and stigma reduction. HF have learnt to treat all patients equally irrespective of their condition and sexual orientation. It has enhanced health care delivery and helped eliminate cultural stereotypes of KP. A clients' exit survey shows quality of service is high in over 80% of the facilities.

CONCLUSIONS/NEXT STEPS: We will continue to assess S&D status of facilities post-intervention period.

PED1073

DIFFERENCES IN FEMALE SEX WORKERS NETWORKS: DATA FROM A LARGE RDS STUDY IN 12 BRAZILIAN CITIES, 2016

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BACKGROUND: Female Sex Workers (FSW) are one of the key-populations for HIV in Brazil. Respondent-Driven Sampling (RDS) is an important tool to reach hidden populations, such as FSW. However, the applicability of RDS in multicenter studies is a challenge. This study aims to investigate diferences in socio-demographic, sexual behavior and sex work characteristcs among FSW in the 2nd Biological and Behaviour Surveillance Survey in Brazil.

METHODS: Cross-sectional study conducted in 12 brazilian cities in 2016 among FSW recruited by RDS. The eligibility criteria were: be at least 18 years old; to have had at least one sexual intercourse in exchange for money in the past four months in one of the study cities; and to present a valid cupon to participate. For each city, the sample was at least 350 interviews (estabilished by the Ministry of Health) and 6-8 seeds were chosen qualitatively. It was offered rapid tests for HIV, syphilis, hepatitis B and C.To explain differences in HIV prevalence, the main factors associated of HIV infection were described for FSW network reached in each city.

RESULTS: Salvador had the highest prevalence of both HIV and syphilis, 18.2% and 18.5%, while Campo Grande had the lowest prevalence, 0.2% HIV and 3.3% syphilis. In Recife was observed the highest proportion of FSW working at street venues (84.4%), followed by São Paulo (75.3%), and Salvador (61.0%). The proportion of FSW who would waive the use of condom for any reason ranged from 14.9% in Manaus to 61.3% in Porto Alegre. The cities with the highest frequencies of illicit drug use were São Paulo (29.7%), Salvador (22.7%), and Rio de Janeiro (22.7%), while Belo Horizonte had the lowest (5.1%).

CONCLUSIONS: It was observed important differences between cities in the FSW network composition and development. RDS multicenter studies are important to target national HIV response. However, the differences between cities strengthen the importance to discuss the limitations to report RDS data separately by site in multicentric studies, since the networks formed do not represent the entire population, especially in studies with small sample sizes in each center, and limited time to execute the research.

PED1074

RETROSPECTIVE COHORT STUDY TO DETERMINE THE CORRELATION BETWEEN HIV RISK PROFILE AND UPTAKE OF ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG SEX WORKERS IN JOHANNESBURG, SOUTH AFRICA

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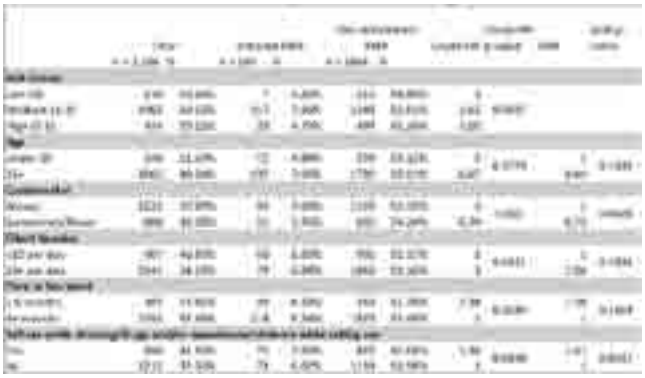
BACKGROUND: Among South Africa's 112,000 female sex workers (FSWs), approximately 54% are living with HIV, and the annual incidence of 7% among FSWs significantly exceeds that of the general population, making pre-exposure prophylaxis (PrEP) an essential intervention. Wits RHI has one of the largest and longest running sex worker programmes globally, which reached more than 30,000 sex workers in 2018 and was an early implementer of daily oral pre-exposure prophylaxis (PrEP) in South Africa.

METHODS: A retrospective cohort study included sex workers in Johannesburg receiving services between January 2018 – January 2019. Peer educators conducted risk assessments with the variables: age, condom use, client number, time in sex work, and drinking/drugs/violence while working. A risk score of 0-5 was generated. Risk assessment data were matched with PrEP initiation records. Univariate and multivariate regression models were conducted to determine the association between risk factors and PrEP uptake.



[Table 1. Association between HIV risk factors and PrEP uptake for FSWs in Johannesburg, South Africa]

RESULTS: 2,108 FSWs who completed the risk assessment, 144 (6.83%) initiated PrEP. FSW's with a "Medium" risk score were most likely to take PrEP (OR=2.62) followed by the "High" risk group (OR=1.50, p=0.0027). PrEP was slightly more likely to be taken by FSWs who

were younger, newer to sex work, and who used substances and/or experienced violence. Inconsistent condom use and higher client number was not associated with PrEP uptake.

CONCLUSIONS: This analysis is limited by the nature of the routine programme data, in which risk analysis data was available for only a small subset of PrEP patients and did not distinguish known HIV positive clients.

For PrEP to be effective in interrupting transmissions and contribute towards reaching epidemic control, it is imperative that PrEP be taken by those at highest risk of HIV infection. In key populations, the PrEP promotion strategy should be tailored to better reach those FSWs in the highest risk group.

PED1075

"WOULD YOU RAPE WHEN SEX WORKERS ARE AVAILABLE?": EXAMINING THE MEANINGS AND VALUE FEMALE SEX WORKERS (FSW) AND THEIR MALE CUSTOMERS ATTACHED TO SEX WORK IN EASTERN UGANDA

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BACKGROUND: Evidence points to inconsistent condom use among FSWs in Uganda. However, little is known about the motivations and situations associated with the selling and buying of unprotected sex. This qualitative ethnographic study aims to (1) explore the meanings and value FSWs and their male customers attach to selling and buying of sex, (2) to establish ways in which sex trade interactions and exchanges could promote unprotected sex.

METHODS: In-depth interviews were conducted with 59 female sex workers (ages 18-40) and male customers (ages 20-45) in truck stops along the Trans-Africa Highway and fishing communities in and around Lake Victoria. Interviews elicited participants' life history narratives, including childhood experiences, circumstances under which participants came to sell or buy sex, unprotected sex, and the value and meaning derived from buying. The interpretive analysis was conducted using open and focused thematic coding.

RESULTS: Findings show that sex work remains a risky form of labor; FSWs face social stigma and shame around selling sex, forcing them to conceal their source of income from their families. Moreover, although was safer sex was preferred and enforced by most FSWs, male customers often financially incentivized unprotected sex to maximize sexual pleasure. Due to poverty and despite knowledge of risks, FSWs did occasionally sell in unprotected sex to maximize financial income or material benefits to support their families. However, both FSWs and male customers perceive sex work to be a vital community service. They further explained that sex work provides sexual relief to men who cannot afford normal relationships, helps reduce cases of physical and sexual violence, as well as rape against women and girls while generating income to educate children and supports families.

CONCLUSIONS: Findings suggest that most FSWs engaged in unprotected sex as a rational choice that places the social risk of failing to provide for children and family as more significant and immediate than the biological risk of STI/HIV infection, which is considered not immediately life-threatening. Efforts to promote safer sexual practices within sex work must be linked to income and livelihood interventions. More public education to promote safer sex and reduce stigma around sex work is needed.

PED1076

STRUCTURAL BARRIERS INFORMING IMPLEMENTATION STRATEGIES FOR ANTIRETROVIRAL THERAPY AMONG FEMALE SEX WORKERS LIVING WITH HIV IN DURBAN, SOUTH AFRICA

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BACKGROUND: HIV treatment strategies for female sex workers (FSW) have focused on individual barriers to antiretroviral therapy (ART). However, across South Africa, nearly two-thirds of all FSW are living with HIV, of whom 40% are virally suppressed. We aim to study structural determinants affecting ART use and viral suppression (VS) among FSW living with HIV.

METHODS: Data represent baseline data from an adaptive randomized intervention trial (Siyaphambili) in Durban, South Africa. FSW were eligible if >18 years, selling sex as their main source of income, and diagnosed with HIV ≥6 months. Engagement in ART was self-reported, and viral load assessed and defined as <50 copies/mL. The associations between structural determinants – inclusive of work environments, intersecting stigmas, and violence – and baseline ART use and VS were assessed with multivariable robust Poisson regression, controlling for age and education.

RESULTS: A total of 1,207 FSW living with HIV were enrolled. Overall, 87.7% (n=1,0578/1,207) had initiated treatment, 66.6% (n=804/1,207) were currently on ART, and 38.3% (n=466/1,207) were VS. Additionally, 27.8% (n=336/1,207) reported homelessness, 63.5% (n=767/1,207) had a history of physical or sexual violence, and 81.4% (n=982/1,207) experienced anticipated, perceived, enacted, or internalized stigma. Compared to stable housing, homelessness or living in a shelter decreased associated ART use (aPR=0.78, 95% CI 0.68-0.90, p=0.001) and VS (aPR=0.71, 95% CI 0.56-0.92, p=0.008). A history of sexual or physical violence, anticipated stigma, and enacted stigma each decreased associated ART use, and anticipated stigma also decreased VS (Table 1). Venue type, perceived stigma, and internalized stigma were not associated with either outcome.

	On ART		Virally suppressed	
	aPR	955 CI	aPR	95% CI
Venue type				
Indoor[a]	REF	REF	REF	REF
Outdoor[b]	0.95	0.85-1.06	1.04	0.86-1.25
Living situation, prior 6 months				
Stable housing situation[c]	REF	REF	REF	REF
Renting a place	1.04	0.94-1.15	1.11	0.91-1.33
Homeless/shelter	0.78	0.68-0.90***	0.71	0.56-0.92**
Other[d]	0.94	0.78-1.14	0.99	0.70-1.40
Hx. of physical or sexual violence	0.90	0.82-0.99*	0.85	0.72-1.01
Anticipated stigma	0.86	0.78-0.95**	0.83	0.69-0.99*
Perceived stigma	1.01	0.91-1.13	1.00	0.81-1.22
Enacted stigma	1.14	1.03-1.27*	1.18	0.97-1.44
Internalized stigma	1.03	0.94-1.14	1.03	0.86-1.24

*p value<0.05
**p value<0.01
***p value<0.001
[a]Indoor includes private home, brothel, bar, private party, hotel or guest house
[b]Outdoor venues include street, park, public garden, beach, cemetery or private vehicle
[c]Stable housing includes as owning a place, staying with friends, family or boyfriend, student housing
[d]Other includes brothel, hostel, refusal or missing

[Table 1. Correlates of engagement in antiretroviral therapy and viral suppression among female sex workers in Durban, South Africa]

CONCLUSIONS: Structural barriers were common among this population and associated with decreased ART use and VS. These findings highlight the complex treatment needs of FSW and that further integration of structural determinants within current treatment programs is critical to optimizing treatment outcomes and impacting the HIV epidemic.

PED1077

HIV SELF-TESTING REACHES PREVIOUSLY UNREACHED KEY AND VULNERABLE POPULATIONS IN DEMOCRATIC REPUBLIC OF THE CONGO (DRC)

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BACKGROUND: HIV self-testing (HIVST) helps countries expand access to HIV testing services, reach those at high risk who may not otherwise get tested, and achieve the first 95 of UNAIDS' 95-95-95 targets, that 95 percent of all people living with HIV should know their status. Among key population (KP) members, who have low uptake of other testing options, reported benefits include privacy, convenience, pain-free testing, and ease of use.

DESCRIPTION: In DRC, HIVST was implemented by the LINKAGES project in Kinshasa, Haut Katanga, and Lualaba for female sex workers (FSWs), men who have sex with men (MSM), and FSW clients from October 1, 2018, to September 30, 2019. Peer educators (PEs) were trained to offer OraQuick HIVST kits only to peers who, based on a risk assessment, had never tested before and who had refused testing by any other means (mobile, drop-in center [DIC], facility). First-time testers were also prioritized for mobile and DIC testing. HIVST was assisted and was done in the presence of the PE. Peers with reactive tests were referred or accompanied to confirmatory testing and antiretroviral therapy (ART) initiation.

LESSONS LEARNED: FSWs, MSM, and FSW clients who self-tested were between two and five times as likely to have an HIV-positive result compared to those testing at DICs and mobile units (Table 1). The percent of first-time testers ranged from 91% to 100% for all populations and testing modalities. Lastly, the ART initiation rate following HIVST was higher than mobile or DIC testing for FSWs and MSM, but slightly lower for FSW clients.

	Indicators	FSWs	MSM	FSW Clients	Total
Self-testing	Case finding via HIVST	46% (N=498)	20% (N=347)	31% (N=68)	35% (N=913)
	% KP/PP initiated on ART	95%	94%	86%	94%
	% KP/PP who tested with self-testing kit who were first-time testers	100%	100%	100%	100%
Mobile testing	Case finding from mobile testing	10% (11,902)	7% (N=2,791)	7% (N=2,776)	9% (N=17,469)
	% KP/PP testing positive at mobile testing initiated on ART	83%	75%	88%	82%
	% KP/PP who were first-time testers among all tested in mobile testing	94%	91%	96%	94%
Drop-in Center (DIC)	Case finding at DICs	13% (N=2,286)	10% (N=1,931)	7% (N=306)	11% (N=4,523)
	% KP/PP testing positive at DICs initiated on ART	92%	87%	90%	90%
	% KP/PP who were first-time testers among all who tested at DICs	99%	99%	100%	99%

[Table 1]

CONCLUSIONS/NEXT STEPS: HIVST is critical to reaching undiagnosed HIV-positive key and priority population members who have refused to attend HIV testing at mobile, DIC, and facility sites. Assisted HIVST may also lead to high ART initiation rates when done through PEs.

PED1078

CONTRIBUTORS TO RESILIENCE FOR HIV PREVENTION AMONG FEMALE SEX WORKERS IN PATTAYA THAILAND

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BACKGROUND: Resilience is an understudied intrapersonal factor which has been associated with reduced HIV risk behaviors for some key populations including men who have sex with men. Resilience may hold equal promise for female sex workers (FSW) who also experience high rates of HIV, trauma, and adversity. We explore contributing factors to resilience among FSW in Pattaya Thailand with implications for preventing HIV and improving population health.

METHODS: 401 venue-based FSW were recruited via proportional-to-size venue-based sampling in Pattaya Thailand for an in-person survey (May, 2017). Consenting participants were asked questions on depressive symptoms, self-efficacy, experience in the sex trade, health access, feelings of community acceptance, safety, and resilience. Multivariable generalized linear regression was used to examine correlates of resilience from three domains; individual-level factors, venue/work factors, and community-level factors. Hierarchical regression models were built to examine the contribution of each domain of factors separately and in conjunction.

RESULTS: FSW resilience scores averaged 31.72 (range 13-40). In the multivariable model including factors from all three domains, FSW resilience was correlated with several individual-level factors including non-depression (β 2.55, 95% CI 1.07, 4.03), higher self-efficacy for condom use (β 1.64, 95% CI .66, 2.63), and lower self-efficacy for safety (β -.67, 95% CI -1.20, -.13). At the community-level, FSW resilience was associated with feelings of increased community acceptance of sex work (β .65, 95% CI .22, 1.20). No venue/work factors were found to be statistically associated with resilience, however FSW who reported higher levels of venue manager support had higher resilience scores (β .70, 95% CI -.26, 1.67).

CONCLUSIONS: FSW resilience scores from this sample are higher than those from previous samples of FSW in Asia, but lower than many general population estimates from high-income settings. In this context resilience may be an important HIV prevention factor for FSW with implications for improving condom use and mental health. Resilience-building interventions which have shown promise could be adapted for FSW in low and middle-income setting to improve HIV outcomes beyond what may be possible with risk-reduction interventions alone.

PED1079

HIV RISK PATTERNS AMONG WOMEN WHO USE DRUGS ON THE U.S.-MEXICO BORDER: A COMPARISON BY SEX WORK STATUS

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BACKGROUND: HIV research among female substance users residing on the U.S.-Mexico border has focused almost exclusively on female sex workers (FSWs). We analyzed the HIV risk factors of women who use drugs in the El Paso-Juarez U.S.-Mexico border region by sex work status.

METHODS: We analyzed data from a cross-sectional survey of females who use drugs. A total of 100 females substance users (30% who were sex workers) were recruited using respondent driven sampling. Data analysis included independent sample t-tests and chi-square tests to explore differences between FSWs and non-FSWs across different risk factors (i.e. demographics, substance use, STIs, HIV testing, sexual risk behaviors, and violence).

RESULTS: FSWs were younger (M = 34.83, SD = 6.72) vs non-FSWs (M = 40.24, SD = 11.67) (t = 2.26, p < .05). A significant difference was found in the amount of crack used with FSWs reporting a higher mean quantity of crack used 6.25 rocks (SD = 3.04) vs a mean of 2.64 rocks (SD = 5.36) for non-FSWs, (t = -2.25, p < .05). No significant differences were found in number or type of STI diagnoses or mean months elapsed since the last HIV test. Regarding sexual risk behaviors, FSWs reported a higher mean number of condomless sex acts in the last 30 days (M = 19.08, SD = 24.44) vs non-FSWs (M = 9.06, SD = 11.85) (t = -2.25, p < .05). However, non-FSWs reported a higher mean number of exchanges of sex for crack without a condom in the last 30 days (M = 7.06, SD = 16.86) than FSWs (M = 1, SD = 4.32) (t = 2.62, p < .05). Regarding violence victimization, a greater percentage of female sex workers (66.7%) than non-FSWs (18.6%) reported human rights violations by law enforcement, ($\chi 2$ = 15.67, p < .05).

CONCLUSIONS: Our findings indicate that different HIV risk patterns afflict women who use drugs depending on whether they are employed in the sex trade. Understanding the diverse needs of women substance users can increase the preventive services available for them and inform the development of tailored interventions.

PED1080

THE METHODOLOGICAL ASPECTS OF DESIGNING A FEMALE SEX WORKER-LED COMMUNITY INTERVENTION TO IMPROVE PRE-EXPOSURE PROPHYLAXIS UPTAKE AND RETENTION IN SOUTH AFRICA; AN INTERVENTION MAPPING APPROACH

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BACKGROUND: In 2016 the South African government approved PrEP distribution among high risk groups to reduce new HIV infections. Sex workers were targeted with PrEP as part of combination prevention. Research by the department of health showed that from June 2016-May 2018, 87% of FSWs tested negative, 66% were offered PrEP however only 13% were initiated. The reasons for low uptake have been concerns about side effects, lack of knowledge, as well as the social stigma and inability to adhere because of mobility. Due to these challenges, it was important to engage FSWs in the design of a FSW led community intervention to promote PrEP and address challenges pertaining to uptake, adherence and retention.

METHODS: From May-November 2018, we conducted a needs analysis with 30 individual interviews with FSWs, a researcher and a nurse and focus groups with nine FSWs. Data from the needs analysis informed the development of an intervention. The intervention was co-created starting September-November 2019, following a six step mapping process with eight FSW peer educators and a researcher, who held six meetings to discuss and formulate intervention determinants, change objectives, theory based methods, intervention program as well as identifying implementing partners and an evaluation plan.

RESULTS: All the participants interviewed appreciated the role of PrEP as an additional prevention tool, however recognised that the current strategies were not person-centred. The FSW-led intervention highlights the development of agency, power, self-efficacy and hope among FSWs. The proposed intervention destigmatizes PrEP through positive messaging, equipping FSWs with the ability to differentiate PrEP from ARVs given to people living with HIV. Suggestions are given on how to manage pill supply and side effects as well as equipping participants to be ambassadors for PrEP.

CONCLUSIONS: Improving uptake of PrEP among FSWs will require dedicated efforts in designing FSW acceptable interventions that address their individual and social needs. Meaningful involvement of FSWs in the design and implementation of PrEP services encourages uptake, and creates a sense of ownership to ensure sustainability of programs.

PED1081

PERPETUATING INEQUITY: DISPARITIES IN HIV-RELATED RISK AMONG TRANS WOMEN SEX WORKERS AND EFFECTS OF A TARGETED, ANTI-SEX-TRAFFICKING POLICY

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BACKGROUND: Sex work is a means of survival for many trans women (TW) and presents numerous risks, including criminalization, institutionalization, trauma and contracting HIV. We assessed longitudinal disparities in HIV-related risk outcomes among trans women who do sex work (TWSW), and evaluated these risks for TWSW compared to TW not engaged in sex work from pre- and post-implementation of the US 2018 "Allow States and Victims to Fight Online Sex Trafficking Act" and "Stop Enabling Sex Traffickers Act" (FOSTA-SESTA).

METHODS: We analyzed 428 HIV-negative, adult TW from the Trans*National cohort study (2016-2019). Generalized estimating equations (GEE) characterized longitudinal differences in socioeconomic outcomes, transphobic hate crimes, discrimination from the police or courts, sexual partner meeting places, engagement in condomless anal intercourse, and incarceration for TWSW compared

to TW not engaged in sex work after adjusting for social transition and race/ethnicity. Finally, we compared the adjusted, pre-to-post law changes in the aforementioned outcomes for TWSW versus TW not engaged in sex work using difference-in-differences GEE regression analyses.

RESULTS: Over 18 months, TWSW had higher adjusted odds of being unstably housed, having illicit income sources, experiencing transphobic hate crimes, experiencing discrimination from police/courts, meeting sex partners in the street/public settings, meeting sex partners on Craigslist or other online forums (except dating apps), engaging in condomless anal intercourse, or being recently incarcerated ($p<0.01$ for all comparisons); TWSW also had a higher mean number of income sources ($p=0.03$). One difference-in-differences analysis showed additive interaction: the adjusted mean number of income sources reported by TWSW compared to those not engaged in sex work decreased from pre- to post-FOSTA-SESTA (from 1.81 to 1.54 for TWSW and from 1.48 to 1.45 for TW not engaged in sex work; $p=0.050$).

CONCLUSIONS: Numerous disparities in HIV-related risk exist for TWSW in San Francisco. Preliminary findings show that FOSTA-SESTA may not exacerbate some of these disparities; however, these analyses are likely underpowered and require more post-law follow-up data with a larger number of TWSW. This highlights the urgent need for comprehensive, long-term follow-up data of TW to accurately analyze policy effects, especially given the recent enactment of a number of other policies targeting TW.

PED1082

COMMUNITY BASED DISTRIBUTION OF HIV SELF-TEST REACHES MORE UNDIAGNOSED FEMALE SEX WORKERS IN TANZANIA

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BACKGROUND: Tanzania has made remarkable progress in reaching the 90-90-90 goals by 2020. Multiple HIV Testing Services (HTS) delivery are being implemented including Provider-Initiated HIV Testing and Counseling in health facilities or various community-based services . Trained peer educators are engaged to work in community settings and hotspots where Key and Vulnerable (KVP) beneficiaries gather, to deliver risk reduction counselling and facilitate linkage to HTS. Despite multiple approaches to ensure no one is left behind, testing gap exist among KVPs . HIV Self-Test has the potential to reach untested persons in Tanzania, link them to HIV care and treatment, to support the achievement of 909090 goals.

DESCRIPTION: The pilot was implemented from May 2018 to March 2019,aim to generating data on implementation models, uptake and acceptability of HIV self-testing among Key and Vulnerable Population so as to inform programming and policy shift. Various HIVST kits delivery points were established in Facility and Community through HIVST kits distributors. Providers were trained to provide information on HIVST kits usage. Direct and Secondary distribution models of kits were used in both setting. All KVP clients reached were given the opportunity to use a self-test (direct distribution), and take additional tests to their partners and/or peers (secondary distribution). Secondary distribution was intended to serve hardest-to-reach populations who could not access conventional HIV testing approaches with the KVP beneficiaries serving as distributors.

LESSONS LEARNED: A total of 20,632 kits were distributed to 17,252 clients. 84% were primary client who contacted the provider while 16.4 % kits were distributed as secondary. Majority 89.2% kits were distributed via community outreach settings and onsite 63.3%. Most clients were female Sex Workers as Primary client, and 76.4% aged 20-29 years and lowest were People Who Use Drugs 0.2%. 78.5% clients who received HIVST returned their results, and 4.1% were diagnosed HIV positive.

CONCLUSIONS/NEXT STEPS: Demand for HIV self Testing Services is high. Community based HIVST kits distribution Model is the best for reaching undiagnosed KVP Living with HIV in Tanzania. HIVST project contributed significantly to strengthen networks of KVP groups and promoted use of HIV preventive services.

PED1083

DETERMINANTS OF CONDOM BREAKAGE AMONG FEMALE SEX WORKERS IN NIGERIA

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BACKGROUND: The 2014 Nigeria Integrated Biological and Behavioral Surveillance Survey (IBBSS) estimated HIV prevalence at 19.4% for brothel-based Female Sex Workers (FSW) and 8.6% for non-brothel based FSW which was above the national average of 1.3%. Evidence has shown that FSWs were sometimes more likely to be consistent in condom use than regular partners, boy/girlfriends, and casual partners. Condoms are effective against the spread of HIV infection if they are correctly used without breakage during sexual intercourse. Condom breakages and slippages have been associated with commercial sex activities. This study assessed the determinants of condom breakage among FSW in Nigeria.

METHODS: The 2014 IBBSS data on female sex workers were analyzed. This was a cross-sectional study that involved cluster and time-location sampling techniques in brothels and non-brothels. The study was conducted in 13 Nigerian states and Federal Capital with a structured questionnaire collecting information on sexual and reproductive health. A negative binomial regression model was used to assess the determinants of condom breakage in the last one month.

RESULTS: The average age of FSW was 27.1±6.2years with an average age at first sex being 17.0±2.8years. The average number of clients/day was 4.4. The mean condom breakage was 1.1±3.2times. About 36.1% were currently married, 38.8% had sex with men that were 10years older, 55.0% completed at least secondary education, and 72.6% had HIV/STI information in the last 12 months. About 91.8% used condoms at last sex and consistent condom use was 29.1%. The percentage of condom breakage was 40.3% in the last month prior to the survey. Determinants of condom breakage were lack of condom lubrication incidence rate ratio (IRR)=3.6 95%CI 2.2-4.1, improper use of condom IRR=2.1 95%CI 1.5-3.9 and had sex with men that were 10years older IRR=1.9 95%CI 1.3-3.2.

CONCLUSIONS: Availability of condom lubricants is important in reducing the incidence of breakage of condoms. Although condom use at last sex was high but consistent condom use was low. Also,

improper use of condom is a determinant. Consistent, proper and effective use of condoms needs to be promoted among FSWs. Additionally, HIV/STI information should contain key information on effective condom use.

PED1084

A PILOT RANDOMIZED TRIAL OF A THEORY-INFORMED MHEALTH INTERVENTION TO SUPPORT ANTIRETROVIRAL THERAPY ADHERENCE IN HIV-POSITIVE HIGH-RISK WOMEN IN MOMBASA, KENYA

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BACKGROUND: Women in sub-Saharan Africa have a higher prevalence of HIV compared to men, and women who engage in transactional sex are particularly affected. Mobile health (mHealth) interventions have shown promise in improving treatment outcomes in people living with HIV. This pilot randomized controlled trial (RCT) evaluated preliminary efficacy of a theory-informed mHealth intervention to improve adherence and viral suppression among HIV-positive women initiating ART or changing regimens due to virologic failure in Mombasa, Kenya.

METHODS: Women were randomized to intervention and standard of care control conditions, and were followed for six months after ART initiation or regimen change. Text messages were informed by the Information-Motivation-Behavioral Skills theory and personalized based on the participant's name, language, religion, and parity. Tailored text messages were sent automatically via the TextIt platform. Women were called by a nurse if they had a concern. Self-reported adherence was measured monthly using a visual analogue scale (VAS) and dichotomized as 100% vs <100%. HIV RNA viral load was measured at months three and six, and dichotomized as <30 copies/mL ("suppressed") vs >30 copies/mL ("detectable"). At month six, women responded to an IMB questionnaire and provided qualitative feedback about the intervention.

RESULTS: A total of 119 women participated in the RCT. Six months following treatment initiation, 78% (35/45) of intervention and 69% (34/49) of control participants were virally suppressed (p=0.37). At month six, 100% adherence by VAS was higher among women in the intervention arm (41/47, 87%) compared to the control arm (40/50, 80%) (p=0.3); there was a significant difference in the first month following treatment initiation (53/57, 93% vs 37/52, 71%, p=0.003). Intervention participants had higher scores in subsets of the IMB constructs compared to control participants; information (mean 88 vs 85, p=0.38), motivation (mean 71 vs 67, p=0.38), and behavioral skills (mean 81 vs 77, p=0.26), although differences were not statistically significant. Qualitative exit interviews suggested high satisfaction and perceived impact of the intervention.

CONCLUSIONS: This pilot trial of an mHealth intervention to support ART adherence in high-risk women demonstrated high feasibility and acceptability, and preliminary efficacy results appear promising.

PED1085

WOMEN'S MOVING INTO SEX WORK AND VULNERABILITY TO HIV TRANSMISSION: A STUDY IN BANGLADESH

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BACKGROUND: Given that sex work is stigmatized and quasi-legal in Bangladesh, a question may arise why women join sex work. Several studies have mentioned trafficking as the primary reason for women's entry into sex work. While this is true, a complete understanding of Bangladeshi women's involvement in sex work is poorly understood. This study aims to contribute to an understanding of socio-cultural factors that shape women's moving into sex work.

METHODS: 400 female sex workers (FSWs) completed a cross-sectional survey and 10 FSWs and 13 other stakeholders attended semi-structured in-depth interviews during mid-2017. Through the survey and in-depth interviews, participants were asked questions about women's involvement in sex work in a brothel setting in Bangladesh. Survey data were analyzed using SPSS software. Descriptive statistics were used to summarize the results. Qualitative data were analyzed thematically.

RESULTS: While most women moved into sex work through trafficking (71% of survey participants and 90% of FSWs in interviews), some women did not regard themselves as having been trafficked (29% of survey participants and 10% of FSWs in interviews). Survey findings demonstrated the key people involved in trafficking, including pimps (66.7%), neighbors (10.0%), family members (11.5%), madams (4.6%), boyfriends (4.6%), and thugs (2.5%). Interview participants recounted that poverty, exploitation, inadequate employment opportunities, and limited education contributed to women's trafficking into sex work. Participants' narratives also suggested that non-trafficked women's experiences of poverty, rape, forced prostitution, divorce, and false marriage prompted them to choose sex work as a means of survival. Once entered sex work, women felt obligated to choose sex work as their sole form of employment to survive and meet the subsistence and educational needs of their family members including parents, siblings, or children.

CONCLUSIONS: Despite quasi-legal status, sex work can be recognized as a viable form of employment to earn money for supporting women and their family members. It is also important to create alternative employment opportunities for women who experienced socio-cultural factors. The complete decriminalization of sex work and proper implementation of laws are vital to safeguard women from trafficking and exploitation, enhance agency, and reduce their HIV vulnerability.

TRANSGENDER PEOPLE

PED1086

MEDICAL GENDER AFFIRMATION TREATMENT IS ASSOCIATED WITH INCREASED HIV/STI TESTING IN AN ONLINE SAMPLE TRANSGENDER WOMEN IN THE US

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BACKGROUND: Transgender women are disproportionately affected by HIV and STI infection. Medical gender affirming treatment (GAT) may facilitate uptake of testing and prevention services. We assessed HIV/STI testing and PrEP use in a cross-sectional online survey of US transgender women.

METHODS: Social media advertisements were used to recruit participants age 15+ who identified as transgender women or whose gender identity was female and reported male sex assigned at birth. Analyses were restricted to those who reported past year anal and/or vaginal sex. Modified Poisson models tested associations between GAT (hormone therapy with or without gender-affirming surgery) and HIV and STI (syphilis, gonorrhea, chlamydia) testing, controlling for age, race/ethnicity, county population density and any healthcare provider visit in the past year. Past year PrEP use was also assessed but could not be modeled due to limited use.

RESULTS: Of 267 participants in the analysis, 58.4% reported current hormone therapy only and 10.9% reported both hormone therapy and at least one gender-affirming surgery. Compared to those who did not receive GAT, participants who did were more likely to report being tested for an STI in the past year (49.2% vs. 18.3%; adjusted prevalence ratio [aPR]=2.34; 95% Confidence Interval [CI]: 1.40-3.89). Among HIV-negative/unknown status participants, those who had received GAT were more likely to have been tested for HIV, both ever (70.7% vs. 30.9%, aPR=1.80; 95% CI:1.26-2.56) and in the past year (53.0% vs. 21.0%, aPR=2.09; 95% CI:1.32-3.31). Associations for STI or HIV testing did not vary by type of GAT received. The prevalence of past year PrEP use varied by receipt of GAT: 13.8% of participants who received hormones and surgery, 9.0% of those who received only hormones, and 1.2% of those who did not receive any GAT.

CONCLUSIONS: These findings suggest that gender affirmative services for transgender women in the US provides derivative benefits in increased HIV/STI testing and PrEP use, independent of general healthcare engagement. Transgender women remain at among the highest risk of HIV in the US and around the world, and these data support scaling up integrated models of gender affirmative healthcare and HIV services to optimize both HIV and health outcomes.

PED1087

HARNESSING RESILIENCE IN VIOLENCE AND HIV PREVENTION INTERVENTION RESEARCH WITH, FOR, AND BY TRANSGENDER WOMEN OF COLOR IN DETROIT, MICHIGAN, USA

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BACKGROUND: Transgender women of color experience intersectional forms of stigma and violence, which have been linked to HIV transmission risk and inequities in HIV prevention and care continuum outcomes. To date, little research has focused on what fosters resilience (i.e., healthy adaptation in the face of adversity) among transgender women of color, which may guide effective HIV prevention and treatment programming for this priority population.

METHODS: Between January and March 2019, we conducted five focus groups (n=33 participants) with transgender women of color as part of the Love Her Collective, a community-academic partnership. The overall goal of the study was to identify the HIV-related health needs of transgender women of color in Detroit, Michigan. Focus groups were audio-recorded and transcribed. We employed a phenomenological analytic approach to explore and refine themes related to resilience, stigma, and violence.

RESULTS: Participants ranged in age from 18 to 66 (M=31); 79% identified as Black, and 18% identified as Multiracial; 63% were living with HIV and 29% did not know their status. Participants described their own past and current stigmatizing and traumatic experiences (e.g., down-low or secret relationships, exploitation, fears of being "clocked" and murdered) and discussed how these experiences motivated them to engage in actions to address violence and safety for all transgender women of color. We identified four overarching themes that fostered resilience in this context: 1) Activism led by transgender women of color; 2) Solidarity and safety in numbers; 3) Self-respect and healing; and 4) Instrumental support in the form of emergency funds and peer navigation. Although many participants were under-/unemployed, which posed one barrier to accessing services, they frequently shared resources and helped other transgender women of color navigate fragmented and discriminatory healthcare and social services.

CONCLUSIONS: Transgender women of color engage in a multitude of activities to combat and heal from stigma and violence. Findings highlight the need to address violence and stigma in HIV prevention and treatment efforts, and for these efforts to include community-action activism projects to foster empowerment and supportive groups to promote safety and solidarity. HIV prevention and treatment efforts should also incorporate individual-level healing and economic empowerment.

PED1088

HIV PRE-EXPOSURE PROPHYLAXIS (PREP) IN GENDER-DIVERSE PREP USERS IN GERMANY: FINDINGS FROM THE PRAPP STUDY 2019

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BACKGROUND: Gender-diverse people face adverse socioeconomic conditions including financial instability and unemployment, which might impact access to HIV pre-exposure prophylaxis (PrEP). We want to investigate how gender-diverse people use PrEP in Germany.
METHODS: From April to June 2019, we recruited PrEP users in Germany on MSM geolocation dating apps, community-based HIV testing sites and a community website for an anonymous online survey. Factors associated with gender-diverse PrEP users were assessed with univariable logistic regression.
RESULTS: We recruited 3,071 PrEP users, 96.3% provided information on gender identity and sex assigned at birth. Of these, 2,911 said that their current gender identity matches their sex assigned at birth, whereas 47 were gender-diverse, i.e. their gender identity and sex assigned at birth differed. The group of gender-diverse PrEP users included 26 identifying as non-binary, 10 as trans male, 6 as male, 3 as trans female, and 2 as intersex.
Gender-diverse PrEP users were younger than other PrEP users (median 29 years, IQR 24-33 vs. 37 years, IQR 30-45, p<0.001) and more likely to be born outside Germany (OR = 4.2, 95% 2.0 – 8.8). They were more likely to live on an annual gross income <30,000 EUR or have no income at all (71.4% vs. 29.0%, OR = 6.1, 95% CI 2.9 – 12.8).
Regarding their PrEP use, gender-diverse participants were more likely to obtain PrEP by traveling to another country (OR = 5.8, 95% CI 2.4 – 14.3). They also stated more often that they were not able to afford generic PrEP in Germany for a price of 40-70€ per month (OR = 5.3, 95% CI 2.5 – 11.4) or had difficulties affording it (OR = 4.0, 95% CI 1.9 – 8.4).
CONCLUSIONS: Gender-diverse PrEP users faced economic difficulties and more often sought access to PrEP outside the German healthcare system. Coverage of PrEP by statutory health insurances, as implemented in Germany since September 2019, might help people in this vulnerable population to overcome financial barriers to accessing PrEP. However, other barriers to accessing health care faced by gender diverse people still need to be addressed.

PED1089

SEXUAL AND MENTAL HEALTH MORBIDITY INDICATORS OF ASSIGNED-FEMALE-AT-BIRTH (AFB) MEN-WHO-HAVE-SEX-WITH-MEN (MSM) IN EUROPE: FINDINGS FROM EMIS 2017

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BACKGROUND: The group men-who-have-sex-with-men (MSM) include people who were assigned-female-at-birth (AFB) and who now identify as men. We analyzed indicators of sexual and mental health morbidities from the 2017 European MSM Internet Survey (EMIS), comparing AFB MSM with those assigned-male-at birth (AMB).
METHODS: Opportunistic multi-language online sexual health survey for MSM, primarily recruited through MSM dating apps (fieldwork Oct 2017– Jan 2018). Differences between AFB and AMB MSM were analyzed using multivariable logistic regression adjusting for age, country and employment status.
RESULTS: Of 125,720 participants in Europe, 0.5% (n=674) indicated they were AFB. Compared to AMB MSM, AFB participants were more likely to indicate: severe anxiety & depression (21.1% vs 7.6%, adjusted odds ratio [aOR]=2.27, 95% confidence interval (CI) 1.87–2.75): recent thoughts of self-harm (45.6% vs 20.7%, aOR=2.49, 95% CI 2.13–2.91); being unhappy with their sex life (33.1% vs 22.4%, aOR=1.53, 95% CI 1.30–1.81); and alcohol dependency (25.3% vs 18.3%, aOR=1.39, 95% CI 1.17–1.66). In contrast, they were less likely to report living with diagnosed HIV (1.6% vs 10.5%, aOR=0.19, 95% CI 0.11–0.35) or being diagnosed in the last 12 months with syphilis (1.0% vs 4.4%, aOR=0.25, 95% CI 0.12–0.52) or gonorrhea (2.6% vs 5.3%, aOR=0.43, 95% CI 0.27–0.70).
CONCLUSIONS: Poor mental health, alcohol dependence and sexual unhappiness were more prevalent in AFB MSM compared to AMB MSM. Conversely, diagnoses of STIs were less common. To facilitate planning and to increase inclusion, sex-assigned-at-birth should be routinely collected in MSM surveys.

PED1090

DETERMINANTS OF UTILIZATION OF HIV AND OTHER HEALTH SERVICE AMONG TRANS PEOPLE IN FOUR COUNTRIES - NEPAL, INDONESIA, VIETNAM AND THAILAND: FINDINGS FROM A QUALITATIVE STUDY

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BACKGROUND: Asia-pacific region has 60% of the world's transgender population and the HIV prevalence among them is quite high. However, there is lack of understanding of challenges faced by the transgender community. A Key Population Research Advocacy-KPRA study was undertaken from August 2018 to May 2019 in four countries—Indonesia, Nepal, Thailand, and Vietnam to understand the existing situation and generate evidence for advocacy.
METHODS: The study was undertaken with 996 transgender people in four countries. The respondents were 75% trans-women, 23% trans-men, and 2% gender non-conforming persons. The age of participants was 18 years and above. The data was entered into REDCap, a web based application designed to capture clinical and field research and analysed by using SPSS.
RESULTS: 90% of trans-women respondents were aware of STIs, and over two-thirds have tested for STI and 75% shared that they had tested for HIV. Indonesia had the highest numbers of people living with HIV (n=47, 23%). 21% HIV+ respondents in Indonesia, 29% in Nepal, 40% in Thailand, and 50% in Vietnam mentioned delay in initiating treatment due to fear of discrimination and non-confidentiality or disclosure of their positive status.
Despite of high level of education respondents mentioned that they have limited work opportunity and most of them are working in the entertainment industry, beautician or unemployed. Transgender community also faces several mental stress and many of them thought of committing suicide at some point. The mean age at first

attempt of suicide is 15.5 years and only 15% have seek professional help for the same.

Respondents from Vietnam (99%) and Thailand (97%) has health insurance, while in Nepal (90%) and Indonesia (60%) respondents do not have health insurance. The hormonal treatment were sourced through friends, pharmacies, online stores, and other non-medical sources. Also, less than 5% sought advised from health professional before using hormones.

CONCLUSIONS: The findings from the study highlighted the need of addressing stigma and discrimination along with ensuring provision of social services including employment opportunities and health insurance. There is need for inclusion of trans affirming services, mental health and counselling to improve the well-being of transgender community.

PED1091

FACTORS ASSOCIATED WITH ATTITUDES TO HIV-1 CURE RESEARCH AMONG TRANSGENDER WOMEN AND TRAVESTIS IN SÃO PAULO, BRAZIL

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BACKGROUND: Understanding the perceptions of the groups most affected by the HIV-1 epidemic is fundamental in guiding strategies for HIV-1 cure research. In Brazil, transgender women and travestis are 55 times more likely to be infected with HIV-1 than the general population. They are also less likely to have access to health information or to be included as participants in clinical studies overall.

METHODS: To better understand the perceptions of HIV-1 cure research and factors associated with participating in HIV-1 studies, a self-administered questionnaire was distributed among 118 transgender women and travestis in São Paulo, Brazil, between July-August, 2019.

RESULTS: Most participants (73%) had previously heard about HIV-1 cure research; 42% believed there is currently a cure for HIV-1. Most reported that they were willing to participate in online surveys, person to person interviews, focus group discussions, and studies involving blood draws; however, participants were less willing to consider participating in more complex studies, such as those involving gene editing or T-cell therapy. The biggest motivating factors that contributed to participation in HIV-1 cure research included gaining additional knowledge about HIV-1 infection (77%), as well as the potential for a longer and healthier life for all (73%). Side effects likely to discourage participation in research were dermatologic (43%), musculoskeletal (41%), HIV-1-related (40%), toxicities (40%) and psychological factors (39%). This study also showed ambivalence in answers to several of the questions due to missing data and uncertain responses, suggesting a limited understanding of HIV-1 cure research in the trans-identifying community.

CONCLUSIONS: This study provides novel insight on attitudes to HIV-1 cure research in the transgender and travesti population of São Paulo as well as the improvements that are needed to strengthen the dialogue between scientists and the vulnerable populations that are most affected by HIV-1. It is essential to continue developing collaborations between scientific investigators, community educators, transgender women, and travestis in order to ensure that future HIV-1 cure research is inclusive and supportive of the perspectives of the trans-identifying community.

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PED1092

TRANSGENDER AND CISGENDER INDIVIDUALS IN ARGENTINA DISENGAGED FROM HIV CARE: EXAMINING POTENTIAL CONTRIBUTORS

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BACKGROUND: Transgender women (TGW) endure social exclusion and stigma, placing them in a context of high psychosocial vulnerability (sex work, unstable housing, exposure to violence, etc.). This is strongly associated with high HIV prevalence in this population (34%, in Argentina) and lower adherence to antiretroviral treatment (ART). This study compared two samples of people living with HIV (TGW vs. cisgender participants [CP]) who were disengaged from HIV care.

METHODS: The COPA2 study (NCT02846350) enrolled viremic HIV-positive individuals, re-engaging in care at baseline, to explore the impact of motivational interviewing on viral suppression. Disengagement from care was defined as at least 3 missed pharmacy pick-ups in the last 6 months, or no physician visits in the last year. TGW were included to identify factors associated with gender identity. Participants completed questionnaires assessing sociodemographic information, depression (BDI-IA), drug (DAST-10) and alcohol use (AUDIT), patient-provider relationship quality, adherence (VAS) and treatment-related factors. Analyses included chi-square tests exploring the association between variables and ANCOVAs comparing groups controlling for age.

RESULTS: The samples consisted of 41 TGW and 360 CP (177 male, 183 female). TGW were significantly younger (mean age 33.43 ±8.84 years, vs. 39.14 ±10.96 for CP). Around 80% of each group had completed high school education or less; 34.1% of TGW and 28.1% of CP met criteria for moderate to severe depression (BDI≥17). Transgender identity was associated with not having health insurance ($p<.001$), use of drugs ($p<.001$), particularly cocaine ($p=.005$), in the last 6 months, and hazardous drinking ($p=.001$). TGW showed more negative consequences related to drug use ($F(1,398)=26.999$, $p<.001$), more hazardous alcohol use ($F(1,398)=14.198$, $p<.001$), lower patient-provider relationship quality ($F(1,398)=7.805$, $p=.005$) and lower adherence ($F(1,398)=5.725$, $p=.017$) than CP. No other significant differences were identified.

CONCLUSIONS: TGW in this sample had characteristics (e.g., depression, drug and alcohol use) and experiences (e.g., poor patient-provider relationship quality) that may negatively impact adherence and retention in care, highlighting the need for comprehensive programs for this population. Harm reduction should be a key component in HIV care to address substance use. Healthcare teams should receive formal training in patient-provider communication skills and trans-specific competencies to enhance TGW's adherence and retention.

PED1093

SEXUAL RISK AND PRECAUTION BEHAVIOURS AMONG ASSIGNED-FEMALE-AT-BIRTH (AFB) MEN-WHO-HAVE-SEX-WITH-MEN (MSM) IN EUROPE: FINDINGS FROM EMIS 2017

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BACKGROUND: The group of men, who have sex with men (MSM) includes people who are assigned-female-at-birth (AFB) and who now identify as men. Differences in sexual risk behaviours between AFB and MSM assigned male-at-birth (AMB) are known with little confidence. We compared quantitative behavioural indicators from the 2017 European Men-who-have-sex-with-men Internet Survey (EMIS) for AFB and AMB MSM.

METHODS: Opportunistic multi-language online sexual health survey for MSM, primarily recruited through MSM dating apps (fieldwork Oct 2017– Jan 2018). Differences between AFB and AMB MSM were analyzed using multivariable logistic regression adjusting for age, country and employment status.

RESULTS: Of 125,720 participants in Europe, 0.5% (n=674) indicated they were AFB. AFB men were less likely than AMB men to have had (in last 12 months) 5 or more non-steady male partners (16.5% vs 45.1%, adjusted odds ratio [aOR]=0.27, 95% confidence interval (CI) 0.22–0.33), condomless intercourse with a non-steady male partner of unknown HIV status (12.1% vs 23.9%, aOR=0.45, 95%CI 0.36–0.57), condomless intercourse with two or more steady male partners (4.7% vs 8.6%, aOR=0.57, 95%CI 0.40–0.82), or to have combined sex and stimulant drugs in the past 4 weeks (2.5% vs 5.3%, aOR=0.51, 95%CI 0.32–0.83). They were also less likely to be currently taking PrEP (1.2% vs 3.1%, aOR=0.44, 95%CI 0.22–0.89).

CONCLUSIONS: Both risk and precaution behaviours were less prevalent in AFB MSM than among AMB MSM. To facilitate planning and to increase inclusion, sex assigned at birth and current gender identity should be routinely collected in MSM surveys.

PED1094

LACK OF HIV TESTING AMONG ADULT TRANSGENDER WOMEN SEEKING HORMONE THERAPY IN ARGENTINA

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BACKGROUND: Transgender women's (TGW) HIV prevalence is 34% in Argentina. Despite efforts to improve the continuum of care, TGW still are lately diagnosed. Since the enactment of the Gender Identity Law, health services providing hormone therapy (HT) have become the gateway to healthcare and a unique opportunity to access other health services. Our objective was to determine HIV prevalence and to identify predictors of lack of testing among TGW seeking HT at a public hospital in Buenos Aires.

METHODS: Data from medical records of TGW consulting for HT between July 2012 and December 2019 was used. As the standard of care, individuals at risk of acquiring HIV, unaware of their HIV status, or with outdated results, were invited to test for HIV. Chi-square and Mann–Whitney U test analyses were conducted to compare groups (known/unknown HIV-status). Multivariable logistic regression was performed to examine for predictors.

RESULTS: A total of 411 TGW visited the clinic. At first visit, 38.4% (n=158) have never tested for HIV, 27.7% (n=114) were HIV-positive and 33.8% (n=139) were HIV-negative. At follow up, 75/158 participants with unknown status tested for HIV (3 were HIV-positive). 56.4% of HIV-positive TGW reported a history of sex work. TGW still with unknown-HIV status (n=83) were significantly younger (30.8 vs 23.5 years, p=.001), reported less history of sex work (18.1% vs 38.4%, OR 2.8; IC 95%: 1.5-5.2: p=.001), and were less likely to have used HT (44.6% vs 65.9%, OR 2.4; IC 95%: 1.5-3.9: p=.001).

CONCLUSIONS: Young TGW who are not involved in sex work or have never used hormones seem not to perceive themselves at risk or are not adequately reached by HIV testing campaigns. To fill in this gap, health programs should design strategies that target this particular subgroup focusing on prevention, testing, and avoidance of risk behaviors. Also, given the high prevalence of HIV among TGW, comprehensive approaches and stronger liaisons with different services are needed. HT can be an opportunity to improve HIV testing and linkage to care, improving overall transgender health.

PED1095

SEXUAL BEHAVIOURS AND EXPOSURE TO HIV AND OTHER STIS IN TRANSGENDER MEN IN ARGENTINA

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BACKGROUND: Historically, transgender studies have focused on transgender women. In contrast, transgender masculinities (TGM) have remained understudied, although limited research suggests they also are at risk of acquiring HIV. Thus, there is a need to identify sexual risk and preventive behaviours for HIV and other STIs in TGM.

METHODS: Data was collected from an online national survey, designed based on the results of a TGM focus group. The final draft was reviewed and approved by TGM activists. The survey was conducted between May and September 2019 through social media. It included questions regarding socio-demographics, gender identity and sexuality (e.g., attraction, behaviours, etc.).

RESULTS: From a total of 415 TGM, 50.1% self-identified as trans men, 20.7% as men, 15.4% as non-binary/genderfluid/agender/other and 13.7% as transmasculine. The median age was 23 (IQR: 19–27), 7.5% were foreign-born and 74.2% completed secondary education. Regarding sexual orientation, 33.3% identified as heterosexual, 25.5% pansexual, 24% bisexual and 6.3% homosexual. In terms of sexual attraction, 47.7% was attracted to cisgender men, 82.4% to cisgender women, 52.5% to transgender men, 50.4% to transgender women and 47.7% to non-binary. In the last month, 47% had had sex with cisgender women, 20% with cisgender men, 9.4% with transgender men, 6.8% with non-binary and 4.6% with transgender women. Additionally, 38.3% of TGM had used alcohol or drugs with their partners before or during sex. Only 52.4% reported using condoms, 4.7% dental dam and 42.4% nothing, as regular preventive methods. Also, 17% had a history of transactional sex and only 58.3% used protection

during these sexual relations. In their last sexual relation, 63.8% had not used protection, being the main reason, having been tested for HIV with their partner (42.3%).

CONCLUSIONS: TGM reported a broad variability in sexual behaviours, including relationships with a high HIV-prevalence population. A high proportion of TGM engage in unprotected sex suggesting increased levels of exposure to HIV and other STIs, usually neglected by prevention programs and public policies. This initial evidence contributes to raising awareness and visibility on the exposure of TGM to HIV and STIs and on the need to design specific strategies targeting this population.

PED1096

HOUSING AND ENGAGEMENT IN CARE INFLUENCING HIV SCREENING AMONG TRANSGENDER INDIVIDUALS IN SOUTH FLORIDA

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BACKGROUND: Transgender individuals are considered most at risk for acquiring HIV, representing the highest number of newly confirmed cases. The Southeast region of the United States has emerged as an area of immediate concern, especially South Florida with the areas of highest prevalence in the country. HIV screening is a critical step in the HIV continuum to lower incidence and facilitate viral load suppression among populations most at risk. There are few studies assessing factors associated with HIV screening among transgender individuals living in the Southeast region of the United States. The objective of this study was to assess factors influencing engagement in routine care and HIV screening among transgender individuals in South Florida.

METHODS: An observational, cross-sectional study was conducted with participants recruited between Miami-Dade and Broward Counties. Sixty-eight participants were recruited during Fall 2016. They completed a questionnaire as part of a pilot pre-exposure prophylaxis (PrEP) study. Correlations were examined between socio-demographic factors, HIV risk, access to care, and engagement in routine care. Significant correlations were entered into two logistic regression models to estimate predictors of HIV screening and knowledge of HIV status.

RESULTS: Almost half (48.5%) of respondents were Latinx, 38.2% Black, 10.3% non-Latinx White (NLW), and 3% other. Seventy-eight percent reported access and routine engagement in care within the past year, 25% had not screened for HIV in the past year and of those who screened,13.4% reported living with HIV. Regression analysis revealed that participants with routine engagement in care were twice as likely to screen for HIV (p=0.02). Unstable housing (38.8%) was associated with no HIV test in the past year (p=.05) and living with HIV (p=0.02).

CONCLUSIONS: Stable housing, which has been demonstrated to influence willingness to take PrEP, and engagement in routine care can increase the likelihood of a transgender individual engaging in annual HIV screening. Further research is needed to explore additional factors that contribute to unstable house and inconsistent engagement in care, so that effective interventions can be developed to improve engagement in care among transgender individuals who do not have adequate housing or access to care.

PED1097

INFORMING RESEARCH ON INTERVENTIONS TO REDUCE HIV RISK BEHAVIOR AMONG TRANSGENDER WOMEN AND THEIR PRIMARY SEX PARTNERS: FORMATIVE RESEARCH FOR THE IT TAKES TWO (T2) COUPLES STUDY

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BACKGROUND: Transgender ('trans') women are a priority population for HIV prevention efforts. A significant number of new HIV infections among trans women occur in the context of primary partnerships; however, there are few couples-focused HIV prevention interventions designed with and for trans women of color. For the past 10 years, we have engaged in community-centered research to identify intervention targets to prevent HIV transmission among trans women and their partners using qualitative, survey, and intervention adaptation methodologies. Our collective work has led to the implementation of "It Takes Two (T2)" which is a randomized controlled trial (RCT) of a multi-session couples-based HIV prevention intervention.

METHODS: In February and March 2019, we conducted two focus groups (n=11) with trans women and individual in-depth interviews with cisgender male partners of trans women (n=4). Focus groups and in-depth interviews sought to identify potential adaptations to the intervention protocol that had demonstrated feasibility, acceptability, and preliminary efficacy in a pilot RCT. Focus groups and in-depth interviews were audio-recorded and transcribed. We employed thematic and content analysis to inform T2 study implementation.

RESULTS: Overall, trans women and cis-gender male partners were enthusiastic about the couples-based HIV prevention intervention. We identified four main themes that were relevant to study implementation:

(1) avoid hetero-normative and binary eligibility criteria for partners (i.e., HIV risk does not only occur with cis-gender men); (

2) the need for creative strategies to engage partners who may be on the "down-low" and secretive about their relationship due to shame and stigma;

(3) potential concerns about sessions being delivered by a peer counselor who is a trans woman (e.g., jealousy, fears of unfaithfulness, relationship conflict); and

(4) flexibility in scheduling and adequate incentives to compensate participants for time and transportation.

CONCLUSIONS: These findings were incorporated into the T2 intervention protocol and study design, and T2 recently opened and five couples have been enrolled as of January 2020. Formative data highlight the importance of continuously engaging in cultural humility, collaborating with community, and accounting for evolving definitions of HIV transmission risk and the relationship needs of trans women in the development and implementation of intervention research.

PED1098

FACTORS ASSOCIATED RECENT HIV TESTING AMONG TRANSGENDER WOMEN IN CAMBODIA: FINDINGS FROM A NATIONAL SURVEY USING RESPONDENT DRIVEN SAMPLING METHOD

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BACKGROUND: Globally, the prevalence of HIV in transgender women is among the highest in all key populations, and a large proportion of transgender women are unaware of their HIV status. This study aimed to identify factors associated with recent HIV testing among transgender women in Cambodia.

METHODS: This national survey was conducted in 2016 among a nationally representative sample of transgender women recruited from the capital city and 12 provinces with a high HIV burden using Respondent Driven Sampling method. Face-to-face interviews were conducted using a structured questionnaire. A multivariable logistic regression analysis was performed to explore factors associated with recent HIV testing. This study was approved by the Cambodian National Ethics Committee for Health Research.

RESULTS: This study included 1,375 transgender women with a mean age of 25.8 years (SD= 7.1). Of the total, 49.2% had been tested for HIV in the past six months. After adjustment, participants who had been testing for HIV in the past six months remained significantly less likely to be a student (AOR= 0.36, 95% CI= 0.20-0.65), to perceive that they were unlikely to be HIV infected (AOR= 0.50, 95% CI= 0.32-0.78), and to report always using condoms with male non-commercial partners in the past three months (AOR= 0.65, 95% CI= 0.49-0.85) compared to those who had not been tested. Regarding access to community-based HIV services, participants who had been testing for HIV in the past six months remained significantly more likely to report having been reached by community-based HIV services in the past six months (AOR= 5.01, 95% CI= 3.29-7.65) and receiving some forms of HIV education and materials in the past six months (AOR= 1.65, 95% CI= 1.06-2.58) compared to those who had not been tested.

CONCLUSIONS: More than half of transgender women in this study had not been tested for HIV in the past six months despite the availability of extensive community-based HIV testing services across the country. HIV testing promotion programs with both HIV education and HIV testing services should be tailored to reach sub-groups of this high-risk population who have not been reached by the existing strategies.

PED1099

ENGAGING COMMUNITY LEADERSHIP TO OVERCOME HIV TESTING BARRIERS AMONG TRANSGENDER PEOPLE IN INDIA

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BACKGROUND: Transgender (trans) people experience an elevated risk of HIV infection and barriers to accessing HIV services. Community-centric HIV service-delivery approaches may be optimally positioned to meet the differentiated preferences and needs of trans people who would otherwise be left behind and accelerate HIV epidemic control. The PEPFAR/USAID funded LINKAGES project led by FHI 360 piloted three HIV community engagement strategies in trans Interventions across six high burden districts in India.

DESCRIPTION: We reviewed and analyzed routine program data to assess the differential outcomes of three community engagement strategies to close HIV service access gaps among trans people. First, implementation of the enhanced peer outreach approach (EPOA) facilitated peer-led referrals to HIV testing and other services from trans people in the community. Second, the project supported community-led interventions (CLIs) involving service mobilization conducted by community-based organizations (CBOs). Third, community- based HIV testing and counseling (CBHTC) was prioritized to bring HIV testing service outside of clinical facilities to at-risk individuals in remote locations who might not otherwise access testing. Implementation and performance of the three approaches were monitored separately. Prevention services including HIV testing were provided. Individuals with positive HIV test results were offered assisted peer navigation for initiating ART.

LESSONS LEARNED: From October 2016 to September 2019, the project tested 1,376 trans people for HIV with an overall case detection rate of 6.39 % (n=88). Antiretroviral therapy (ART) initiation was 68.18% (n=60). Across the three community engagement models, EPOA was the most efficient reaching 674 trans people, had a case detection rate of 9.34% (n=63), and 70% ART initiation. The CLI approach that reached 622 trans people, had a case detection rate of 2.57% (n=16), and of whom 69% initiated ART. The CBHTC approach reached 78 trans people with a case detection rate of 11.53% (n=9), and of whom 56% were initiated on ART.

CONCLUSIONS/NEXT STEPS: The results showed that all three approaches expanded reach and case findings among trans people who otherwise would not have accessed HIV services. Integrating community-centric prevention approaches tailored to the local context and scaled up within the national HIV program will help countries achieve saturation coverage and epidemic control.

PED1100

THE ROLE OF POLICE HARASSMENT, MENTAL HEALTH AND SUBSTANCE USE IN RETENTION IN HIV CARE AMONG TRANSGENDER WOMEN IN A TRANS-SENSITIVE CLINIC IN BUENOS AIRES, ARGENTINA

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BACKGROUND: In Argentina, HIV prevalence among transgender women (TGW) is 34% and morbi-mortality is still high. Engagement and retention of TGW in HIV care are precluded by the number of syndemic factors negatively affecting this population. Thus, our purpose was to identify psychosocial factors associated with retention in care among TGW initiating ART.

METHODS: TRANSVIIV is a single-arm prospective clinical trial designed to assess retention, viral suppression and adherence to DTG-TDF/FTC among HIV-naive TGWs in the context of a trans-competent

multidisciplinary clinic (physicians, psychologists, peer navigators, endocrinologists). Participants were interviewed longitudinally on socio-demographic characteristics, sexual behavior, gender identity-related stigma in different settings (healthcare, education, housing, work, police), alcohol (AUDIT) and drug (DAST) use, depression (CES-D), anxiety (STAI), personality traits (PID-5-BF), quality of life (PWI-A), and HIV-related stigma (Berger). Retention was defined as completing the assessment at week-48 (+/- 4 weeks).

RESULTS: 61 TGW were enrolled, 19.7% lately diagnosed (≤200 CD4), median age 28 (IQR 25-32). High levels of psycho-social vulnerability were observed at baseline: 60.7% ≤ high-school, 53.3% unstable housing, 29.5% foreign-born, 77% sex work, 65.6% regular drug use, 52.5% hazardous drinking, 50.8% depressive symptoms, 44.3% physical and 32.8% sexual violence last year. Moreover, 31% reported being arrested (sex work/drug dealing) and 18% experienced police harassment last year. At week 48, 77% (n=47) were retained in care and 72% (n=44) were virologically suppressed. Those with failed retention at week 48 reported at baseline more experiences of police harassment (OR=0.16, 95%CI 0.04–0.65), negative affectivity (OR=.27, 95% CI 0.07–1.01) drug/alcohol consumption with clients during sexual encounters (t(55)=-2.76, p=.008), and lower quality of life (t(59)=-2.09, p=.041), than TGW that were retained. The remaining factors were not significantly different.

CONCLUSIONS: The combination and high burden of syndemic psychosocial problems predict failure in retention in a prospective trial of TGW initiating ART. Although trans-competent HIV care may help to counteract the negative effect of syndemic factors on health outcomes, programs that aim at improving engagement and retention should incorporate mental health care, drug harm reduction and skills to cope with violence. More research is needed to identify specific interventions for reducing its impact.

PED1101

HIV AND STI POSITIVITY RATES AMONG TRANSGENDER PEOPLE ATTENDING TWO LARGE STI CLINICS IN THE NETHERLANDS

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BACKGROUND: We assessed HIV and STI positivity rates, sociodemographic characteristics and sexual (risk)behavior among transgender people (TGP) with different gender-identities visiting the STI clinics in Amsterdam and The Hague.

METHODS: We retrieved data from all TGP who were tested at the STI clinic of Amsterdam and The Hague. Data of the first consultation in the study period (2017-2018) was included. To identify one's gender-identity a "2-step" methodology was used: 1) the assigned gender at birth was asked (assigned male at birth (AMAB) or assigned female at birth (AFAB); 2) the current gender-identity (Figure 1). HIV and STI (chlamydia, gonorrhea and/or syphilis) positivity rates and sexual (risk)behavior were studied using descriptive statistics.

RESULTS: The gender-identities of 329 TGP visiting the STI clinic of Amsterdam and The Hague showed a large diversity (Figure).

[Figure]

STI positivity rate ranged from 10% to 22% among AMABs (Table). Positive rate was lower in AFABs. Two of 45 non-binary AMABs (4.4%) were newly diagnosed with HIV. HIV prevalence varied from 0% (AFAB) to 15% (AMAB). Sex work was most frequently reported among transwomen (63.5%).

[Table]

CONCLUSIONS: To our best knowledge, this is the first study among TGP visiting Dutch STI clinics reporting different gender-identities and related HIV and STI positivity rates. We found that more AMABs than AFABs attended the STI clinics, but numbers were relatively small. HIV and STI positivity rates were substantial among AMABs, and higher than among AFABs. Offering gender-affirming sexual health care might increase HIV and STI testing uptake among these underserved key populations.

PED1102

INTEGRATING TRANSGENDER HEALTH INTO HIV AND SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS (SRHR) PROGRAMMING IN INDONESIA, NEPAL, THAILAND AND VIETNAM

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BACKGROUND: Although the transgender community has become more visible, their health needs are unrecognized and they lack access to competent, quality care in HIV and sexual and reproductive health and rights (SRHR) programming. The Key Population and Research Advocacy (KPRA) project of the Asia Pacific Transgender Network (APTN) documented the barriers to access to health services for transgender people in Indonesia, Nepal, Thailand, and Vietnam. The transgender-led study builds capacity of trans people in conducting qualitative research and uses evidence-based advocacy for better health care and HIV programmes for transgender people.

METHODS: APTN and country partners collected information from 996 transgender people in urban centers of Indonesia, Nepal, Thailand, and Vietnam. 75% were trans women, 23% were trans men, and 2% gender non-conforming. The KPRA project used different interview methods; focus group discussions, key informant interviews, and community-based surveys, to capture the lived experience of transgender people. The data was entered into REDCap, a web-based application designed to capture clinical and field research, and analysed using SPSS.

RESULTS: The majority of respondents had been tested for HIV, from 81% in Indonesia to 74% in Vietnam. Indonesia reported the highest number of HIV positive cases (n=47) while Vietnam reported only 2. However, those participants who had tested positive for HIV delayed

seeking treatment. The most common reason for delaying treatment was 'fear of discrimination' followed by the lack of knowledge on transgender health needs by the healthcare providers. Transgender sex workers were more likely to delay treatment because of dual discrimination. At least 10% of respondents did not utilize HIV prevention services. Respondents preferred utilizing CBO-led health services for SRHR issues. Respondents reported that barriers, whether practical or gender-related, to accessing health services were correlated with worse physical and mental health.

CONCLUSIONS: Although the majority of participants had been tested for HIV, the numbers were below the 90% target set by UNAIDS for 2020. It is urgent that health care providers be trained in addressing the health needs of transgender people, and implement strategies that reduce discrimination. Governments should invest in community-led health services, including treatment for HIV.

PED1103

AVAILABILITY, ACCESSIBILITY AND BARRIERS TO HIV, GENDER-AFFIRMING AND OTHER HEALTHCARE SERVICES FOR TRANSGENDER PEOPLE IN LAO PDR, MONGOLIA, PAPUA NEW GUINEA, PHILIPPINES, SRI LANKA AND TIMOR LESTE

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BACKGROUND: Sustainability of HIV Services for Key Populations in Asia (SKPA) Program (multi-country Global Fund grant), aims to promote sustainable services for key populations to stop HIV transmission and AIDS-related deaths by 2030. The Asia Pacific Transgender Network (APTN) is a regional sub-recipient, providing transgender health technical assistance to six countries: Lao PDR, Mongolia, Papua New Guinea, Philippines, Sri Lanka and Timor Leste.

DESCRIPTION: The program initially rolled-out in Sri Lanka and completed three focus group discussions (FGDs) with 24 trans participants in November 2019, using the FGD tool/methodology from APTN's "Key Populations Research and Advocacy" project. The FGDs focused on availability, accessibility, quality, gaps and barriers to HIV, gender-affirming, and other healthcare services among trans people. Furthermore, APTN convened 14 trans and gender diverse participants (i.e. health workers/advocates) from six countries for a regional capacity building on transgender health and HIV service and advocacy. During the workshop, the FGD tool was rolled-out to gather insights from the group on the same topic.

LESSONS LEARNED: In Sri Lanka, FGD trans participants were generally aware of HIV and gender-affirming services offered but often chose not to access free healthcare services due to stigma and discrimination from medical staff, and biased provision of services. Trans women particularly expressed concerns of negative attitudes of doctors and nurses, fear of negative treatment, and concerns related to confidentiality or being 'outed' inside the HIV testing clinic. Philippines participants shared that HIV screening, counseling, confirmatory testing, diagnosis and treatment are available, similar to Sri Lanka and other countries where mobile and HIV-specific clinics and support groups are also available. However, across many of the other countries, HIV-related services are not provided outside of city centers, making access in rural areas difficult.

CONCLUSIONS/NEXT STEPS: Across the FGDs in Sri Lanka and during the workshop, participants agreed that a major barrier in accessing HIV, gender-affirming, and general healthcare services is the lack of trans-competent and sensitized healthcare providers. APTN's sees this as important to provide technical assistance to these countries to start up and/or upscale provision of trans-competent and responsive HIV and gender-affirming care based on evidence from further FGDs conducted in countries.

PED1104

BUILDING THE CAPACITY OF TRANSGENDER COMMUNITIES ON MONITORING AND OVERSIGHT OF GLOBAL FUND ON HIV PROCESSES IN INDIA, PHILIPPINES AND THAILAND

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BACKGROUND: Under the Community, Rights and Gender - Strategic Initiative (SI) of Global Fund (GF), in partnership with Global Action for Trans Equality (GATE), the Asia Pacific Transgender Network (APTN) conducted capacity building workshops based on the developed monitoring and oversight training module. This aims to develop the skills and capacities of transgender communities to monitor and meaningfully engage in GF processes on HIV.

DESCRIPTION: In February 2019, APTN collaborated with trans-led and inclusive organizations: LakanBini Advocates Pilipinas, India HIV/AIDS Alliance and Sisters Foundation in Thailand, to organize three workshops for trans and gender diverse people which included lectures, discussions, brainstorming, role-playing games, and presentations. The monitoring and oversight workshops comprised of four modules: Global Fund 101, Meaningful Involvement, Monitoring and Evaluation, and GF Thematic Guidance.

LESSONS LEARNED: In all three workshops conducted, the trans participants learned on how to use the monitoring and oversight tool to ensure they play a pivotal role in the in all GF processes throughout the grant cycle. Participants were able to identify platforms to be engaged especially in current GF in-country projects, and opportunities to request for funding support and technical assistance. The importance of monitoring and evaluation was also emphasized, along with strategies to strengthen concept notes and project proposals were shared. Some of the key learnings shared throughout the workshops include: ensure advocacy and funding requests are supported by trans-specific data; practice evidence-based decision-making to improve project performance; develop a robust monitoring and evaluation system that enhances program implementation; and ensure complementarity of project proposals with existing GF projects.

CONCLUSIONS/NEXT STEPS: Prior to the workshops, only a few trans participants were aware of the GF processes or how they could participate and be represented throughout the processes. Communities play an important role and should be involved throughout all GF processes and other international grants. The CRG Technical Assistance should be maximized which provides short-term support to strengthen trans engagement and inclusion. By equipping the community with the necessary knowledge and skills, transgender people are able to keep national, regional, and global mechanisms accountable to ensure that the populations that need it most are benefitting from this financial mechanism.

PED1105

FEASIBILITY AND ACCEPTABILITY OF HIV PREVENTION RESEARCH AMONG YOUNG TRANSGENDER WOMEN WHO SELL OR TRADE SEX IN BANGKOK AND PATTAYA, THAILAND

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BACKGROUND: Transgender women, particularly young transgender women (YTGW) who sell or trade sex, are one of the populations most affected by the HIV epidemic in Thailand. We assessed acceptability, feasibility and optimal design of a combination HIV preventive intervention for YTGW in Bangkok and Pattaya using qualitative methods.

METHODS: We conducted key informant interviews with YTGW aged 18-26 years residing in Bangkok or Pattaya, Thailand who sold or traded sex in the last 12 months from July 2016-July 2018. We analyzed 21 key-informant interviews with a focus on sexual decision-making, health seeking behavior, HIV prevention knowledge and practice, PrEP knowledge, and feasibility and acceptability of participation in a PrEP study using Atlas.ti software.

RESULTS: Most YTGW interviewed reported high interest in HIV prevention and PrEP research, particularly in access to routine health checks and HIV prevention services. YTGW believed HIV prevention research participation supported consistent condom use and improved condom negotiation skills, while reducing potential HIV exposures due to condom breakage. However, participants requested other PrEP regimens for varied sex patterns. They reported that daily PrEP exceeded their level of risk due to infrequent transactional sex. Some participants criticized previous PrEP studies as complicated and time-consuming. Concerns related to PrEP use included: pain associated with blood-based HIV tests, size of PrEP pill, potential side effects from PrEP, and knowledge of HIV status. Perceived concerns included PrEP interaction with hormones, long-term side effects, and PrEP associated-stigma. Participants were also concerned that PrEP was not 100% effective, and may promote more condomless sex. Many acknowledged PrEP as a tool to increase the negotiated price for transactional sex. YTGW suggested additional options, such as combination formulations for HIV and STI prevention and/or beauty supplements (eg., hormones, glutathione, and collagen) should be considered.

CONCLUSIONS: PrEP research and implementation have both positive and negative impact for YTGW who sell or trade sex. Optimal research implementation among this high-risk population should be responsive to perceived concerns and challenges, and supportive of ways to improve prevention. Improving knowledge about PrEP, and reducing HIV/PrEP stigma among YTGW, could increase interest in research and PrEP uptake.

PED1106

HIV TESTING, STI DIAGNOSIS, KNOWLEDGE OF U=U AND WILLINGNESS TO USE PREP AMONG TRANSGENDER MEN IN ARGENTINA

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BACKGROUND: Transgender women have among the highest rates of HIV infection but little is known about HIV risk, prevalence, and knowledge about prevention among among transgender masculinities (TGM). Thus, our objective was to explore HIV testing, self-reported HIV/STI prevalence and knowledge on prevention methods among Argentinean TGM.

METHODS: Data was gathered between May and September 2019 through an online national survey directed to TGM. The questionnaire was informed by the results of focus groups and designed and reviewed by TGM activists and disseminated by a trans NGO through social media. Descriptive statistics were used to summarize data and HIV and STIs self-reported diagnoses

RESULTS: The survey was completed by 415 TGM, median age 23 years (IQR: 19–27), 74.2% completed secondary education, 61.6% had health insurance, 7.5% were foreign-born. Regarding health 20% discussed about HIV or STI with a provider, and 36.9 had a gynecologist appointment last year (30.6 previously). Regarding gender-affirming therapies, , 54.7% were using hormones, 31.4% had mastectomy and 1.8%, genital surgery (e.g., hysterectomy, phalloplasty). Nearly half (44.2%) was tested for HIV in the last year, but 30.5% never tested, being the main reasons 'not considering at risk' (n=32), 'not having the opportunity/never offered' (n=23), 'don't dare to ask for' (n=14), 'having a stable partner' (n=12), 'not knowing the test or where to test' (n=8), 'not having symptoms' (n=4). Self-reported diagnoses were: 4.6% HPV, 3.4% genital herpes, 2.7% chlamydia, 0.7% HIV, 0.7% syphilis, 0.7% gonorrhea, 0.5% hepatitis B, 0.2% hepatitis C. Only 38.1% correctly identified the U=U concept, whereas 30% had misconceptions and another 30% did not know. Regarding PreP, 55.7% would be willing to use it, 15,9% would not and 28.4%, was unsure.

CONCLUSIONS: Albeit the majority of TGM have access to education and health, e.g., gender-affirming procedures, a significant proportion do not have access to HIV testing, are not informed about the benefits of treatment as prevention and are hesitant about the use of PrEP. Trans-competent healthcare professional could contribute to diminish these gaps. More studies are needed to characterize risk behaviour and its reasons among this population in order to tailor specific HIV preventive interventions.

PED1107

IMPROVEMENTS IN MENTAL HEALTH AND QUALITY OF LIFE AMONG TRANSGENDER WOMEN AFTER 48 WEEKS ON ANTIRETROVIRAL TREATMENT IN A TRANS-SENSITIVE HIV CARE SERVICE IN BUENOS AIRES, ARGENTINA

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BACKGROUND: Exposure to gender identity stigma (GIS) and violence increases transgender women's (TGW) context of vulnerability and exclusion, negatively affecting their mental health and their access and retention in HIV care. This study analyzed changes in GIS and mental health in naïve TGW initiating ART in a multidisciplinary trans-sensitive HIV service, after 48 weeks in HIV care.

METHODS: Psychosocial interviews were conducted at baseline and after 48 weeks in an HIV clinic that included peer-navigators, trans-competent professionals, sensitized staff and hormone therapy. Information on socio-demographic characteristics, alcohol (AUDIT) and drug use (DAST-10), depression (CES-D), suicidal ideation, anxiety (STAI), maladaptive personality traits (PID-5), HIV-related stigma (Berger), social support (Duke) and GIS was gathered. Internalized GIS involves negative emotions (e.g., shame, guilt), anticipation of rejection and self-isolation. Enacted GIS comprises actual experiences of discrimination. T-tests were run to explore changes between baseline and 48 weeks, and multivariate linear regression, to test relations between GIS and mental health outcomes.

RESULTS: Participants were 61 TGW, median age 28 (IQR 25-32), 29.5% foreign-born, 60.7% high school or less, 77% sex work and 52.5% unstable housing. A significant number experienced GIS during last year in healthcare services (45.9%), sex work venues (44.3%), housing (29.5%) and by police (18%). At baseline, 50.8% showed significant depression, 65.6% drug use and 52.5% hazardous drinking in the last year. After 48 weeks, TGW significantly reduced their levels of depression ($t(45)=2.133$, $p=.038$), anxiety ($t(45)=2.644$, $p=.011$), negative affect ($t(45)=2.630$, $p=.012$), HIV-related stigma ($t(45)=1.968$, $p=.055$), and GIS, both enacted ($t(46)=5.390$, $p=.000$) and internalized ($t(46)=4.637$, $p=.000$); and significantly improved their quality of life ($t(46)=-3.667$, $p=.001$). The remaining indicators were not significantly modified. High levels of total GIS combined with low social support predicted the presence of depressive symptoms ($R^2=.51$, $F(2,43)=22.75$, $p\leq.000$).

CONCLUSIONS: Although a trans-sensitive healthcare service seems to have a gender affirmative impact on TGW that contributes to reduce GIS and to improve mental health, this strategy is not enough. Effective HIV care for TGW not only should include multidisciplinary trans-sensitive services but also should implement specific strategies such as interventions for depression, harm reduction, and health empowerment to enhance retention in HIV care.

PED1108

EXPANDING THE SCOPE OF COMMUNITY-BASED ORGANISATIONS IMPLEMENTING HIV/STI INTERVENTIONS TO INCLUDE GENDER-AFFIRMING HEALTHCARE SERVICES FOR TRANSGENDER WOMEN: EXPERIENCE FROM SOUTHERN INDIA

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BACKGROUND: In India, health interventions for transgender women are largely confined to HIV/STI prevention and treatment services. However, community needs extend to gender-affirming general and transition-related healthcare, spanning mental health, hormone therapy, laser therapy and surgery. NGO SAATHII and community-based sexual health organisation Sahodaran demonstrated the feasibility of expanding the scope of transgender healthcare beyond HIV by adding on gender-affirming health services in southern India, with support from WHO and MAC AIDS Fund.

DESCRIPTION: The project was implemented in Chennai and Thiruvallur districts of Tamil Nadu, from Sept 2017 to October 2018, by a four-member team of trans women having prior experience in HIV/STI programs. The team was first trained on core issues relating to transgender health, and on engaging with healthcare providers outside the HIV/STI domain. The team then mobilized trans women from various community spaces, provided peer counseling, assessed their health needs,and referred them to relevant healthcare providers, accompanying them where necessary. Simultaneously the team mapped healthcare providers in the public and private sector based on community-articulated needs, sensitized them on trans women's healthcare needs, and motivated them to provide stigma-free and affordable care.

LESSONS LEARNED: Over an eight-month period, 915 transgender women were reached and served, and each received at least one peer-counseling session and one referral based on needs identified. Of these, 30% received a second peer counseling session, and 36% a second referral. In parallel, the project team identified and referred clients to 63 healthcare providers across 12 specialties, and of these, 21% were accompanied referrals. Trans women seeking gender-affirming surgery, endocrinology, psychiatric and dermatological care constituted 41% of the clients, while 27% sought general healthcare from providers who would respect their gender identity. Fifty clients (5%) were below 18 years, and sought consultations with pediatricians who would help their natal families accept their gender identity. Clients seeking HIV/RTI services made up 14% of the group.

CONCLUSIONS/NEXT STEPS: Community-based organizations implementing HIV interventions have in-house skills in peer-counseling, referrals and stigma-reduction, which can be leveraged, with additional capacity strengthening, to expand access to a wide range of gender-affirming general and transition-related healthcare.

PED1109

ONE SHOP STOP APPROACH FROM PREVENTION AND RETAINING IN CARE CASCADE FOR TRANSGENDER PERSON IN INDIA

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BACKGROUND: In India, people with a wide range of transgender-related identities, cultures and experiences exist. As per National AIDS control Organization (NACO) HIV estimation 2015, HIV prevalence estimated at 0.26% whereas among transgender it is 7.5%. Hence considers them transgender and Hijra TGH) as a key population and designed TG-specific HIV prevention programme. Linkage gaps: Among TG who tested positive at ICTC, only 80.8% are linked to ART centers. As of May 2017, 6792 TGs were registered in ART programme but, of them, only 3506 were in active care which is 51.6% of total registration, and among registered TG only 2380 has started ART (35%)

DESCRIPTION: With the support of GFATM and NACO 10 care and support centers (CSC) for TG community under Vihaan progamme was established as pilot initiative. The programme has adopted differentiated care strategy to reach out community for HIV related services as one stop shop starting from prevention (460 Support group meetings were organized on treatment retention and adherence, 1331 people received peer counselling, 1202 people received prevention services) as well as transgender specific services such as 803 people provided information on feminization process, 596 provided information on SRS, 154 people refer to STI treatment. 47 advocacy meetings were organized for demand generation for social protection schemes

LESSONS LEARNED:

- TG CSC has provided a platform where both HIV related and Transgender related services available. This has resulted in increased linkage with ART centers, 35% increased ART initiation and retention.
- Early identification of 35 positive clients and linkages with ARV treatment were highly possible due to this combination approach.
- One shop stop approach which is starting from prevention and retaining in care cascade
- Community led advocacy demand particular he social protection schemes is making positive impact

CONCLUSIONS/NEXT STEPS:

- TG specific intervention among the TG PLHIV is supplementing the National AIDS response to reduce the missing gaps.
- It can be replicated with other key populations based on this evidence.
- Collaboration with other health and non-health programme to increase the service packages

PED1110

EXPLORATION OF HIV RISKS AND SERVICE MODALITY FOR TRANSGENDER PEOPLE THROUGH COLLABORATION WITH COMMUNITY ORGANIZATIONS

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BACKGROUND: The unique vulnerabilities of transgender people have not been adequately studied, nor their service needs adequately addressed in China, in ways that set them apart from MSMs. Online social networks have enabled CBOs better reach this population, and better understand their behaviors. Supported by NCAIDS of China CDC, China AIDS Information Network (CHAIN) worked with community organizations to conduct this study.

METHODS: From July to September 2019, CHAIN worked with 6 CBOs in Tianjin, Beijing, Yunnan and Sichuan to conduct an online survey among 205 transgender people born male and over age 24, and personal interviews of 20, on their sexual behaviors, healthcare use, social discrimination and psychosocial needs. Data collection and analysis used a combination of quantitative and qualitative methods.

RESULTS: The survey found 32.9% of respondents ever buying or selling sex, and another 16.8% have sex work as their sole income source. Consistent condom use rate when buying or selling sex was 75.9%. Over half (50.7%) of respondents wanted more tailored HIV prevention education, and 13.7% want more convenience and confidentiality in HIV testing. They also want more practical support on prevention, physical and psychological wellness, legal assistance, and free quality condoms and lubricants.

Among the 68.8% respondents who reported discrimination and violence, 82.3% experienced verbal abuse, 78.7% experienced unfair treatment, 18.4% experienced physical violence, and 14.2% experienced sexual violence, which came from classmates (31.2%), police (28.4%), neighbors (28.4%), family members (27%), friends (27%), colleagues (21.3%) and strangers (17%). Sexual violence came from sex partner or clients.

Over 88% of respondents sought psychological support, mainly from peers (65.7%), counselors (52.5%) or friends (47.5%). About 25% turn to surgeons for emotional support. Only 20.4% talked to parents.

CONCLUSIONS: Transgender people need tailored HIV prevention education. Well-implemented protective laws are needed to combat discrimination and violence. Health services should go beyond HIV-STI prevention to address their psychosocial needs, including professional mental health counseling. Service providers, especially health workers, should learn how to address the unique needs of this group with respect to their dignity and confidentiality. Transgender people need more convenient HIV testing, and affordable condoms and lubricants.

PED1111

ART AS A POWERFUL TOOL FOR BUILDING A TRUSTFUL SUPPORT NETWORK FOR THE TGW COMMUNITY – THE TRANSCRIÇÕES PROJECT

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BACKGROUND: Of the populations affected by HIV, evidence shows that TGW carry the heaviest HIV burden globally. Transphobia is associated with higher rates of social isolation, increased risk of HIV acquisition and impaired access to treatment and prevention services. In 2015, an art focused program, known as Transcrições was conceived to build bridges and foster relationships with the TGW community through art related activities. This program was designed as a preparedness step for establishing a TGW referral center for health care and research at Fiocruz, a major public health research institution in Brazil.

DESCRIPTION: The development of the Transcrições art workshops was inspired by Paulo Freire's Pedagogy of the Oppressed, the artist Lygia Clark's therapeutical propositions, and the Relational Aesthetics theory. Conducted monthly, these workshops aimed to improve body consciousness, emphasize active listening and group awareness, and increase trust and empathy among the participants through an exchange of personal experiences and aspirations. Museum and drama play tours were organized to encourage attendance of the TGW population at cultural facilities. Overall, 310 TGW attended 52 meetings, lectures and tours, with average frequency of 35 participants.

LESSONS LEARNED: In a qualitative assessment performed in December 2019 among 33 TGW, all participants described the Transcricoes project art workshops as highly empowering; 72% (n=24) described the project as pivotal in increasing their self-confidence and sense of belonging; for 33% (n=11) it aided their recovery from social isolation and profound depression. The use of art was shown to be a powerful tool for fostering self-esteem, encouraging social interactions, forming new friendships and inspiring resiliency. Over the past four years, through this increased community engagement, Fiocruz was able to successfully recruit and retain this population in its HIV prevention clinical trials. The TGW presence at the research institute was extremely positive for Fiocruz, offering the opportunity to embrace a greater and more diverse audience and also develop cutting edge scientific studies benefitting the TGW community.

CONCLUSIONS/NEXT STEPS: We will expand and promote workshops in disenfranchised neighborhoods in Rio de Janeiro and create partnerships with other cultural agents, health services and institutions.

PED1112

EQUITY IN ACTION: A NATIONAL TRANSGENDER PROFESSIONAL DEVELOPMENT INSTITUTE

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BACKGROUND: Among the 3 million HIV tests reported to CDC in 2015, the percentage of transgender people who received a new HIV diagnosis was more than triple the national average. Transgender professionals are often recruited into the HIV/AIDS workforce (H/AWF) but are not always equipped with the skills needed for their complex dual roles as employees and members of the focus population. The purpose of the "Be the Change: National Transgender Professional Development Institute" (TPDI) was to provide in-depth training to members of the Transgender HIV/AIDS workforce (TH/AWF) to transition them from client to staff role, develop protective boundaries, learn management skills, develop leadership skills and understand their role within their organization.

DESCRIPTION: In June 2018 ETR, in collaboration with seven Transgender identified consultants, hosted TPDI in Oakland, California, a two-day training for TH/AWF staff. Twenty-three Transgender persons from across the United States attended sessions focused on: High Impact Prevention (HIP), Project Leadership, Project Management, and Dual role navigation. TPDI's goal was to provide proactive professional development and ongoing capacity building support to agencies employing transgender persons to successfully implement HIP services with an emphasis on CDC grantees.

LESSONS LEARNED: Participants self-reported a mean increase in skills (3.04/3.63 on a 5-point scale) and knowledge (2.73/3.73 on a 5-point scale). Participants felt empowered to apply knowledge and skills gained to their organizational work. This extensive professional development training was especially beneficial for early career members of the TH/AWF. The "For Us by Us" trans-led sessions created opportunities for Trans leaders to build the capacity of others. Regional mini-TPDI trainings has the potential to address more specific and unique challenges in TH/AWF development.

CONCLUSIONS/NEXT STEPS: TPDI was critical in providing opportunities for transgender-led capacity building in efforts to end the HIV epidemic. The Institute provided the greater TH/AWF with a model for assessing Transgender communities and institutions that employ and support them. This model also supports a "with us and with them" collaborative facilitation model that allowed for continued learning. Next steps include distributing lessons from the TPDI model toward empowering the TH/AWF to apply skills beyond responses to the HIV epidemic.

PED1113

HOW FAR ARE WE FROM ENDING AIDS AMONG TRANSGENDER PEOPLE?

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BACKGROUND: Social, economic and structural factors can contribute to the higher transmission of HIV in the transgender community and dissuade them from seeking healthcare.

We conducted the global Lesbian, Gay, Bisexual, Transgender, Intersex and plus (LGBTI+) Happiness survey to examine how various demographic, economic, socioecological, psychosocial, attitudinal and behavioural variables potentiate HIV risk behaviour.

METHODS: We used a socioecological approach to identify the relevant variables, select established instruments and validated questions and scores. Members of the LGBTI+ community were involved in each steps of the survey.

This anonymous online survey was accessible in 30 languages from May to December 2019 through a secure encrypted internet link.

It was broadcasted worldwide through LGBTI+ social networks and social media. The survey was also promoted at country-level thanks to the support of national LGBTI+ organisations, activists, and development partners.

RESULTS: We collected responses from a convenience sample of 5.698 transgender participants (39% transgender men, 61% transgender women) from 175 countries and territories. Our initial findings indicate that most (58%) of the transgender respondents faced transphobic reactions within the last year. Felt and enacted stigma in health facilities keep 57% away from accessing health care facilities for their sexual health or for HIV-related services. A large proportion (38%) of transgender people are exposed to economic vulnerability. 26% are doing sex work, increasing their vulnerability to HIV infection.

With respect to the HIV response, we found that 35% of participants never had an HIV test. Self-reported HIV prevalence is 8.5% and 28% don't know their status. 28% of those who reported that they were living with HIV are not accessing treatment. Finally, among those accessing treatment, 36% are not virally suppressed.

CONCLUSIONS: The HIV response is still far from meeting the 90-90-90 targets among the transgender people. Stigma and discrimination faced by transgender people hamper the HIV response and increase their vulnerability to HIV infection. Socioecological factors must be addressed in order to end the epidemic among transgender people.

PED1114

IMPROVING THE ACCESS TO AND RETENTION IN HIV PRIMARY CARE FOR AFRICAN AMERICAN TRANSGENDER WOMEN IN OAKLAND, CA, USA

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BACKGROUND: In Oakland, high HIV sero-prevalence and a lack of access to HIV primary care among African American transgender women have been reported. Through the HRSA SPNS initiative, the Princess Project was implemented to enhance engagement and retention in HIV care for African American transgender women living with HIV in Oakland.

DESCRIPTION: The Princess Project implemented the trans-sensitive intervention consisted of a series of individual peer counseling sessions by trans Health Educators. The motivational interviewing techniques were used to assist participants to attain personalized goals to increase their access and retention in HIV care. A total of 60 participants enrolled in the Project. At the end of intervention, a convenience sample of 12 participants who had completed the intervention (n=7) or dropped out (n=5) was selected for qualitative interviews.

LESSONS LEARNED: About half of the participants completed the intervention session. Those who completed the intervention highly valued personal connection and interaction with a Health Educator: "Cause I just felt really safe with her talking...And it's just nice to know I can connect with a person on that level..."; "Get to know myself better and deeper... at the time I had nobody to talk to about the issue." Being homeless, disrespected at clinics, and strong stigma in the community were reported as barriers to accessing HIV care; however, those who completed the intervention tended to report positive engagement with clinical staff and stay in the care: "He (my doctor) respects me, calls me 'Ma'am', you know what I mean? He doesn't call me a 'dude'. He respects that I go by [my name] and not my legal name."

CONCLUSIONS/NEXT STEPS: Qualitative data from the peer-based Princess Project showed that personal engagement with Health Educators was a key to the participants' successful retention to the project. Client-centered motivational enhancement intervention with transgender Heath Educators, effectively increased the participant's skills to exercise self-reflection and empowered them to focus on their health and well-being. Future programs to increase their engagement in HIV primary care need to address stigma in African American communities through educational media campaigns.

PED1115

LEVERAGING LEGAL SERVICES IN A CLINICAL SETTING TO REDUCE THE IMPACT OF HIV ON TRANSGENDER COMMUNITIES

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BACKGROUND: The HIV/AIDS Law Project of the East Bay Community Law Center (EBCLC), a teaching clinic of UC Berkeley School of Law, reduces the impact of HIV on transgender communities by addressing barriers to holistic legal services. This helps transgender communities become more secure, healthy, and hopeful.

Legal services ranks as the #1 service need for transgender women and #2 for transgender men (2019 Horizons Foundation study). According to the US Centers for Disease Control and Prevention, in 2017, transgender individuals tested for HIV were three times more likely to be diagnosed. Additionally, transgender women of color have heightened risk of HIV.

EBCLC deepens access to health, housing, public benefits, immigration status, and employment for low-income transgender adults and youth affected by HIV/AIDS and other conditions by providing holistic legal services and connection to community partners.

DESCRIPTION: Since 1989, EBCLC has collaborated with Alameda County HIV/AIDS medical providers to offer holistic legal services that address underlying social conditions of poverty for PLWHA. These conditions include threats to housing, stable income, and immigration status.

Through our work, we have recognized barriers transgender clients face in accessing legal services. In response, EBCLC created trainings for the next generation of service providers in areas such as Trans 101, implicit bias, and equitable hiring practices. Additionally, we have changed the physical space, student curriculum, and client interview questions.

Further, we have broadened our legal services to include insurance coverage for transition-related care, as well as name and gender marker changes.

LESSONS LEARNED:

- Training future clinicians to offer safe and affirming services is essential to reducing the disproportionate impact of HIV on transgender communities.
- Name and gender marker changes allow clients to be more safe and healthy, and create an entry point for additional legal services.
- Access to transition-related care improves personal safety and agency.
- Medical-Legal Partnerships provide holistic and interdisciplinary collaboration to meet PLWHA where they are.

CONCLUSIONS/NEXT STEPS: To limit the disproportionate impact of HIV among transgender communities, clinical programs should create internal trainings and policies that make services more accessible while exploring the import of providing additional services to meet the specific needs in local transgender communities.

PED1116

SOCIO SEROLOGICAL STUDY OF TRANSGENDER WOMEN IN DOMINICAN REPUBLIC: HIV AND STIGMA

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BACKGROUND: In 2016, our study team conducted the first and only national self-report survey with serological sampling of transgender women in Dominican Republic and across the Caribbean. To our knowledge, our results offer the only comprehensive national narrative of the transgender experience in the region. Thus, there are two key purposes of this abstract. This first is to characterize transgender women and their experiences in Dominican Republic. The second is to examine associations between stigma, violence, and HIV to identify areas of intervention.

METHODS: Data for this study (both self-reported and serological) were collected in 2016 from rural and urban communities across Dominican Republic (N=212). We conduct logistic and negative binomial fixed-effects regression modeling to estimate relationship between violence, stigma, substance use, and HIV/STI serostatus.

RESULTS: Participant average age was 27 years; only 30% were near or above the local federal poverty line. About 75% participated in sex work; 13% reported cocaine use and 42% abused alcohol. Nearly 40% were living with HIV and almost half were serologically reactive for syphilis. A quarter reported experiencing violence; 63% reported experiencing at least one stigma event. Using logistic regression we estimated that respondents who have ever had participated in sex work were associated with 4.7 times higher odds of experiencing violence (OR:4.71, p<0.05). Likewise, respondents who abused alcohol were associated with 2.9 times higher odds of experiencing violence compared to respondents with lower risk (OR:2.92, p<0.01). Through our negative binomial regression model we found that respondents near or above the poverty line reported experiencing less stigma (IRR:0.66, p<0.05). Respondents who have ever had participated in sex work were more likely to have report stigma (IRR:1.60, p<0.05). Respondents living with HIV were more likely to have reporting perceiving and experiencing stigma compared to their uninfected peers (IRR:1.41, p<0.05).

CONCLUSIONS: Findings can inform health policy to benefit sexual and gender minorities, specifically transgender women, and to inform structural and behavior public health interventions designed to reduce HIV risk, fortify the individual against the deleterious effects of stigma, and improve health outcomes of transgender women in Dominican Republic and across the Spanish-speaking Caribbean.

PED1118

RECONCEPTUALIZING GENDER AND GENDER EXPRESSIONS IN JAMAICA: CHALLENGES AND OPPORTUNITIES FOR HIV PREVENTION AND TREATMENT AMONG JAMAICAN PEOPLE OF TRANS EXPERIENCE

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BACKGROUND: In 2018, sexual and gender minority (SGM) people comprise between 27,000 to 33,000 Jamaicans who are at greater risk for health disparities including very high rates of HIV and mental health conditions. Sexual and gender minorities (SGM), specifically transgender people, experience disparate rates of stigma, violence, and poor mental health in Jamaica. Intersectional stigma, often related to intersecting identities (i.e., HIV status or gender identity) increases the risk of violence, and can often be deadly for many Jamaican transgender individuals. This study focuses on gender and gender expressions in Jamaica and examines the challenges and opportunities for HIV prevention and care for persons of trans experience.

METHODS: In this interpretative qualitative phenomenological study, we used semi-structured in-depth interviews with individuals as the primary sources for data collection. We recruited 40 people of trans experience in 2019 from three high-disease burden areas (Kingston, Montego Bay, and St. Ann's Bay) in Jamaica. Data were recorded, transcribed verbatim, and analyzed using thematic content analysis.

RESULTS: Participants were aged 18-30 years of age and self-identified as trans men, trans women, or genderqueer. Participants reported initially identifying as either gay or lesbian during their early childhood years, with acceptance of a trans identity must later in their mid to late adolescent years. Participants described the dangers they encounter on a routine bases once they have begun gender affirming care. More than a third of the sample disclosed a significant history of violence that were rooted in their collective identities as gender nonconforming or a person of trans experience. These violent experiences led to most participants stopping gender affirming care as well as disengaging from HIV prevention and care services.

CONCLUSIONS: Our findings serve as a catalyst for understanding gender and gender expressions within the Caribbean cultural context. These findings also help us to understand how the cultural rejection of gender variant or gender nonconforming individuals serves as a significant barrier to HIV prevention and treatment efforts for people of trans experience in Jamaica.

YOUNG KEY POPULATIONS

PED1119

INTERSECTIONS OF FINANCIAL AGENCY, GENDER DYNAMICS, AND HIV RISK: A QUALITATIVE STUDY WITH ADOLESCENT GIRLS AND YOUNG WOMEN IN ZAMBIA

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BACKGROUND: Recent research has demonstrated that economic interventions may have positive effects on reducing HIV risk among adolescent girls and young women (AGYW) in sub-Saharan Africa. Some evidence points to the value of individual financial agency for AGYW and the potential association between decision-making power in the financial realm and bargaining power in sexual relationships. However, this evidence is mixed, nuanced, and limited. This paper explores how AGYW in Zambia understand financial agency and its effect on their intimate relationships.

METHODS: In-depth qualitative interviews were conducted with 30 females between the ages of 15 and 24 years residing in Kalingalinga, a low income, high density residential area approximately 8km east of Lusaka's central business district. Data were analyzed using thematic content analysis.

RESULTS: Participants spoke of the ability to earn and spend one's own money, as a reality for some and an aspiration for many females in urban Zambia but one that came with cultural and religious caveats that influenced perceptions of such agency for women. The transfer of financial independence to sexual agency within relationships was viewed as a mechanism for sexual HIV risk reduction; however, male sexual privilege was an obstacle irrespective of financial decision-making power. Women's sexual agency was viewed as greater in non-martial relationships as opposed to within marriage, where religious mores on headship created a power imbalance.

CONCLUSIONS: Programs aiming to enhance financial agency for AGYW have the potential to reduce HIV sexual risk for this age cohort in Zambia, particularly engagement in transactional sex. Yet, to be most effective and to address norms of male dominance, which may continue to keep AGYW in positions of vulnerability regardless of increased financial power, such programs should be integrated with broader, gender transformative programming that address drivers of inequity in sexual relationships, including within marriage.

PED1120

TRANSFORMING HIV RISK ENVIRONMENTS AMONG ADOLESCENT AND YOUNG KEY POPULATIONS IN THE ASIA-PACIFIC REGION AMIDST EXPANDING EPIDEMICS: A FOUR-COUNTRY CASE STUDY

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BACKGROUND: Young people (15-24-years-old) accounted for 26% of new HIV infections in the Asia-Pacific in 2018. HIV prevalence more than doubled among young MSM in Indonesia, the Philippines, and Thailand from 2010-2018. We explored risk environments of adolescent and young key populations (AYKP) and how AYKP navigate HIV and sexual and reproductive health (SRH) across school, home, online/offline communications, and health/mental health-care in Indonesia, the Philippines, Thailand, and Vietnam to promote refocused, locally-relevant HIV responses.

METHODS: We conducted an explanatory multiple-case study using a risk environment framework, shifting focus from individuals to social-structural conditions. Youth-led focus group discussions (FGDs) were conducted with diverse AYKP. A researcher-youth co-developed topic-guide explored experiences in education, families, communications, and health/mental health regarding HIV and SRH. Semi-structured key informant (KI) interviews with HIV/SRH and youth experts in each country explored risk environments, resources, policies, and strategic initiatives. FGDs and interviews were transcribed, translated into English, reviewed within-country using thematic analysis, and synthesized and contrasted across countries. Themes and draft reports were shared and stakeholder input integrated.

RESULTS: From November 2018-October 2019, we conducted 16 FGDs (4/country) with 139 young people (16/18-24 years; 55 girls/women, 73 boys/men, 11 transgender persons) and 37 KI interviews (15 women, 18 men, 4 transgender persons) with multisectoral government, UN-agency, NGO, and youth/AYKP experts (N=176). Risk environments manifested in widespread absence of comprehensive sexuality education (CSE): schools expected home-based CSE, parents expected school-based CSE; AYKP reported information from neither, instead utilizing social media/Internet. Young MSM and transgender persons recounted school bullying, harassment/violence, and lack of teacher/healthcare provider/parental support, exacerbating stigma and fears of disclosure that inhibited support/health-seeking behaviors. Peer educators/navigators, AYKP/youth-networks, and social media were primary venues for HIV/SRH education and social support amidst restrictive government policies and healthcare practices that created pervasive barriers across the HIV prevention/treatment cascade.

CONCLUSIONS: Promoting intersectoral, multilevel youth-engaged strategies that build on existing strengths and transforming HIV risk environments—capacitating peer-support networks, accelerating CSE/HIV prevention/testing via social media, expanding access to youth-friendly HIV/SRH and broader health/social services, and amending restrictive government policies/laws (e.g. creating legal access to condoms/HIV-testing for minors)—are fundamental to ending the epidemic among young people.

PED1121

USING RIDESHARE INCENTIVES IN ADOLESCENT AND YOUNG ADULT HIV PREVENTION RESEARCH

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BACKGROUND: Public health experts have begun to examine rideshare services (e.g. Lyft and Uber) for addressing transportation barriers to medical care. Clinical trials with youth cite transportation barriers as an impediment to enrollment, but few studies explore rideshare as a solution. Providing Unique Support for Health (PUSH) utilizes rideshare to enhance recruitment and retention. PUSH is a multi-arm RCT to support young Black and Latinx MSM and transgender women ages 15-24 with PrEP and ART adherence. Here we examine rideshare's impact on reaching youth with greater HIV risk factors.

METHODS: Youth interested in screening for PUSH study participation can opt-in to rideshare to and from the study site, an adolescent health clinic in urban Philadelphia. Study staff request rides online and participants receive links to ride details. On arrival, participants enroll in the study and complete the baseline visit involving a confidential web-based survey and rapid HIV testing. Survey data was analyzed for demographic differences and HIV risk factors including unprotected anal sex, housing instability, and HIV testing history. Study retention was also examined.

RESULTS: 123 participants completed baseline surveys. 37 opted-in to receive rideshare, 36 opted-out and 50 enrolled before implementation. Rideshare users were slightly younger (median age 20 vs 21), were more likely to experience homelessness (27% vs 19.7%), and reported fewer sex partners (4 vs 10 on average) than non-rideshare participants. More rideshare users reported never using a condom in the last three months (35.7% vs. 17.5%) and more also reported never having an HIV test before (27% vs 13.9%). Participants with rideshare were more likely to return for follow-up (69.5% vs 55.8%).

CONCLUSIONS: Transportation barriers should be considered and addressed in research and programming alike. Rideshare is one method of doing so. It enhances sampling and retention in youth-tailored interventions by meeting a variety of adolescents and young adults exactly where they are. In an integrated clinical setting especially, participants can also benefit from linkage to resources and medical care. Effectively reaching a diverse sample of youth with varying risk factors, and from communities who lack representation in research, can translate to better informed HIV prevention efforts and practices.

PED1122

'GETTING RID OF A DAILY PILL WOULD BE GREAT!' VERSUS 'IT'S SO HARD TO KNOW IN ADVANCE I'M HAVING SEX...': ADOLESCENTS' WILLINGNESS TO USE EVENT-DRIVEN PREP IN BRAZIL

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BACKGROUND: Event-driven PrEP (ED-PrEP) involves taking 2 pills of antiretrovirals 2-24 hs before sex +2 pills 24hs and 48hs, respectively, after the first dose. It has proved to be effective among adult men who have sex with men (MSM), and it is indicated if sex is predictable or infrequent. Evidence of this regimen among adolescent MSM and transgender women (TGW) is lacking. We analyzed knowledge and willingness to use ED-PrEP among adolescents MSM and TGW in Brazil.

METHODS: Data was collected as part of a daily PrEP demonstration study (PrEP1519) run in three Brazilian cities. Participants were MSM and TGW aged 15-19 years, who could opt to use PrEP (PrEP arm) or other HIV prevention methods (non-PrEP arm). Twenty-two semi-structured interviews with selected participants (16 PrEP users) were conducted in the cities of São Paulo and Salvador in 2019. Interviewers explained ED-PrEP beforehand to participants. Interviews were transcribed, and coded for analysis.

RESULTS: Despite very little knowledge of ED-PrEP, half of participants in both study arms indicated high willingness to use it. Reported advantages included: 'being free' from a daily medication and being able to manage prevention according to their 'actual' need. Disadvantages referred to difficulty in planning sexual encounters, especially among those not using hookup apps. ED-PrEP was perceived as 'complicated' and 'weird', because taking pills in the event of an unplanned sexual encounter was considered unlikely. Comparing to daily regimen, ED-PrEP was perceived either as not 'efficient' because of less quantity of drug in the body, or more 'toxic', causing more adverse events, interaction with feminizing hormone therapy and organ injuries.

CONCLUSIONS: Information on ED-PrEP has not reached adolescents MSM and TGW in Brazil. Once informed, their willingness to choose this regimen is likely to be high. Predictability of sexual activity and 'pill fatigue' - either experienced or imagined - play an important role in determining such willingness. Evidence from demonstration studies of ED-PrEP among these groups is needed to better understand how this regimen can best suit the prevention needs of particular groups of young MSM and TGW, thus contributing to better inform PrEP guidelines in Brazil and globally.

PED1123

HEALTH BEHAVIORS OF YOUNG MEN WHO HAVE SEX WITH MEN LIVING WITH HIV AND THEIR PERSPECTIVE ON HIV SERVICES IN A TERTIARY CARE HOSPITAL IN CHIANG MAI, THAILAND

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BACKGROUND: With increased number of young men who have sex with men (YMSM) who were newly infected with HIV, and linked to care for antiretroviral treatment(ART), many studies described low virologic suppression rate, and poor retention in care. This study aims to determine health behaviors of YMSM and their perspective on HIV services which might affect treatment outcome.

METHODS: The mixed-method cross-sectional study was conducted at Chiang Mai University(CMU) hospital. Inclusion criteria were:
1) Biological male aged 18-<25 years,
2) being an MSM by self-report,
3) having HIV infection, and
4) attending HIV services at CMU hospital.
Data was collected by self-administered questionnaires from all, and by in-depth interview in subset of participants.

RESULTS: 100YMSM were enrolled. Their median age was 23 years (IQR 21-24). About half (48%) were students. Their gender role included gay men (84%), bisexual men (9%), and transwomen (5%). Forty-five percent started ART within 2 months after HIV diagnosis. Forty-one percent, 25%, and 19% disclosed HIV status to family members/relative, partner, and friends, respectively; 25% disclosed to no one. The health behaviors are shown in Table 1; 53% reported 100% condom used. Nurse and doctors' service behaviors, and visit duration were the most important factors affecting their willingness to attend clinic. In-depth interview reviewed that many were struggle with self-stigma and social disclosure. Support from family members, partner, and friends were significant for most YMSM. Most were satisfied with services; some mentioned lengthy waiting duration and

crowded clinic area, but they were acceptable. Favorable service behaviors included polite words, sufficient time with doctors, and clear explanation about their conditions. Confidentiality and privacy were unexpected emerging themes rose by many YMSM.

Characteristics	Total	Those who were studying	Those who were working
Number of participants	100	48	52
Smoking			
never	78	37 (77%)	41 (79%)
past	7	3 (6%)	4 (8%)
current	15	8 (17%)	7 (13%)
Alcohol use			
never	22	15 (31%)	7 (13%)
occasionally	48	20 (42%)	28 (54%)
hazardous use	26	13 (27%)	13 (25%)
suspected alkocil addict	4	0	4 (8%)
Other substances use			
never	89	43 (90%)	46 (88%)
past	6	3 (6%)	3 (6%)
current	2	0	2 (4%)
Social disclosure of gender			
To everyone	78	33 (69%)	45 (87%)
To selected persons	22	15 (31%)	7 (13%)
Condom use			
100%	53	23 (48%)	30 (58%)
80-100%	30	16 (33%)	14 (27%)
50-80%	9	4 (8%)	5 (10%)
< 30%	6	3 (6%)	3 (6%)
Never use	2	2 (4%)	0
Adherence to ART			
>95%	64	31 (65%)	33 (63%)
80-95%	32	16 (33%)	16 (31%)
50-<80%	4	1 (2%)	3 (6%)
Social disclosure of HIV status			
To everyone	1	0	1 (2%)
To family/ relatives	41	17 (35%)	24 (46%)
To partner	25	12 (25%)	13 (25%)
To some friends	19	13 (27%)	6 (12%)
To no one	25	12 (25%)	13 (25%)

[Table 1. Health behaviours of young men who have sex with men who participated in this study]

CONCLUSIONS: Most health behaviors of YMSM in this study were favorable, except for low rate of condom use which remains a concern. Service behaviors, visit duration, confidentiality, and privacy in clinic were important to them.

PED1124

VIRAL SUPPRESSION AND BARRIERS TO MEDICAL CARE ENGAGEMENT IN A NATIONAL PROBABILITY SAMPLE OF HIV-POSITIVE YOUNG BLACK MEN WHO HAVE SEX WITH MEN

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BACKGROUND: U.S. young black men who have sex with men (YBMSM) are disproportionately affected by HIV; understanding reasons for suboptimal levels of viral suppression and HIV care engagement among this population is essential, but population-based data are lacking. We report factors associated with sustained viral suppression (SVS) and barriers to care engagement among HIV-positive YBMSM.

METHODS: The Medical Monitoring Project collects interview and medical record data from a probability sample of U.S. adults with diagnosed HIV. Using weighted data collected 6/2015-5/2018 from 344 YBMSM aged 18-29 years, we examined the prevalence of SVS (all viral loads in past 12 months <200 copies/mL or undetectable). We assessed associations between selected characteristics and SVS using prevalence ratios with predicted marginal means and evaluated significant differences (P<0.05). Among YBMSM who reported seeing a provider less often than they needed, we assessed barriers to HIV medical care engagement. Care engagement was defined as having >2 elements of medical care at least 90 days apart in the past 12 months (e.g., viral load testing, encounter with a provider). We created a three-level variable categorized as: not taking antiretroviral therapy (ART), adherence score <85, and adherence score >85 (adherence score range: 0-100). Estimates marked with an asterisk may be unstable due to small sample sizes.

RESULTS: Overall, 47% of YBMSM had SVS. SVS was significantly lower among YBMSM who experienced homelessness than those who did not (29% vs. 50%), did not receive care in a Ryan White HIV/AIDS Program-funded medical facility than those who did (39% vs. 53%), were not engaged in care compared with those who were (12%* vs. 64%), and were not taking ART compared with those with adherence scores <85 or >85 (7%* vs. 54% or 56%). The most commonly reported barriers to care engagement were problems with money or insurance (64%*), having other things going on in one's life that made getting care difficult (47%*), and not feeling sick (33%*).

CONCLUSIONS: U.S. YBMSM have low levels of viral suppression and many face financial barriers to care engagement. Tailored programs to increase ART use and alleviate barriers to care may improve clinical outcomes among HIV-positive YBMSM.

PED1125

REACHING OUR YOUNGEST POPULATION: A TAILORED DIFFERENTIATED SERVICE DELIVERY MODEL FOR INFANTS AND THEIR CAREGIVERS LIVING WITH HIV IN MBABANE, ESWATINI

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BACKGROUND: Globally, infants and young children living with HIV lag far behind WHO viral load (VL) suppression targets. Achieving viral suppression at the peak of a child's cognitive development should be a priority. Baylor Center of Excellence in Mbabane, Eswatini developed Baby Club (BC) as a differentiated service delivery (DSD) model to provide group psychosocial support during clinical visits in order to prioritize the care of these vulnerable patients.

DESCRIPTION: Children <3 years old living with HIV and their primary caregivers were invited to attend monthly Baby Club sessions in which the dyads were seen by a clinical provider and attended a group session. Mothers received comprehensive health services and participated in hour-long group discussions on varied topics including adherence, HIV, job skills, domestic violence advocacy and normal child development. Children also received routine health care including vaccines. While awaiting services, children played with books and toys in the meeting room while mothers shared advice. VL suppression rates were reviewed prior to BC initiation and quarterly. Caregivers were given transport support and lunch via UNICEF funding.

LESSONS LEARNED: Prior to BC inception, the viral suppression rate for children < 3 years and their mothers was 35 and 33% respectively. After two years of BC sessions, 38 babies were enrolled with 31 suppressed (82%). 28 of the 31 mothers were suppressed (90%). 7 dyads graduated when the child turned 3 years of age and all the mothers and children were suppressed. Comparatively, 56% of 3-4 year olds that had not been involved in BC were suppressed. Psychosocial stressors contributing to infection of the child must be addressed

immediately as challenges are worsened with the requirements of taking care of an HIV positive infant. The majority of children that remain unsuppressed also have mothers that are unsuppressed.

CONCLUSIONS/NEXT STEPS: A monthly psychosocial support and playgroup coordinated with health services proves a successful DSD model for our infants and caregivers. Women naturally helped each other to improve adherence and often commented that the BC session was the only time they were able to discuss their child's status openly in a non-stigmatizing environment.

PED1126

EVALUATION OF NUTRITIONAL CONDITIONS, HAEMOGLOBIN LEVELS, RETENTION IN CARE AND VIRAL SUPPRESSION IN A COHORT OF HIV INFECTED MALAWIAN ADOLESCENTS RECEIVING A ONE-YEAR TAILORED INTERVENTION WITHIN DREAM PROGRAM

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BACKGROUND: UNICEF estimated 1.770.000 adolescents living with HIV in 2017, more than 80% living in Sub-Saharan Africa. In Malawi, 25.000 boys and 46.000 girls are estimated to live with HIV. Objective of the presented program is to improve conditions of HIV+ adolescents through a specific adolescent-friendly service implemented in a DREAM health centre in Malawi.

DESCRIPTION: We conducted a retrospective analysis of routine electronic medical records of adolescent patients in care in the DREAM centre in Blantyre (Malawi).

All HIV+ patients aged 10-19 in care in DREAM centre in Blantyre on 17/12/2016 were included and followed up to 01/01/2018. The service was organized in one adult-free day, with some side activities managed by a coordinator and youth leaders. The new adolescent-cantered service in Blantyre DREAM facility started on 17 December 2016. Once a month (last Saturday of every month), the centre is open uniquely for the adolescents. On the "adolescent day", many clinical and non-clinical activities are carried out: medical examination, medical counselling, blood sample review, drugs refill, teen clubs, role plays, organization of out-reach sensitization activities. The service is managed by a coordinator, who works in partnership with some youth leader. Youth leaders are a cornerstone of the service, as they are peer-to-peer educators carrying out many activities (sensitization of fellow adolescents at the centre, in schools and communities, counselling to peers with drug adherence problems). All the patients aged 10 to 19 years are invited to join the service.

LESSONS LEARNED: Assessments at the end of period (EOP) were performed.

On 17/12/2016, 425 patients were enrolled. Follow-up status at EOP was: 403(94,8%) in care, 7(1,6%) LTFU, 2(0,5%) died and 13(3,1%) transferred. Rates of death and LTFU were respectively 0,72/100 and 2,9/100 person-years. 50,6% (198/391) of patients had an improvement in BAZ. 70,2%(33/47) of patients malnourished at baseline improved (higher improvement in older patients). HGB levels increased from 12,5mg/dl±1,5 to 13,1mg/dl±1,9 (sign=0,000). At the EOP, 79,0%(309/391) of patients had viral suppression.

CONCLUSIONS/NEXT STEPS: Care of adolescent HIV+ patients remains a challenge, but the implementation of specific projects involving adolescents and youth leaders can increase adherence and VL suppression.

PED1127

SERVICE-USE AND RESILIENCE AMONG ADOLESCENTS LIVING WITH HIV (ALHIV) IN BLANTYRE, MALAWI

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BACKGROUND: Adolescents experience high levels of risks including living with chronic conditions, non-availability of services, abuse, family dysfunction and community danger. These issues all warrant service usage and support, including to build resilience, but access to resources among ALHIV in Malawi is limited. Few studies have looked at the interaction of social, community and health services provision and utilization in relation to resilience. This study focused on ALHIV, health workers and parents/caregivers to examine formal and alternative service use and resilience in Blantyre, Malawi.

METHODS: A self-administered questionnaire with 406 ALHIV, 26 in-depth interviews with ALHIV, 12 group discussions with 144 caregivers and 35 health workers attending a 2-day workshop explored the frequency of service use. For ALHIV, data collection focused on the frequency and satisfaction with services with which they had most contact. Structural equation modelling (SEM) and regression analysis determined associations between service-use and resilience-related variables.

RESULTS: ALHIV, health workers and parents/caregivers commonly mentioned: ART and teen-club clinics, the community teen-club, youth-friendly services, and educational support. About 70% ALHIV were concurrent clients of three or more services, with the majority most satisfied with the teen-club clinic. The multi-method analysis showed variations in internal and external forms of risks, range of services and frequency of use, satisfaction and supports. Reliability coefficients, alpha on all services, risks and scores confirmed internal consistency of above 0.70 except for caregivers/parents. SEM paths showed moderate correlations on risk and service use. High resilience scores were influenced by service use. Young men who were out-of-school were most likely to use services. The qualitative data reflect more complex interactions on access to services, with caregivers and adolescents seeking alternative care from spiritual and traditional healers.

CONCLUSIONS: ALHIV used multiple services. Peer, personal and community risks and interaction with service use were critical in the lives of ALHIV. Positive experiences within the teen-club clinic, community and education-based services show that ALHIV have access to many service providers. Indigenous services such as spiritual and traditional healing are increasingly sought out by ALHIV and their caregivers, and this may affect patterns of service use overtime.

PED1128

ASPIRATIONS AND MEDIA USAGE OF SOUTH AFRICAN AGYW: SIMILARITIES AND DIFFERENCES ACROSS URBAN-RURAL LOCALES

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BACKGROUND: Communication used for enhancing awareness and promotion of HIV prevention products should be consistent with the aspirations of the target audience and delivered through their preferred media channels, but there is often a mismatch. Better understanding of the aspirations and media use of urban and rural adolescent girls and young women (AGYW) in South Africa, given the constraints and opportunities offered by their environments, may improve such efforts.

METHODS: 1,500 South African AGYW aged 14-25 completed a face-to-face, tablet-aided survey that assessed a wide range of consumer and lifestyle behaviors. We compared aspirations (role models, most important personal decision, and products desired) and media usage (internet usage, frequency of online and offline activities) of AGYW who lived in metro regions (n = 900) to those in small urban/rural regions (n = 600).

RESULTS: Overall, there was considerable similarity in aspirations among AGYW though several notable differences were found. For example, respondents most frequently selected 'my mother' as their role model; however, the proportion was significantly smaller among AGYW living in metro regions (58.6%) than the small urban/rural group (64.3%). Complementing this, a greater proportion of the metro group reported their father (9.9% vs. 5.7%) or an actor (8.2% vs. 4.7%) as role models than the small urban/rural group. Comparisons of media usage found that most reported using the Internet several times a day (52.9% of metro, 51.8% of small urban/rural AGYW) but a greater proportion of small urban/rural AGYW reported never using the Internet (22.8% vs. 18.2%). Among respondents who had access to the Internet, metro AGYW (vs. small urban/rural) also reported greater engagement with a variety of specific online activities including instant messaging/chatting (the most frequent activity among both groups), email, and visiting blogs/forums. Other online activities, like browsing social networks, streaming videos, and buying products, showed no differences.

CONCLUSIONS: South African AGYW living in metro and small urban/rural locales largely shared similar aspirations and media usage habits, which may be contrary to assumptions about both groups. Nonetheless, subtle differences reflect emerging trends in gender dynamics and technology, with potential implications for framing of HIV prevention efforts.

PED1129

ADVERSE CHILDHOOD EXPERIENCES AND CHILD BEHAVIOR PROBLEMS IN AN HIV PREVALENT POPULATION IN KWAZULU NATAL, SOUTH AFRICA

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BACKGROUND: Adverse childhood experiences (ACEs) are associated with negative adult health, with most studies completed in high income countries. Little is known about earlier effects of ACEs on child behavior, particularly in low-to-middle-income countries (LMIC) and in context of the HIV epidemic. This study reports the relationship between ACEs and child behavior among children in Kwa-Zulu Natal, South Africa, the epicenter of the HIV epidemic.

METHODS: Data come from a population-based cohort study, Asenze, completed in a peri-rural Zulu areaof South Africa. Our ACE measure included factors from traditional ACE measures (Parental death/abandonment), and factors specific to the context of this population (Caregiver HIV infection). Data included family information, child HIV-status, and ACEs when children were on average 5 years old and child behavior problems (Strengths and Difficulties Questionnaire (SDQ)) approximately two years later (average age 7 years). Logistic regression examined relationships adjusted for family disorganization (CHAOS score), between ACE score and the SDQ Total Difficulties score (dichotomized as top 10% vs. the rest) as well as selected SDQ subscales.

RESULTS: A significant relationship between overall ACE exposure and SDQ total Difficulties was observed (OR=1.30 (1.08-1.57)). In our sample, 5% of children and 26% of caregivers were living with HIV. Caregiver HIV-status was univariately associated with increase in child SDQ total Difficulties and it contributed to the sum of ACEs as well. A similar relationship between total ACE and child behavior was also seen for emotional symptoms (OR=1.30 (1.08-1.55)) and conduct problem (OR=1.23 (1.05-1.49)) sub-scales, but not for hyperactivity (OR=0.96 (0.82-1.12)).

CONCLUSIONS: Exposure to ACEs and later child behavior within this LMIC population demonstrated an early negative impact of ACEs. Previous research has focused on effects of ACEs on adult health, this study showed an early relationship between ACE and child behavior that may be a part of the mechanism through which later health effects arise. In this context, HIV+ caregiver status was related to the outcome of child behavior difficulties, and future examinations of ACE in LMIC or other areas with high prevalence of HIV should consider using HIV status as a component of the ACE measure.

PED1130

PRELIMINARY RESULTS FROM A COMBINATION HIV TESTING INTERVENTION FOR YOUNG MEN INCLUDING MEN WHO HAVE SEX WITH MEN (MSM) IN IBADAN, NIGERIA

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BACKGROUND: Nigerian youth, particularly young men who have sex with men (YMSM), have been disproportionately impacted HIV infection. iCARE Nigeria is a multi-phase trial designed to adapt, investigate and implement combination evidence-based interventions to promote HIV testing and care outcomes among youth (ages 15-24 years) in Nigeria. We report interim findings from phase one of an intervention using mHealth (focused on social media outreach) and peer navigation to promote HIV testing among high-risk young men, including YMSM, in Ibadan, Nigeria.

METHODS: Community and stakeholder perspectives guided adaptation of evidence-based mHealth and peer-navigation interventions for HIV testing to a Nigerian setting. Peer navigators conducted social media outreach promoting sexual health and then navigated interested individuals to HIV counseling and testing. Peer navigators conducted HIV rapid tests, offering young men options for clinic, community, or home-based testing. Descriptive and bivariate analyses describe outcomes to-date.

RESULTS: During 24 weeks of implementation (June-November 2019), 215 young men were tested for HIV (mean age = 21.6 years; range = 16-24 years); 175 were referred through social media (81.4%), 1 by a boyfriend/sex partner (0.5%), and 39 by a friend (18.1%). Of those referred through social media, WhatsApp was the most popular (48.0%), followed by Facebook (34.3%) and Grindr (17.7%). With regard to HIV testing location, 57.2% chose to test in a community-based setting; 41.4% opted for home-based testing. Only 1.4% (N=3) tested in a clinic. Twenty-four percent (N=52) reported no previous HIV testing. Twenty young men (9.3%) were confirmed HIV seropositive. Among those testing positive for HIV, 50% (N=10) reported testing HIV negative within the past year. Four HIV-positive individuals reported never previously testing for HIV (20.0%).

CONCLUSIONS: These findings demonstrate early success of a combination approach in reaching young men at-risk, including YMSM, with social media and peer-navigation to promote HIV testing, despite high levels of secrecy and stigma that accompany same-sex behavior in Nigeria. These data suggest that this approach can be used successfully to identify new HIV cases in a key population critical to Nigeria's ongoing efforts to control the HIV epidemic, and may hold promise in other places where MSM behavior is stigmatized.

PED1131

IN UTERO ATAZANAVIR EXPOSURE AND RISK OF MULTIPLE NEURODEVELOPMENTAL PROBLEMS AMONG 5-YEAR-OLD CHILDREN WHO ARE HIV-EXPOSED AND UNINFECTED (CHEU)

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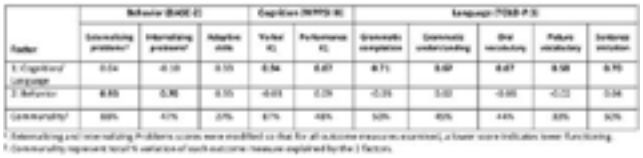
BACKGROUND: Atazanavir (ATV) is a preferred protease inhibitor and most frequently given with tenofovir/emtricitabine (TDF/FTC), and occasionally with zidovudine/lamivudine (ZDV/3TC), to prevent HIV transmission. Studies have reported associations of prenatal exposure to ATV with early neurodevelopmental problems in multiple domains among CHEU.

METHODS: Monolingual English-speaking CHEU from the Surveillance Monitoring for ART Toxicities (SMARTT) Study of the PHACS network were evaluated using age-appropriate measures of cognition, language and behavior at five years old. Exploratory factor analysis (EFA) using ten composite scores (Table 1a) was performed to estimate underlying factors responsible for covariation of these domains. Mean differences of standardized factor scores between CHEU exposed to TDF/FTC with or without ATV versus ZDV/3TC without ATV were estimated using general linear models. Separate analyses were conducted for children exposed to antiretroviral medications (ARVs) at conception, and whose mothers initiated ARVs during trimesters 1 or 2/3. Generalized estimating equations were fit, accounting for the clustering effect of research clinics and adjusting for confounders.

RESULTS: Among 860 eligible CHEU, 585 were exposed to TDF/FTC with or without ATV, or ZDV/3TC without ATV, and had valid composite scores. Two factors were identified, explaining 27-89% variability of the ten composite scores (Table 1a).



[Table 1a. Factor loadings from EFA to each outcome measure from Behavioral Assessment System for Children (BASC-2), Wechsler Preschool and Primary Scale of Intelligence (WPPSI-III) and Test of Language Development-Primary (TOLD-P:3)]

Factor 1 contributed to cognitive and language domains; Factor 2 contributed to the behavioral domain. Lower (worse) standardized factor scores were observed in CHEU with post-conception exposure initiation (Table 1b, row 1).

Differences in factor scores for TDF/FTC and/or ATV relative to ZDV/3TC were not evident for cognition/language, but were negative for behavioral functioning among CHEU in the post-conception strata, especially for CHEU exposed to TDF/FTC/ATV when ARVs were initiated in trimester 1, with an estimated 1.39 (95%CI: -2.06, -0.72) lower score (Table 1b).

[Table 1b. Overall unadjusted mean (SD) of standardized factor[1] score (Row 1), and adjusted mean difference (95% CI) versus ZDT/3TC without ATV (refernce group) for CHEU exposed to TDF/FTC/ATV (Row 2) or TDF/FTC without ATV (Row 3), by timing of ARVs exposure initiation]

CONCLUSIONS: In utero exposure to TDF/FTC/ATV was associated with parent-reported behavioral concerns regarding young CHEU whose mothers initiated ARVs during pregnancy.

PED1132

2019 WORLD AIDS DAY ADOLESCENT & YOUNG PEOPLE ORAL PRESENTATION: USING SOCIAL MEDIA AS A TOOL TO ENGAGE YOUNG PEOPLE IN HIV/AIDS PROGRAMMING AND RESPONSE

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BACKGROUND: Adolescent and young people (AYP) in Nigeria constitute a third of the population. Often times, engaging AYPs in policy discourse such as HIV/AIDS is challenging as their areas of interests revolve mainly around sports and entertainment. Currently, there is limited access to HIV testing services (HTS) for the majority of adolescents and young people in Nigeria. One reason is that adolescents below the age of 18 cannot carry out HIV testing without the permission of their parents or guardians.

DESCRIPTION: As part of the 2019 WAD commemoration, the National Agency for the Control of AIDS (NACA) with her partners decided to engage AYP using social media as a tool in the policy discourse on revising the age of consent among AYPs for HIV testing. A competition was organized for adolescents between the ages of 14 and 18. The competition was in three stages between 8th and 25th of November 2019.

The first stage was essay writing on the topic "At what age do you think a young person should be allowed to test for HIV without needing the permission of the parents or guardian?"

The best twenty essays were selected for the second stage is a video presentation of their essay. These videos were uploaded for voting on the NACA Social Media platforms after obtaining parent/guardian permission and the final stage was the presentation by the top five contestants at the Presidential Villa in Abuja, Nigeria.

LESSONS LEARNED: Over 240,000 people were reached, AYPs accounting for 76.8%. 30,000 people engaged in sharing the posts, adding comments and likes, 1000 new people followed our Facebook, Instagram and Twitter pages. Majority of whom were AYPs. Prior to this, AYPs constituted less than 30% of those who liked or engaged in discussion on our social media platforms. A WhatsApp group was also constituted for the Top20 contestants who are being mentored on HIV issues and can serve as peer influencers and social ambassador.

CONCLUSIONS/NEXT STEPS: Social media is a highly veritable tool for reaching adolescents and young people in Nigeria. It is very efficient in catching their attention and getting their inputs on critical issues such as HIV.

PED1133

RISK PERCEPTION, PREP ADHERENCE AND SEXUAL RISK AMONG SEXUAL AND GENDER MINORITY YOUTH

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BACKGROUND: P3 (Prepared, Protected, emPowered) is a theory-based, comprehensive social networking PrEP adherence app for young men who have sex with men (YMSM) and transwomen who have sex with men (YTW), which encourages engagement through game-based elements.

METHODS: A randomized-controlled trial comparing P3 to standard of care began enrollment in May 2019. Descriptive analyses of baseline variables are presented. Five questions assessing cognitive appraisal of HIV risk were adapted from the perceived risk of HIV infection scale. A composite measure was created (range 5-26) where scores >16 suggest high perceived risk.

RESULTS: 98 participants (40.8% of planned sample) taking or prescribed PrEP at 7 US cities have been enrolled. Median age is 22 years, 26.5% Black and 30.6% Hispanic. Top reasons reported for starting or restarting PrEP were wanting to: be in control of sexual health (95.9%), be safe and healthy (91.8%), reduce anxiety around having sex (79.6%), and have a better future (60.2%).

Of those currently taking or with history of PrEP use (n=93), 37 (39.8%) reported ever stopping for 7 days or more, 20 of those reported stopping in the past 3 months. The main reported reasons for stopping PrEP included: kept forgetting to take pill (54.1%), not having sex (43.2%), and couldn't make follow-up visits (16.2%). A majority (86.7%) reported anal sex in the past 3 months with cisgender men/transgender women; 78.8% condomless. 19 participants (19.4%) reported PrEP adherence of <60% in the past month, 6 of whom said that based on this level of adherence, they felt mostly or fully protected from HIV.

Among those reporting receptive anal sex in the past month, 16.3% reported that their decision about condom use was influenced by whether or not they took PrEP every day; compared to 10.2% of those who reported insertive anal sex. The mean composite risk perception score was 13.89, suggesting low overall perceived risk.

CONCLUSIONS: The relationship between risk perception, PrEP adherence and engagement in sexual risk behaviors among youth is complex. Given issues with PrEP uptake and persistence among sexual and gender minority youth, baseline data from P3 can help inform individual, dyadic and structural interventions.

PED1134

UNDERSTANDING 'SILENCED HEALTH EXPERIENCES' OF YOUNG PEOPLE ACCESSING HIV SERVICES THROUGH BODY-MAP STORYTELLING

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BACKGROUND: 'Silences Framework' (Serrant, 2011) helps understand sensitive issues and marginalized perspectives on health, particularly HIV. Body Maps have helped unravel multilayered and often 'silenced' health experiences and their impact on health-seeking behaviors (Gastaldo, 2018). Recognizing the need to explore such 'si-

lences' in the lived experiences of young people accessing HIV services, a two-day community workshop was organized in New Delhi to deconstruct complex HIV experiences through body map storytelling.

DESCRIPTION: 32 young participants representing key population groups including transwomen, MSM and PLHIV were divided in four groups to draw a life-size outline of the human body and scan it to visually map:

a) personal/community health priorities;

b) stakeholders impacting health or health decisions; and

c) nature of impact.

The body maps triggered open community conversations bringing out silenced experiences, which were analyzed deductively using a theoretical thematic approach.

LESSONS LEARNED: One of the commonly shared themes reiterated by participants across different contexts was "breach of trust" by close confidantes – especially with respect to disclosure of HIV status – and how it affected their own construct of self, capacity to cope with external stigma, and trust in healthcare services and motivation to seek care. "Breach" was experienced across various settings such as HR in the workplace, professor in school, and relatives and friends in family/social networks.

Another recurring experience was "fear of relationship loss." Young people often found themselves caught in situations where their agency in and access to HIV services was determined by perceived and/or actual impact on their relationship with partner(s). Examples ranged from fears regarding:

a) the impact of medication on desirability, ability to conceive and libido;

b) ability to devote time and energy to the relationship and meet 'obligations'; and,

c) shifts in power dynamics impacting the long-term sustainability of the relationship.

CONCLUSIONS/NEXT STEPS: Silenced health experiences – though often invisible and missed out by traditional methods of inquiry – have an indelible impact in shaping people's health choices. They represent critical pockets of inquiry that need further research and consideration in order to inform the design of the next generation of more responsive HIV services.

PED1135

DREAMS: A MULTIDIMENSIONAL APPROACH TO PROMOTE HIV PREVENTION AND ADDRESS RISK REDUCTION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN WESTERN TANZANIA

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BACKGROUND: In Eastern and Southern Africa adolescent girls and young women (AGYW) represent 25% of incident HIV infections. AGYW vulnerability to HIV results from intersecting factors: poverty, gender inequality, sexual violence, low HIV awareness and poor prevention-related behavioral skills like condom use. PEPFAR's DREAMS initiative aims to reduce HIV infection among AGYW with combined ("layered") interventions addressing behavioral, normative, and structural factors underlying HIV vulnerability.

DESCRIPTION: From January through September 2019 ICAP implemented DREAMS for out-of-school, sexually active AGYW in rural communities in western Tanzania, including Lake Victoria islands. Layered DREAMS interventions included social-behavioral change communication (BCC) (10 sessions); family planning counseling and commodities (FP); HIV testing services (HTS); and economic strengthening (ES) consisting of financial literacy (10 sessions) and formation of mutual savings and loan groups to support members' enterprises. HIV Pre-exposure prophylaxis (PrEP) services began in July 2019. DREAMS clients are screened for HTS eligibility following completion of four BCC sessions; those at risk for HIV receive HTS. Trained peer AGYW Community Outreach Volunteers (COVs) form ES groups, deliver sessions, make referrals, and track participation. Groups of 20 to 25 members name their group, elect group leaders, and complete sessions together.

LESSONS LEARNED: 68 COVs were trained to provide and track layered interventions; 12 of them (17.6%) dropped out before September 2019. Table 1 shows routinely reported aggregate data from DREAMS from January to September 2019:

Enrolled in DREAMS	17,229 enrolled, 134 (0.78%) drop outs
Completed primary package of interventions	6,631 (38.4%)
Number of condoms provided (male and female)	35.536
HTS	10,561 screened for HTS, 9,398 Eligible for and received HTS
Newly-diagnosed HIV positive	71 (0.76% positivity rate)
Clients linked to care and treatment	71 (100% ART initiation)
Total Savings	15,574 USD
Income-generating activities established	2,101 (new individual small businesses established)
PrEP	40 PrEP_NEW, 27 (68%) one month PrEP refill
Referrals provided	374 FP, 201 STI, 17 GBV, 22 TB

[Table 1: October 2018 - September 2019 DREAMS Achievements No. of AGYW (15-24 years)]

CONCLUSIONS/NEXT STEPS: Reasons for missed sessions include sickness and family activities. High retention of AGYW could be due to interest in ES activities and BCC activities meeting the needs of AGYW. ES retention was high; however, uptake for referrals to STI and PrEP was low. ES groups will be used as a platform to strengthen uptake to PrEP, HTS, and referrals.

PED1136

TRACKING MOBILITY TO IMPROVE RETENTION OF YOUNG FEMALE SEX WORKERS IN KAMPALA, UGANDA IN ZETRA; A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Young women at high risk (YWHR) 15 to 24 years old are at very high risk of sexually transmitted infections (STIs) and HIV. YWHR HIV prevalence in Kampala is estimated at 26% and preventive services are very limited. Little is known about the high mobility

that exposes YWHR to risk of HIV/STIs. Patterns of mobility are highly relevant to better understand barriers to retention in research and health services. We investigated mobility among YWHR participants in ZETRA, a randomized controlled trial designed to assess the effectiveness of an HIV prevention intervention on reducing unprotected sex among YWHR in Kampala using Google maps and qualitative interviews.

METHODS: Women's eligibility criteria: 15-24 years-old, HIV-negative, engaged in sex work. Participants were randomized to intervention (four group and three individual sessions covering health literacy and social media skills development) or control (standard-of-care at a specialized clinic for high-risk women). Follow-up visits were scheduled at 6, 12, 18 months post-enrolment. Participants used Google maps to identify work venues at 12 and 18 months. We analyzed mapping data using Python software, conducted 30 interviews with YWHR, bar owners/managers, male partners and 'queen-mothers' on topics including distance, frequency and reasons for mobility.

RESULTS: Of 644 participants, 56% have primary or no education. Currently, 216 participants have attended 12-and 18-month study visits. Participants mapped over 740 work venues. All (100%) participants have identified different venues over follow-up, including Sudan, Dubai, Kenya, rural and urban Uganda. 31% of women moved across >4 different work venues by month 18. Qualitative explanations for mobility included: violence, lack of agency, social networks and extreme poverty. For example, bar owners commented on the need to have `fresh faces' frequently, to satisfy their clients; forcing women to move.

CONCLUSIONS: YWHR are highly mobile. To reach epidemic control, research and care retention strategies for YWHR should be tailored to suit mobility patterns. Peers, bar and lodge managers who have influence on YWHR lives and mobility could be engaged in intervention strategies. A mobile clinic in active work venues is being piloted for feasibility among these highly mobile participants.

PED1137

GAY APP USE AMONG MSM ATTENDING UNIVERSITY IN CHINA: IMPLICATIONS FOR HIV INTERVENTION

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BACKGROUND: Men who have sex with men (MSM) attending university are a high-risk population for HIV infection in China. Recent years saw the widespread use of gay application (app) in MSM. Along with the increasing popularity of gay apps, concerns are raised over its linkage to HIV infection and related risky behaviors. To characterize the gay app use and provide evidence for implementing interventions via gay app, we conducted this study to evaluate gay app use and related behaviors among MSM attending university in China.

METHODS: MSM attending university were recruited in China from January to March 2019. A self-administrated online questionnaire was conducted to collect information on social demographics, sexual behaviors, and gay app use among MSM attending university in 4 provinces in China. Descriptive analysis was carried out for all variables and outcomes. Factors associated with behaviors via gay app use were assessed by univariate and multivariate logistic regression.

RESULTS: A total of 447 MSM attending university were recruited. The mean age was 20.4±1.5 years old. Almost all (98.2%) reported ever using gay apps. The most popular gay apps were Blued (97.5%) and Aloha (51.5%). 80.6% had been using gay apps for over 12 months; 31.2% used gay apps on a daily basis; 17.6% used gay apps for over one hour every day. MSM attending university who used gay apps to seek sex partners were more likely to have multiple sex partners in the past 3 months (AOR: 11.19, 95%CI: 5.54-25.85), engage in group sex in the past 3 months (AOR: 6.46, 95%CI: 3.54-12.68), engage in commercial sex (AOR: 2.56, 95%CI:1.10-6.71), and use recreational drugs during sex (AOR: 2.05, 95% CI:1.34-3.16) (P for all<0.05).

CONCLUSIONS: Our study found high prevalence of gay app use and sexual risk behaviors among MSM attending university in China. These findings suggest that gay app may be an effective tool to implement HIV interventions. Further research is needed to develop targeted app-based HIV interventions among MSM attending university.

PED1138

SEXUAL HEALTH, VIOLENCE AND DISCRIMINATION AMONG LGBTQ YOUTH IN SAO PAULO, BRAZIL: RESULTS FROM PROJECT SILK

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BACKGROUND: A disproportionate burden of new HIV infections among young gay men, other men who have sex with men, and transgender individuals suggests that the HIV epidemic may be growing fastest in this sub-population in Brazil. Due to social marginalization, this population experiences severe stigma, poverty and victimization, which limits access to HIV care and other rights – a situation that grew worse after the installation of a new, right-wing federal government. This study aimed to explore these challenges and identify new tools for improving prevention in HIV among LGBTQ youth in Sao Paulo, Brazil.

METHODS: Between June and August 2019, a total of 139 participants were recruited through referral from key informants and snowball sampling to complete a questionnaire that captured information about sexual behavior, mental health, resilience, and discrimination. Self-administered surveys were conducted using a community-based research space located in a building that hosts groups working on human rights, harm reduction, and HIV prevention.

RESULTS: Among 139 participants, 74% identified as gay, 11% trans, and 15% queer/gender fluid. 56% were black, and 79% were younger than 25 years. Most participants (86%) had their first sexual experience before age 18 and 7% reported that this first sexual experience was forced. 79% have been tested for HIV at least once - 9% reported living with HIV and 7% tested positive before age 25. 44% tested positive for another sexually transmitted infection. Because of their sexual orientation or transgender status, 40% reported verbal assaults in the previous 12 months, 27% reported threats of physical abuse, and 10% reported beatings. During the 2018 presidential elections, 29% suffered verbal abuse, 7% were beaten, and 13% had their social media accounts vandalized. 69% stated that anti-gay/trans discrimination affects their ability to have a normal life.

CONCLUSIONS: Hate crimes against LGBTQ individuals in Sao Paulo peaked in the months leading up to the October 2018 presidential election. The rise in anti-LGBTQ violence under a new far-right government has profoundly affected efforts to address public attitudes toward HIV and encourage preventive practices. In the face of growing LGBTQ intolerance and government censorship, HIV prevention programs and community mobilization should be strengthened.

PED1139

KNOWLEDGE OF HIV, ACCESS TO HIV TESTING AND AWARENESS OF PEP, PREP AND U=U AMONG ADOLESCENT BOYS AND YOUNG MEN WHO HAVE SEX WITH MEN IN ARGENTINA

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BACKGROUND: In Argentina, adolescent boys and young men accounted for ~73% of new HIV diagnoses among men who had sex with other men, between 2014-2016. Thus, there is a necessity to explore knowledge gaps in HIV that hinder their access to prevention and healthcare. This study focus on analyzing knowledge of HIV, access to HIV testing and awareness of combination prevention strategies (PeP, PreP and U=U) among adolescent boys and young men who have sex with men to develop policies targeting this vulnerable group.

METHODS: During 2018-2019, a qualitative exploratory study was conducted among 100 cisgender men who have sex with men between 15 and 24 years old in Buenos Aires Metropolitan Area, Mendoza city and Santa Fe city, in Argentina. An online survey was lunched through LGBT and people living with HIV NGOs social media of the three sites to invite participants to focus groups. Eleven focus groups and 26 individual interviews were conducted and analyzed using ATLAS.TI © by categories and site.

RESULTS: Participants stated they have some basic information about HIV but was restricted because of the heteronormative perspective prevalent on schools. They usually look for information on the internet sites and social media, aware that this information could be misleading. In relation to HIV testing participants expressed that they do not avoid testing because of HIV misconceptions (e.g.: HIV as a terminal illness) as previous generations, however what they fear the social stigma linked to HIV in the gay community and society as whole. There is limited awareness regarding PeP, PrEP and U = U. Most information about these strategies are found in social media, NGOs of people living with HIV, TV shows online or stream and dating app such as Grindr.

CONCLUSIONS: The lack of comprehensive sexuality education and insufficient information disseminated online, combined with the stigma still related to HIV, are key barriers to HIV prevention, testing and access to healthcare among these adolescent boys and young men. National polices should address combination prevention tools awareness and implementation with online communication strategies specific for this group, as well as, endorsing the implementation of the Comprehensive Sexuality Education Law.

PED1140

BARRIERS AND FACILITATORS OF HIV PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG YOUNG MEN WHO HAVE SEX WITH MEN (YMSM) AND YOUNG TRANSGENDER WOMEN (YTGW) IN NORTHEAST BRAZIL

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BACKGROUND: Fastest growing rates of HIV infection globally and in Brazil occur among YMSM and YTGW. However, data about effectiveness of PrEP in adolescents is still limited in most countries. Brazil is in the process of making PrEP available for these groups through a demonstration Project but to date there is extremely limited data regarding their knowledge and willingness to use PrEP. Our goal is to figure out barriers and facilitators of PrEP use among YMSM and YTGW in Salvador, one of the largest cities in Northeast Brazil.

METHODS: This is the first multi-city PrEP demonstration and scale-up study (PrEP15-19 Brazil Study) among YMSM and YTGW at high risk of HIV in Brazil and Latin America. We conducted a survey as part of formative research among 123 YMSM and YTGW ages 15-22 years old at schools, youth LGBT gathering/venues and youth LGBT parties in Salvador between AugustDecember 2018. Data on PrEP knowledge and willingness to use, sociodemographics, gender and sexual identity, and HIV risk perception were collected. Descriptive statistics and odds ratios with 95% confidence intervals were obtained using bivariate analysis.

RESULTS: 94.2% YMSM and 5.8% YTGW were recruited from three venues: 48.8% in youth LGBT parties, 37.4% in youth LGBT gathering/venues and 13.8% in schools. 74.3% identified as gays and 25.7% as bisexuals. Most (52.0%) were young (15-19 yo); blacks (60.2%); 26.2% had less than 8 years of education, a third were in high school (34.4%) and 39.3% at university; 61.0% did not know about PrEP before the study; 80.5% were willing to use PrEP upon awareness. Factors associated with PrEP knowledge were: older age (OR=1.57); recruitment at youth LGBT parties (OR=10.3), at LGBT gathering/venues (14.9) vs at schools; higher education (OR=8.18); perception of AIDS not as a serious disease (OR=3.71); These factors were also associated with willingness to use PrEP except recruitment, those recruited at schools (OR=1.96) were more willing to use PrEP.

CONCLUSIONS: Figuring out barriers and facilitators of PrEP use is necessary in order to guarantee that YMSM and YTGW will access PrEP at a pioneer demonstration Project. Schools are important venues for PrEP awareness among young key populations.

ADOLESCENTS, SEXUALITY AND RELATIONSHIPS

PED1141

ADOLESCENT MSM'S EXPERIENCES AND PERSPECTIVES OF SEXUAL HEALTH AND HIV PREVENTION ACCESS: FINDINGS FROM ONLINE AND IN-PERSON FOCUS GROUPS WITH YOUTH FROM ACROSS THE UNITED STATES

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BACKGROUND: In the US, men who have sex with men (MSM) are at high risk for HIV infection. HIV incidence among young black MSM is almost three times that of young white or Latino MSM age 13-24. HIV infections among Latino MSM 13-24 increased by 17% for 2010-2016. Adolescent MSM (AMSM) experience specific barriers to healthcare due to discrimination and stigma, in addition to barriers commonly experienced by all youth, such as affordability and privacy concerns. In order to build effective, evidenced-based interventions to reduce HIV infections among AMSM, a greater understanding of the facilitators and barriers of AMSM's access to HIV prevention is necessary.

METHODS: Two online and two in-person focus groups were conducted with AMSM, ages 13-18, from across the United States. Participants were recruited via advertisements posted on social media and distributed through a network of youth-serving organizations. Qualitative data were analyzed by the study team using content analysis in NVivo.

RESULTS: Twenty-one racially diverse AMSM participated in four focus groups (average age = 16.4). Across all groups, four unique themes emerged:

(1) barriers to HIV prevention, including stigma, fear of being outed, affordability, and privacy;

(2) attitudes about sex, dating, and safer sex strategies;

(3) sexual identity formation and sources of support; and,

(4) challenges to obtaining comprehensive sexual health information.

Participants described providers' promoting stigma and scare tactics, a lack of provider knowledge of certain prevention strategies like PrEP, and difficulty accessing reliable and affirming sexual health information. Participants reported learning more about sex from porn and dating apps than from schools or providers. Participants, especially AMSM of color, emphasized the need for mentors with shared identities.

CONCLUSIONS: AMSM experience the same structural barriers to accessing HIV prevention as most adolescents, such as embarrassment and concerns parents will find out. Our study highlights additional barriers experienced by AMSM associated with stigma and fear of being outed. Findings illustrate current gaps in sexual health knowledge, as well as barriers and facilitators to obtaining sexual health information, sexual healthcare, and affirming education and support specifically for AMSM. Findings will inform the development of effective, targeted HIV prevention strategies for AMSM.

PED1142

COMMUNITY SPACES, COMMUNITY GROUPS, AND HIV ACQUISITION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN RURAL SOUTH AFRICA: A LONGITUDINAL ANALYSIS OF HIV PREVENTION TRIALS NETWORK 068 DATA

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BACKGROUND: As adolescent girls and young women (AGYW) transition to adulthood, there are numerous changes occurring in their lives that make context a critical consideration for HIV prevention interventions. Beyond parental homes and school, few studies have examined what types of naturally existing social groups and community spaces might be protective for AGYW HIV acquisition and related risky sexual behaviors.

METHODS: Data are from HIV Prevention Trials Network 068, a longitudinal conditional cash transfer study of AGYW (age 13-23) in rural South Africa. Generalized estimating equations with a log link, binomial distribution, and an independent correlation structure were used to assess the association between community group membership, time spent in community spaces outside of home and school, HIV incidence, and sexual behaviors (unprotected sex, transactional sex, and having an older partner).

RESULTS: A total of 2,245 AGYW were followed for up to four years. Membership in church groups (aIRR: 0.75, 95% CI: 0.53, 0.91), dance groups (aIRR: 0.89, 95% CI; 0.80, 0.98), and spending any time at church (aIRR: 0.88, 95% CI: 0.79, 0.98) was protective for HIV infection. Conversely, spending any time at shebeens (drinking establishments) was associated with an increased incidence of HIV infection (aIRR: 1.27, 95% CI: 1.15, 1.41). Membership in church groups and spending any time at family member's home and at church was protective for unprotected sex, transactional sex and older partnerships while spending any time at boyfriends' homes and shebeens increased risk.

CONCLUSIONS: Our results suggest that community spaces and groups that include an element of adult supervision are protective against HIV infection and risky sexual behaviors, while spaces and groups that provide an opportunity for AGYW to interact with boyfriends or meet new partners, are risky. Research that untangles whether protective community spaces and groups simply limit opportunities for risky sexual behavior, or also imbue norms related to protective sexual behaviors, is important for the development of future HIV prevention interventions.

PED1143

ADOLESCENT MOTHERHOOD PREDICTS HIV INCIDENCE AMONG YOUNG WOMEN IN SOUTH AFRICA ENROLLED IN HPTN 068

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BACKGROUND: Adolescent motherhood is common in South Africa and occurs against a backdrop of high HIV risk. However, there has been limited study of whether adolescent motherhood increases risk of HIV acquisition and engagement in high-risk sexual partnerships, even though early childbearing may result in social and economic strains for young mothers.

METHODS: Data are from HIV Prevention Trials Network (HPTN) 068, a longitudinal conditional cash transfer study of AGYW (age 13-23) in rural South Africa. We used generalized estimating equations with a log link and binomial distribution to determine if adolescent motherhood (live birth before age 19) was associated with transactional sex (TS) and intimate partner violence (IPV). We used HIV cases for the time point after motherhood to assess whether motherhood predicted incident HIV infection. AGYW who were lost to follow up did not differ on motherhood, TS or IPV.

RESULTS: Of 2,533 AGYW whom were HIV-negative at baseline, 6% were adolescent mothers at baseline and 12% total were adolescent mothers by the end of the study period. At baseline, adolescent mothers were less likely to report both parents living (59% vs 69%), more likely to be in the poorest SES quintile (35% vs 25%) and more likely to report recent depression (28% vs 17%). After controlling for covariates, adolescent motherhood was associated with increased incident HIV acquisition (RR: 1.31 (95% CI: 1.10, 1.42). Adolescent mothers were also more likely to report TS (PR: 2.62, 95% CI: 1.92, 3.57) and IPV (PR: 1.29, 95% CI: 1.07, 1.57) at the same time period than adolescent non-mothers, after controlling for covariates.

CONCLUSIONS: Adolescent mothers had a higher risk of HIV acquisition and were more likely to be in high risk sexual partnerships over the study period than other AGYW. Adolescent mothers as a unique sub-population of AGYW have received limited attention to date. Further research is needed to understand how the social and economic strains of motherhood influence their sexual relationships. Furthermore, tailored combination interventions that account for the unique context of adolescent motherhood while increasing access to pre-exposure prophylaxis are critical for the long-term health of adolescent mothers and their children.

PED1144

PREVENTION AND RESPONSE TO GIRLS AND WOMEN LIVING WITH HIV/AIDS IN POST-WAR AREAS (NAKIVALE REFUGEE SETTLEMENT) IN UGANDA

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BACKGROUND: American Refugee Committee is a non-profitable organization whose main objective is to offer community based protection using different approaches in prevention and response against gender based violence in post war areas. During the transition process, refugees—particularly girls and women—face many challenges. However, in abide to overcome these encounters, such vulnerable groups are exposed to risks of rape and involvement in commercial sex. Retrospectively, because gender-based violence is one of the key causes of high spread of HIV, ARC adopted the Start Awareness Support Action (SASA) approach against gender based violence and HIV spread to help achieve the following objectives; prevention of HIV, respond to the needs of victims of HIV/Aids and create awareness in communities about the prevention measures for HIV.

DESCRIPTION: The SASA project was designed and implemented in (2016-18) in Nakivale Refugee camp with a population over 119,500 refugees. During the project, capable community members were trained on reporting and handling cases, leaders were empowered on handling emergency cases, new guidelines on sexual exploitation and abuse were initiated within the refugee settlement. Toll-free and a feedback challenge locally named "Kuja-Kuja" was installed, where insight staff communicated directly with the community. Awareness and free counseling services were conducted at individual, community levels and timely home visits to families with victims of HIV. Annual review meetings were conducted with stakeholders to monitor the progress of the SASA approach.

LESSONS LEARNED: Through community engagement, the percentage of people who tested weekly raised from 27%— 52%. Mass media campaigns created a positive impact on information-flow. Empowering HIV social groups in combined livelihood activities improved their living standards and enactment of the "sexual exploitation and abuse police" reduced on chances of manipulation of refugees in camps.

CONCLUSIONS/NEXT STEPS: Notwithstanding the few challenges, the SASA approach reduced the spread of HIV quit significantly by 56%, improved financial sustainability at household level, reduced gender based violence cases at station polices and information-flow created more awareness within refugee settlements. Livelihood training in agriculture and hair dressing among women and young girls within camps. However, more funding should be allocated to women groups that seem more vulnerable.

PED1145

CHARACTERISTICS OF PREVIOUSLY UNDIAGNOSED ADOLESCENT GIRLS AND YOUNG WOMEN WITH HIV AND HIV RISK BEHAVIORS ASSOCIATED WITH CHILDHOOD VIOLENCE: EVIDENCE FROM THE LESOTHO VIOLENCE AGAINST CHILDREN AND YOUTH SURVEY, 2018

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BACKGROUND: Adolescent girls and young women (AGYW) in Lesotho experience a disproportionally high rate of HIV infection compared with male adolescents. Reasons for the disparities are complex, and involve structural, biological, and behavioral factors, includ-

ing violence. These most current population data provide insight into understanding the unique risks of AGYW, imperative to achieving HIV epidemic control.

METHODS: The Violence Against Children and Youth Survey (VACS) questionnaire and HIV testing were completed by a nationally representative sample of adolescent girls and young women (AGYW), 13-24 years, in Lesotho. To assess characteristics of AGYW with undiagnosed HIV and examine associations between HIV risk behaviors and childhood violence, we conducted logistic regressions using SAS 9.4.

RESULTS: Among 6,563 AGYW surveyed, 7.3% were HIV positive. HIV positive status differed significantly by age: 3.5% (95%CI: 2.6-4.3%) ages 13-17 and 10.1% (95% CI: 8.6-11.6%) ages 18-24. Although 98.2% of AGYW with HIV had previously been tested, only 82.4% knew their status.

Previously undiagnosed positives (n=73) had higher odds of unknown partners' status (adjusted odds ratio (AOR): 3.5, 95%CI: 1.8-6.8), early sexual debut (AOR: 2.4, 95%CI: 1.1-4.8), multiple lifetime partners (AOR: 2.1, 95%CI: 1.0-4.0), and pregnancy (AOR: 1.8, 95%CI: 1.1-2.8); and lower odds of being under 18 (AOR: 0.2, 95%CI: 0.1-0.6) and in school (AOR: 0.3, 95%CI: 0.1-0.6) compared to negative AGYW.

Among all AGYW, those with childhood sexual violence (n=738) had increased odds of HIV risk behaviors including early sexual debut (AOR: 3.5, 95%CI: 2.7-4.5), multiple lifetime partners (AOR: 2.5, 95%CI: 1.9-3.2), and transactional sex in the past 12 months (AOR: 2.3, 95%CI: 1.3-4.0) compared with AGYW with no childhood sexual violence. Those with childhood emotional violence had higher odds of early sexual debut (AOR: 1.5, 95%CI: 1.1-2.1), multiple lifetime partners (AOR: 1.7, 95%CI: 1.2-2.2), and transactional sex in the past 12 months (AOR: 2.3, 95%CI: 1.2-4.6) compared to AGYW with no childhood emotional violence.

CONCLUSIONS: Programs should consider these characteristics of undiagnosed AGYW with HIV in targeting prevention and testing toward those at highest HIV risk. Because AGYW who experience violence engage in more risk behaviors, early prevention of childhood violence remains critical for HIV epidemic control in Lesotho.

PED1146

CAREGIVER AND NON-CAREGIVER COMMUNICATION ABOUT SEXUALITY WITH INDIGENOUS ADOLESCENTS OF THE COMARCA NGÄBE-BUGLÉ IN PANAMA

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BACKGROUND: Indigenous adolescents of the Comarca Ngäbe-Buglé (CNB) in Panama are vulnerable to HIV/sexually transmitted infection (STI) acquisition in part due to limited access to health and education services, whilst specific cultural factors have been scarcely explored. Previous research in non-indigenous contexts has shown that communication about sexuality with either caregivers or non-caregivers affect adolescent sexual decision-making. Understanding who indigenous adolescents in Panama learn from about sexuality and the impact of this communication on subsequent sexual behavior and STI outcomes would lay the path for the development of culturally sensitive interventions to prevent HIV/STI in this highly vulnerable group.

METHODS: From January to November 2018, we conducted a mixed-method study in the CNB, the largest indigenous region in Panama. The quantitative component consisted of a cross-sectional study of 700 randomly selected school-going 14-19-year-old students. Self-administered questionnaires collected data on socio-demographics, sexual behaviors, and participants´ communication with caregivers and non-caregivers on sexuality topics. Participants were also tested for HIV/STI. In the qualitative component, we used in-depth interviews with 16 caregivers, in addition to ethnographic research.

RESULTS: In the quantitative study, we found that adolescents communicated with both caregivers and non-caregivers on topics such as delaying sexual initiation, pregnancy/pregnancy prevention, and STI prevention. Communication with caregivers and non-caregivers was associated with decreased reports of sexual debut and influenced STI outcomes positively. In the qualitative study, we found that caregivers generally felt embarrassed/inadequate to talk about sexuality. Traditional coming-of-age rituals, i.e. möngöndre (for girls) and grön (for boys), included teachings on sexual behavior, but are not as thoroughly practiced today as they were in the past.

CONCLUSIONS: Communication about sexuality with both caregivers and non-caregivers play an essential positive role in indigenous adolescents´ sexuality and sexual health. A revitalization (and modernization) of some components of traditional ritualscould be beneficial to increase intergenerational communication on sexuality with adolescents of the CNB.

PED1147

WHO IS MAKING SCHOOL GIRLS IN WESTERN KENYA PREGNANT AND HOW ARE THEY COPING WITH PREGNANCY AND MOTHERHOOD? IMPLICATIONS FOR HIV PREVENTION

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BACKGROUND: Teenage pregnancy not only exposes adolescents to the risk for HIV, it also takes them out of school. School attendance, especially single-gender boarding secondary school, is protective against HIV. By age 18, 39.9% of girls in Kenya have begun childbearing. Although girls who get pregnant in school are allowed by law to resume schooling post-delivery, majority do not. We carried out a survey of girls who dropped out of school due to pregnancy, to understand the reasons for and consequences of teen pregnancy and motherhood and implications for HIV programming.

METHODS: We randomly selected one Sub-County in four Counties along Lake Victoria region where HIV is highest nationally (13-21% against 5%), randomly selected 30% of the Wards and 50% of the schools. Principals shared a list of girls who dropped out in the previous 5 years. Research assistants visited the homes to obtain consent, assess eligibility (aged 13-21 years and got pregnant while in school), and conduct the interview.

RESULTS: We enrolled 289 adolescent girls and young women age 13-21 years; 93.5% single, mean age 18.1 years, 60.2% had sex by age 15, age at first pregnancy was 16.1, 72.7% reported being enticed with money/gifts to have sex, and 56% reported multiple lifetime sexual partners, with <2% reporting consistent condom use. Majority got pregnant in Grade 7 or 10 (57% and 68%, respectively), 92% of whom were from mixed-gender day schools. Over half (52.1%) reported being made pregnant by school-mates and 21.7% by motorbike riders providing public transport; teachers accounted for only 3.6% while

5.7% did not know the man's occupation. 47% and 33% felt sex education and good parenting practices, respectively, would reduce teenage pregnancy. 47.3% reported different levels of support from the baby's father, 15% in exchange for sex – exposing them to HIV and another pregnancy.

CONCLUSIONS: Teenage pregnancy remains a reproductive health concern in day schools, and schoolmates are responsible for the majority. Concerted sex, HIV and pregnancy education (and contraceptive education, with parental support) and good parenting practices are needed to address teenage pregnancy; laws should be enacted to hold those responsible accountable.

GENDER ISSUES AND GENDERED RELATIONSHIPS

PED1148

GENDER ROLE CONFLICT, HEALTH, AND STIGMA AMONG MEN WITH HIV IN WESTERN KENYA

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BACKGROUND: Increased gender role conflict (tensions between ideal male gender norms and men's ability to fulfill these) is associated with poor health and poor mental health outcomes in the general population. Few studies have examined the relationship between gender role conflict and HIV in sub-Saharan Africa. To our knowledge there is no previous data on health impacts of gender role conflict among men with HIV, even though they are at higher risk for poor physical and mental health outcomes.

METHODS: To examine relationships between gender role conflict, mental health, and HIV health, we analyzed cross-sectional baseline data among a cohort of men (n=321) enrolled in the Shamba Maisha multisectoral livelihood intervention RCT (NCT02815579) in western Kenya. An adapted 22-item Gender Role Conflict Scale (GRCS) was administered along with adapted versions of the Hopkins Depression Checklist, Medical Outcomes Study HIV-Health Survey (MOS-HIV), AIDS-related Stigma Scale, and AUDIT-C alcohol use questionnaire. Viral load was tested during a clinic visit at baseline. We used multivariable linear regression to investigate associations, adjusting for age, education, marital status, travel time to clinic, and years on ARVs.

RESULTS: In adjusted models, higher GRCS scores, representing a lower degree of gender role conflict, were associated with lower odds of having a detectable viral load (cut-off 1000 copies, aOR 0.25, 95% confidence interval 0.08, 0.81, p<0.05), lower odds of screening positive for depression (aOR 0.16, 95% confidence interval 0.07, 0.38), lower anticipated stigma scores (b -0.43, standard error (SE) 0.11), lower internalized stigma scores (b -0.71, SE 0.13), lower enacted stigma scores (b -0.27, SE 0.06, and higher mental health-related quality of life scores (b 13.53, SE 3.14) (all p<0.001). There were no statistically significant associations between GRCS score, physical health-related quality of life and hazardous drinking.

CONCLUSIONS: Men living with HIV in western Kenya who experience gender role conflict are more likely to experience worse mental health and HIV-related outcomes. Studies are needed to elucidate the directionality and mechanisms of these relationships. If confirmed in future studies, gender role conflict may be an important and understudied target for interventions to improve the health of HIV-infected men.

PED1149

BIDIRECTIONAL VIOLENCE IS ASSOCIATED WITH POOR ENGAGEMENT IN HIV CARE AND TREATMENT IN MALAWIAN COUPLES

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BACKGROUND: Growing evidence suggests that intimate partner violence (IPV) is a barrier to engagement in HIV care. Bidirectional IPV—being both a perpetrator and victim—may be the most common pattern of IPV, yet no research has examined its effect on engagement in care, which could identify couples in most need of interventions.

METHODS: Married couples (N = 211) with at least one partner on antiretroviral therapy were recruited from HIV clinic waiting rooms in Zomba, Malawi. Partners completed separate surveys on physical, sexual, and emotional IPV, medication adherence, and appointment attendance. We created categorical variables indicating no violence, perpetrator-only, victim-only, and bidirectional violence. Generalized estimating equation regression models tested for associations between IPV and engagement in care.

RESULTS: The bidirectional pattern represented 25.4%, 35.5%, and 34.0% of all physical, sexual, and emotional IPV. Physical IPV victimization-only (adjusted odds ratio (AOR): 0.28, 95% confidence interval (CI): 0.08, 0.92) was associated with lower adherence, but the association was stronger for bidirectional physical IPV (AOR: 0.10, 95% CI: 0.02, 0.51). Bidirectional sexual IPV was also associated with lower adherence (AOR: 0.14, 95% CI: 0.02, 0.80). Bidirectional physical IPV (AOR: 4.04, 94% CI: 1.35, 12.14) and emotional IPV (AOR: 3.78, 95% CI: 1.78, 8.05) were associated with missing 1+ appointment.

CONCLUSIONS: Interventions to address the health effects of bidirectional IPV, which may be greater than victim-only or perpetrator-only IPV, should intervene with both partners to break cycles of violence. Couple-based interventions may be a viable option by intervening on both partners' trauma and aggression simultaneously.

PED1150

CERVICAL CANCER KNOWLEDGE AND ATTITUDES AMONG HIV-POSITIVE MEN IN MALAWI: A QUALITATIVE STUDY

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BACKGROUND: Malawi has the highest burden of cervical cancer. Studies show that engaging men in women's reproductive health services improves women's use of services and health outcomes. However, little is known about men's knowledge and opinions of cervical cancer disease, screening and treatment services. We explored HIV-positive men views of cervical cancer to inform strategies to increase women's uptake of screening and treatment.
METHODS: In-depth interviews were conducted with HIV-positive men who reported having a female partner at a large, free antiretroviral therapy (ART) clinic in Lilongwe, Malawi to assess their knowledge and opinions about cervical cancer, screening, and treatment. Data were collected between June – July 2019. Qualitative data were analyzed via thematic coding, and compared by respondent age and whether his partner has ever been screened for cervical cancer or not.
RESULTS: We interviewed 109 men, median age 44 years (IQR 40,50). Men had a general knowledge about cervical cancer and transmission, with most correctly identifying sexual risk factors, particularly younger men. However, the majority of respondents – those with screened partners and those without -- were unable to describe screening procedures. Most men nonetheless believed it was important for their partners to screen for cervical cancer, and that they should support their partners through encouragement and accompanying their partners for screening. Men were generally not concerned about safety or discomfort associated with screening, but some older men expressed concerns about service provision by male providers and worried about sexually inappropriate behavior from male providers during a screening. Among strategies for male engagement, some respondents suggested working with community leaders and through community outreach meetings to improve men's knowledge to better assist their partners.
CONCLUSIONS: Men have limited knowledge about cervical cancer screening, but high stated willingness to support screening and treatment. Programs should aim to educate men about cervical cancer, and promote partner involvement in screening and treatment. Strategies should also consider men's concerns around provider gender.

PED1151

PREVALENCE AND NATURE OF GENDER-BASED VIOLENCE AMONG FEMALE ENTERTAINMENT WORKERS IN CAMBODIA: A MIXED METHODS STUDY

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BACKGROUND: Gender-based violence (GBV) is strongly associated with an increased risk of HIV, especially, for key populations including female entertainment workers (FEWs). Despite the need for the information, data on GBV among FEWs in Cambodia are scarcely available. This study aims to investigate the prevalence and nature of GBV among FEWs in Cambodia.
METHODS: A mixed-method study was conducted in early 2018 in a municipality and six provinces among 652 FEWs. Time location sampling (TLS) was used to recruit survey respondent and convenience sampling was used for qualitative. A semi-structured questionnaire collected information on the intersection of gender and violence, the intersection between entertainment work and violence, and investigated access and availability to health care. A structured questionnaire was used to collect data on prevalence of various forms of violence. Content analysis was conducted for qualitative data, and descriptive analyses were conducted using STATA 13.0.
RESULTS: In total, 35 in-depth interviews and 652 interviews with FEWs were conducted. Over 10% of participants reported experiencing physical violence and 7% reported experiencing sexual violence. Women reported that their husband, rather than the clients, was more often the perpetrator of physical violence, whereas the clients rather than their husband, was more often the perpetrator of sexual violence. FEW overwhelmingly spoke about feeling degraded through harassment, verbal abused as well as other forms of violence that they sometimes termed 'more severe' such as physical abuse and rape. Of the women who had experienced violence, 25% did not tell anyone, and a much lower percentage sought medical (8%), legal (9%) or social (3%) support. Perceived barriers to seeking care included believing that the experience was not severe enough to seeking care, fear of retribution, not trusting the system and loyalty/attachment to the abusing partner/husband. Lastly, women did not know where to seek services or if they existed and overwhelmingly wanted counseling services.
CONCLUSIONS: GBV is a major issue faced by women who work in the entertainment industry across all country and across of type of establishments. To truly make strides to reduce GBV, there are needs of a multi-sectoral response with commitments from multi stakeholders.

PED1152

PREVALENCE OF PREP USE AND PARTNER SUPPORT AMONG MALE COUPLES IN THE SAN FRANCISCO BAY AREA OF USA

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BACKGROUND: Early studies investigating intentions to use PrEP among male couples report mixed findings — in some cases PrEP is viewed positively because it offers added protection from HIV infection that would be beneficial to couples, while other studies demonstrate reluctance to initiating PrEP because couples consider themselves to not be at risk for HIV, often citing a monogamous agreement. However, few couples were actually taking PrEP at the time of these reports. Therefore, little is known about actual PrEP use among male couples.
METHODS: We recruited 280 male couples (560 individuals) — 80% concordant HIV-negative and 20% serodiscordant— from July 2017 to November 2019 for an HIV prevention intervention trial in the San Francisco Bay Area using active and passive strategies. We generated select frequencies related to PrEP use among HIV-negative

participants in each couple-serostatus group separately, but found no substantive differences between groups, for the variables of interest. Therefore, we present results below from all HIV-negative participants (N=502).

RESULTS: The median age was 34 years (SD: 11.5). The median relationship length was 4 years (SD: 7.5) and 22% reported monogamous agreements. Over 60% of HIV-negative men reported ever using PrEP. The most endorsed reasons for starting PrEP included: wanting to protect self from HIV, wanting to protect self from HIV in an open relationship, the ability to have sex without a condom and the suggestion to use PrEP from one's doctor. 51% reported taking PrEP in the previous three months. Among this subgroup, 86% reported talking openly with others about their PrEP use and 98% had told their primary partner about their PrEP use. Of those who told their primary partner, over 97% reported their partner was supportive of their PrEP use. Finally, 81% took PrEP daily and 93% felt confident in their ability to take PrEP as prescribed.

CONCLUSIONS: PrEP use is expanding and partner support for PrEP is high among male couples. Open dialogue among partners about PrEP use suggests couples are making sexual health decisions together; this may aid in consistent use. Encouraging couples to have on-going discussions about PrEP use and sexual agreements will support long term sexual health.

PED1153

EDUCATION AND AWARENESS ON THE VIOLENCE AGAINST PERSONS PROHIBITION ACT (VAPP ACT) AS A TOOL FOR REDUCING GENDER INEQUALITIES AND HIV INFECTION: LESSONS LEARNED FROM BAWRI COMMUNITY IN FCT NIGERIA

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BACKGROUND: The Violence against Persons Prohibition Act (VAPP Act) was enacted in 2015 to address the high incidence of GBV in Nigeria. However, women and girls have continued to experience all forms of violence including intimate partner violence sexual violence, rape, domestic violence etc, which hinder women's ability to negotiate use of condom and expose them to HIV infection.

Those in rural communities, lack understating of the provisions and importance of the Act. (CWIDI) with support from Women Deliver International, embarked on sensitization and awareness programmes for 4000 young girls on the VAPP ACT in Bwari community FCT, Nigeria.

DESCRIPTION: CWIDI hosted a radio phone in show in Abuja to educate the populace on the provisions of the Act including the link between gender-based violence and HIV, protections available and the reporting procedures to the police for the purpose of obtaining a restraining order, hot lines and shelter homes . Community engagements were organised on the VAPP Act to reach about 4000 women and girls in Bwari, a semi-rural community in Abuja, Federal Capital city of Nigeria. In addition, District heads in Bwari community were trained as VAPP Act champions and presently adding their voice to the campaign against GBV as well as acting as watch-dogs in the community to stymie violence in all ramifications against women and girls.

LESSONS LEARNED: The project led to increased in knowledge about the VAPP Act, and its relevance for protecting women against violence and HIV. Also, engaging with Districts heads, played an important role in the reduction of number of sexual abuse cases recorded . This has a positive implication for HIV infection in the community. The project equally encourages women and girls to speak out thus breaking the silence on this issue.

CONCLUSIONS/NEXT STEPS: Implementation on a wider scale and translating the abridge version of the Act in local languages should be considered, especially among girls aged 10-15 in and out of school. Also, there is need for constant engagement with women leaders including traditional and religious leaders as advocates of the Act. And adoption of a peer to peer approach to encourage and break the culture of silence.

PED1154

TALES OF OPPRESSION AND DOMINANCE: A GENDERED ANALYSIS OF HIV VULNERABILITIES AMONG FEMALES WHO INJECT DRUGS (FWID) IN DHAKA, BANGLADESH

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BACKGROUND: Compared to their male counterparts, females who inject drugs (FWID) are more vulnerable to HIV infection. FWID are also labeled as "bridging populations" due to their HIV transmission potential via both the injection and sexual routes to their male partners. FWID are coined as vessels for HIV infections, without considering the underlying contexts that mold their sexual and injection behaviors. To inform more tailored and gender-sensitive harm reduction interventions, an ethnographic study explored gender-based vulnerabilities experienced by FWID. In light of the recent increase of HIV prevalence among FWID in Dhaka, Bangladesh, this paper for the first time has examined underlying risks and contexts constructed within a gendered framework.

METHODS: Under a classical ethnographic research design, between April 2018 and May 2019, prolonged participatory observations, fifteen in-depth interviews and two focus group discussions with FWID receiving harm reduction services, alongside two key informant interviews with harm reduction service providers were conducted with FWID. Data were thematically analysed under the "doing gender" framework.

RESULTS: Findings alluded to the dependence of FWID on their male partners due to the males' ability to provide asylum and protection within the patriarchal male dominated Bangladeshi society. This dynamic inaugurated the drug-injecting careers of several FWID. Due to anticipatory fears of domestic violence and being evicted from their relationship and hence, their shelter, FWID felt compelled to conform to their gender role of obeying their partner's commands. Consequently, decisions regarding drug collection and financing, use of sterile injection equipment and condom use were predominantly were predominantly dictated by the male partner, and followed accordingly. Moreover, several FWID partook in poly drug use in order to enhance their ability to uptake more transactional sex clients, thus exacerbating their vulnerabilities. It was also revealed that harm reduction interventions lacked gender-sensitive services; hence gender-based vulnerabilities remained unaddressed.

CONCLUSIONS: Findings alluded to the subservience of FWID towards their male partners, as per their socio-culturally constructed gender roles. However, the complexities created by the gender dichotomy were overlooked in conventional harm reduction interventions. Thus, tailored, holistic interventions need to be redesigned immediately for FWID in Bangladesh and elsewhere.

PED1155

"VIOLENCE IS EVERYWHERE": BUILDING RESILIENCE TO ADDRESS LINKAGES BETWEEN VIOLENCE AGAINST WOMEN AND HIV IN THE MIDDLE EAST AND NORTH AFRICA

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BACKGROUND: Approximately 40% of adults living with HIV in the Middle East and North Africa (MENA) region are women, with acquisition primarily through sexual transmission. Evidence shows that GBV contributes to HIV acquisition. Leadership and Research Now (LEARN) MENA aimed to aimed to strengthen the HIV response and contribute towards the elimination of GBV in the MENA region by better understanding and responding to HIV-GBV linkages, and by strengthening the capacity of women living with and most affected by HIV to prevent and address GBV.
DESCRIPTION: The project utilised the Actions Linking Initiatives on Violence Against Women and HIV Everywhere (ALIV[H]E) Framework: a women-centred tool that enables women in their diversity to strengthen programmes and services that respond to GBV in the context of HIV. By applying ALIV[H]E methodology and values, the project sought to galvanize a sustainable response to GBV-HIV linkages in MENA, through: capacity-strengthening of the regional network of WLHIV (MENARosa); leadership of WLHIV and women in their diversity to advocate on GBV; participatory action research to understand GBV-HIV linkages in the region; and national stakeholder dialogues.
LESSONS LEARNED: Gender norms combined with HIV stigma and discrimination leave marginalised women in the MENA region vulnerable to violence in different settings. The project found that GBV was both a cause and consequence of HIV among marginalized women in the region. Most women who participated in the project reported experiencing violence in 3 or more settings, and nearly all feared violence. This underscores the fact that GBV constrains life choices, including women's ability to protect themselves from, or live well with, HIV. Women in their diversity also revealed extraordinary resilience and mutual support, and are emerging as powerful leaders.
CONCLUSIONS/NEXT STEPS: LEARN MENA has galvanised stakeholders to raise awareness of the need to prevent and address GBV-HIV linkages in MENA through: individual agency and community action; timely and responsive service provision, and a more protective and accountable legal environment. The project has built the resilience of women with HIV in the region to lead this work. Momentum to implement an emerging women-led agenda needs to be maintained through partnerships, technical support, resources and political will.

PED1156

KNOWLEDGE OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV SERVICES AMONG MALE PARTNERS IN RURAL NIGERIA

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BACKGROUND: Poor male partner involvement in the prevention of mother-to-child transmission (PMTCT) undermines the potential benefits of HIV preventive efforts. However, the factors associated with poor knowledge of male partners in PMTCT are not well known in Nigeria and need to be investigated. The objective of this study was to determine knowledge of PMTCT and the associated factors among adult males in rural districts of Ebonyi State, Nigeria.
METHODS: This was a community-based cross-sectional survey conducted from September to October 2019 among men with wives of child-bearing age in two rural districts of Ebonyi State, Nigeria. Systematic random sampling was used to get the total of 450 participants. Multivariable logistic regression analysis was used to identify the determinants of knowledge of MTCT and PMTCT.
RESULTS: A total of 450 men completed the survey – mean age 40.6 ± 8.7 years. Also, 164 (36.4%) had primary education and 163 (36.2%) had secondary education. A total of 449 (99.8%) were married; 445 (98.9%) were currently living with their partners and 142 (31.6%) had a pregnant female partner at the time of the survey. The mean knowledge score was 15.0 ± 2.7 (maximum 19). Overall, 330 (73.3%) of the respondents had good knowledge score (≥70 correct knowledge). In the multivariable logistic regression analysis, having a secondary (aOR 2.0; 95% CI 1.1 – 3.8) or tertiary education (aOR 4.0; 95% CI 1.2 – 13.9), and the belief that men should accompany their female partners to antenatal care/health facility visits (aOR 2.4; 95% CI 1.2 – 4.9) were independent determinants of good knowledge of MTCT and PMTCT.
CONCLUSIONS: Male partners of rural women have a high knowledge of MTCT and PMTCT in rural Nigeria. This level of knowledge can be leveraged upon to initiate and sustain rural-based PMTCT intervention programs.

GENDER-TRANSFORMATIVE APPROACHES

PED1157

HOW TO CHANGE GENDER NORMS TO IMPROVE HIV SERVICE UPTAKE: QUALITATIVE FINDINGS FROM A COMMUNITY MOBILIZATION INTERVENTION IN SOUTH AFRICA

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BACKGROUND: Increasingly, interventions to improve men's and women's engagement in HIV testing and antiretroviral therapy (ART) are explicitly addressing restrictive and inequitable gender norms. However, how and why gender norms/attitudes change, and how this translates into HIV service uptake, remain poorly understood. We implemented a qualitative sub-study during a community mobilization trial in rural South Africa that sought to reduce inequitable gender norms and other social barriers to HIV service engagement.
METHODS: We conducted 55 in-depth interviews in 2018, during the final months of the three-year intervention in Mpumalanga province. Participants included 25 intervention community members (48% women; 60% HIV-positive) and 30 intervention staff/community opinion leaders (70% women). Interviews explored shifts in gender norms/attitudes and HIV service use during the intervention; analysis involved an inductive-deductive approach.
RESULTS: We identified three potential avenues for gender norms change, which, when coupled with specific strategies, may lead to HIV service uptake: (1) Challenging norms that men should be tough and avoid help-seeking, combined with information on the health and preventive benefits of early ART, appeared to ease some men's fears of a positive diagnosis and facilitated uptake of HIV testing and other services. (2) Challenging norms about male control over women in relationships, combined with skill-building around equitable communication and conflict resolution, encouraged couples to consult and support each other around HIV testing and treatment. For example, less conflict and violence eased women's disclosure-related fears - facilitating ART initiation/adherence. (3) Challenging the norm that women are solely responsible for the family's health, combined with information about the benefits of ART, encouraged men to test for HIV proactively rather than reactively testing based on their partner's results. However, some men still perceived clinics as unaccommodating of men (e.g., long wait-times, few male staff), and suggested community-based testing.
CONCLUSIONS: Promoting critical reflection among men and women around restrictive/inequitable gender norms that act as barriers to care appears promising for increasing HIV service engagement. To ensure behavior change, this should be coupled with information (e.g., about ART benefits), skill-building activities (e.g., about equitable couple communication), and HIV services that are accessible to men.

SEXUAL CONCURRENCY AND SEXUAL NETWORKS

PED1158

SEXUAL BELIEFS AND HIV RISK DURING PREGNANCY AND BREASTFEEDING IN FOUR AFRICAN COUNTRIES: QUALITATIVE FINDINGS FROM THE MTN-041/MAMMA STUDY

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BACKGROUND: Pregnant and breastfeeding (P/BF) women in sub-Saharan Africa are at heightened risk of HIV acquisition and perinatal transmission due to biological and behavioral factors. In preparation for phase 3b trials with P/BF women, we explored perceptions of HIV risk and attitudes about a vaginal ring and oral PrEP for HIV prevention in Malawi, South Africa, Uganda and Zimbabwe.
METHODS: We conducted focus group discussions (FGDs) with three community-recruited groups: HIV-uninfected women aged 18-40 (8 FGDs) who were currently or recently P/BF, men aged 18+ (8 FGDs) whose partners' were currently/recently P/BF, and mothers/mothers-in-law of P/BF women (grandmothers; 7 FGDs). Participants also completed a survey, viewed an educational video, and handled placebo products. English translations of FGD transcripts were coded (Dedoose software, v7.0.23) using a socio-ecological framework and analyzed thematically.
RESULTS: All participant groups described pregnancy and breastfeeding as times of high HIV risk primarily because men have multiple concurrent sexual partners; indeed, 37% of P/BF women indicated that their partner may be having sex with someone else. Participants explained that men seek other sexual partners because of beliefs that P/BF women have lower libido, are sexually unattractive, or sex may harm the unborn baby, and to adhere to late pregnancy and postpartum periods of abstinence. P/BF women and grandmothers noted the conflict women face in deciding whether to follow cultural norms and heal from delivery or to resume sex quickly postpartum to prevent men from seeking sex elsewhere. Female participants explained they often prioritize their partner's sexual needs because of pressure they feel to please the men. Despite concern about side effects for mother and baby, new prevention options were welcomed during pregnancy and breastfeeding, particularly given men's reluctance to use condoms and to test for HIV.
CONCLUSIONS: Understanding norms and conditions around sexual behavior during pregnancy and breastfeeding can help address the heightened HIV risk during these periods and highlights the need for new prevention options for women. Involving key influencers including male partners and grandmothers could strengthen future prevention efforts. The complex and interactive nature of social rules and expectations around sexual behavior warrant further study in these settings.

SEXUALITIES AND SEXUAL CULTURES: MEANINGS, IDENTITIES, NORMS AND COMMUNITIES

PED1159

DEVELOPMENT AND VALIDATION OF THE COUPLE SEXUAL SATISFACTION SCALE FOR HIV AND SEXUAL HEALTH RESEARCH

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BACKGROUND: Sexual satisfaction is an important, but overlooked, dimension of couple relationship quality with significant implications for HIV prevention, care, and treatment. Most sexual satisfaction scales have been developed in the US using small convenience samples and have limited generalizability to other cultural contexts. We developed and validated the Couple Sexual Satisfaction Scale (CSSS) to measure sexual satisfaction in heterosexual couples in sub-Saharan Africa (SSA).

METHODS: To generate scale items, we conducted qualitative interviews with partnered women and men in Swaziland (N=27) and Malawi (N=34) to explore the meaning of sexual satisfaction. Resulting items were added to a survey administered to 211 couples living with HIV in Malawi. We performed an exploratory factor analysis (EFA) to identify the factor structure and performed a confirmatory factor analysis (CFA) to verify the factor structure. To assess validity, we tested for associations between the CSSS and relationship quality, and HIV-related health behaviors. Regression coefficients were computed using generalized estimating equations clustering on the couple identifier and controlling for relationship length and couple HIV status.

RESULTS: The EFA yielded two factors, general sexual satisfaction (13-item CSSS-Gen subscale; e.g., "I am satisfied with the sweetness of sex in our relationship") and HIV-specific sexual satisfaction (4-item CSSS-HIV subscale; e.g., "Antiretrovirals have made sex less satisfying") that accounted for 78% of the shared variance. The CFA supported the two-factor solution: $\chi 2$ (118)=203.60, p<0.001; SRMR=0.05; RMSEA=0.05. Couples reporting higher CSSS-Gen were more likely to report higher coital frequency and relationship quality (intimacy, trust, unity, equality, relationship satisfaction, commitment, partner social support; p<0.001) and had lower odds of consistent condom use and physical and emotional violence. Couples reporting higher CSSS-HIV were more likely to report higher coital frequency and relationship quality (trust, partner support; p<0.05), and had a lower odds of consistent condom use and sexual violence.

CONCLUSIONS: The CSSS demonstrated good psychometric properties. CSSS-Gen showed stronger associations with relationship quality than CSSS-HIV, suggesting the need for more research on HIV-specific sexual satisfaction. The CSSS is a valuable scale for measuring relationship dynamics, providing new opportunities to study sexual satisfaction and relationship, HIV, and sexual health outcomes among couples in SSA.

PED1160

KUWENTONG POSITIBO: UNFOLDING IDENTITIES AND HUMAN POTENTIALS OF SELECTED PEOPLE LIVING WITH HIV (PLHIV) THROUGH THEIR COUNTER NARRATIVES

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BACKGROUND: Labels and names ascribed to any particular social group do more than merely describe and characterize the people who comprise it, as much as they allow for or inhibit the realization of full potential of these groups and individuals. People Living with HIV (PLHIV) have been subjected to abuses despite various efforts to recognize HIV/AIDS as a preventable and curable condition. This is especially because the language ascribed to them continues to misrepresent their identities, reinforcing the deeply entrenched belief that they are abnormal, sinful, and contagious individuals who should be avoided and condemned than cured.

This study argues that these misrepresentations are (re)produced by dominant narratives on HIV/AIDS that dilute PLHIV's own narratives and their identities, and fit them into restricting and dehumanizing stereotypes. Nevertheless, many PLHIV are able to resist misrepresentation by "queering" and countering dominant discourses through the narratives they tell about themselves.

METHODS: This research explored how queer identities and human potentials are constructed from the counter narratives of six PLHIV who were purposively selected to participate in the narrative interviewing with the researchers.

Guided by some principles of narrative inquiry and Queer theory, this study:

1) narrated their individual stories of living with HIV;

2) analyzed the dominant and counter narratives from their stories; and,

3) unfolded queer identities from their counter narratives.

RESULTS: Findings revealed that PLHIV are not passive "oppressed" individuals but have the agency to fight for their rights and represent themselves through their own narratives. As a matter of fact, some PLHIV have become successful in their own fields and many of them have been involved in the advocacy as leaders and volunteers to their own PLHIV community. A closer look at their stories also showed that the interplay of dominant and counter narratives is dynamic and fluid.

CONCLUSIONS: This study provides insights that could strengthen HIV/AIDS initiatives in the field of DevCom, and offers a discussion on its implications on DevCom practice that draw parallelisms between the recognition of (queer) identities and the "[giving of] voice to the voiceless" (Quebral, 2012, p.11).

PED1161

SEXUAL DESIRE AND PLEASURE IN THE CONTEXT OF THE HIV PRE-EXPOSURE PROPHYLAXIS (PREP)

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BACKGROUND: This study explores both the sexual desires and pleasure in the context of HIV pre-exposure prophylaxis (PrEP) use among gays, bisexuals and other men who have sex with men (gbMSM). The aim of this article is to discuss the experiences of PrEP

users, especially GBMSM, regarding sexual desire and pleasure, considering biomedical interventions as a means of producing erotic experiences mediated by technical-scientific incorporation.

METHODS: This study analyzed data collected from interactions of PrEP users and their interlocutors in a Facebook® discussion group on PrEP and HIV/AIDS, which has more than 20000 members, predominantly GBMSM from the United States. Including a pilot-phase, we analysed data from a active 3-month-period in 2018. Based on the method of content analysis with thematic categories, we focused our attention on the discussions content, checking in which ways individuals presented their personal issues, particularly their routines, conflicts, and successes on PrEP use. A structured analysis script was developed to capturing specific and detailed experiences, which helped us filter all the selected posts.

RESULTS: Our main findings suggest the practical concept of bareback sex was dismantled into notions of 'natural' and 'unnatural sex', while these categories were linked to condomless sex, acquisitions of Sexually Transmission Infections (STI) and their perceptions of intimacy. Specifically, individuals on PrEP had hotter sex while having condomless sex, which was linked to an ideal of ‚natural sex' they value. Besides on PrEP, individuals reported concurrent use of antibiotic prophylaxis and recreational drugs use. When negotiating their sexual practices, PrEP users see STI and sexual mucosal contact as two major factors that influence their pleasure and in which mediate their choices towards STI/HIV prevention. In addition, their perceptions of sexual intimacy were strongly linked to physical contact with sexual partners. Individuals also believed they could enhance pleasure and desire by acknowledging their inner subjectivity and societal positions about PrEP.

CONCLUSIONS: We argue that the individuals on PrEP play a positive and conflicting ethic towards sex amidst the use of biomedical interventions. This has direct implications for both health care providers and PrEP-users towards a better understading of GBMSM sexuality and intimacy while on PrEP.

PED1162

"GOTTA BE THE MAN, RIGHT? HOW I BE THE MAN AND WORK AT THE DOLLAR STORE?": MASCULINITY, RELATIONSHIPS AND HIV RISK AMONG DISADVANTAGED BLACK HETEROSEXUAL MEN

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BACKGROUND: Researchers have suggested that many Black heterosexual men from disadvantaged backgrounds are often locked out of mainstream pathways to establish masculine identity, and thus perform gender in hypermasculine ways (e.g. multiple sexual partners, virility). Such norms and associated sexual behavior have been studied for HIV risk implications. However, demonstrations of masculinity in the broader context of pursuit of (or refrain from) intimate partnerships have not been explored fully. We consider masculinity norms in intimate relationships to deepen our understanding of Black heterosexual men's HIV-related protection strategies.

METHODS: Data are from 76 longitudinal in-depth interviews with 21 low income Black heterosexual men (ages 25-64) in a small Northeast city conducted 2017-2019. Twenty of the men have a history of incarceration. Interviews addressed participants' economic situation, criminal justice involvement, housing, sexual health and HIV risk, substance use, relationships and social networks.

RESULTS: Most participants wanted a monogamous, committed relationship and saw sex in committed relationships as more satisfying than casual sex. Men's perceived ability to contribute to a relationship economically and emotionally was equated with "being a man" and seen as a prerequisite for pursuing a relationship. However, because of their current conditions--underemployed and unstably housed--they felt inadequate and thus avoided pursuing committed relationships. Paradoxically, they felt committed relationships were the safest form of sexual relationships for HIV protection. They recognized HIV risk in casual and non-monogamous relationships and employed different protection strategies, including abstaining, using condoms, oral sex, frequent HIV tests, and tentative trust of partners' self-reported status.

CONCLUSIONS: While studies of masculinity and HIV risk among disadvantaged heterosexual Black men often highlight HIV risk factors associated with hypermasculinity, our findings indicate that Black men perform gender in traditional ways and long for committed relationships. When considering how masculinity impacts HIV risk, we must be alert to structural barriers to the attainment of "manhood" and the ways in which men are locked out of committed relationships when considering HIV risk. Both avoidance of committed relationships and manifestations of hypermasculinity eare reactions to larger structural problems that need to be addressed to lower HIV risk among disadvantaged heterosexual Black men and their partners.

ACCESS TO AND MODELS OF INTEGRATED HIV AND OTHER SERVICES, SUCH AS HARM REDUCTION, SRHR, TB, NCDS AND MENTAL HEALTH

PED1163

IMPROVING FAMILY-CENTERED HIV CARE DURING PREGNANCY: MEN'S PERSPECTIVES ON MEETING THEIR SEXUAL AND REPRODUCTIVE HEALTH NEEDS IN ZAMBIA

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BACKGROUND: Across sub-Saharan Africa (SAA), male partner involvement during antenatal care (ANC) is associated with improved maternal and child health outcomes, including the prevention of mother to child transmission (PMTCT). There is limited understanding of men's sexual and reproductive health needs in couples affected by HIV and whether male involvement in ANC can extend to improvements in men's health. The aim of this study was to understand how HIV services around the time of pregnancy could better meet the sexual and reproductive health needs of men with HIV and at high risk of HIV in Zambia.

METHODS: The study implored a qualitative research design using in-depth interviews with 18 male partners of pregnant women living with HIV in Lusaka, Zambia. Atlas.ti was used to code, catego-

rize, classify, store and manage the data. Thematic analysis highlighted men's perspectives on their sexual and reproductive health needs.

RESULTS: Most men understood and endorsed the importance of escorting their pregnant female partners for ANC and the need to be aware of PMTCT. Yet, they believed that they lacked information about promoting their own sexual and reproductive health needs and regarded ANC as a woman's space where their health needs were generally neglected. There was a strong desire for more education that was specific to men's sexual and reproductive health, especially because all the couples were affected by HIV. Men requested education on safe sex, the use of condoms in sero-concordant and sero-discordant relationships and general health information. Although men stated they were the main decision-makers regarding sexual and reproductive issues such as pregnancy, most men were not confident in their ability to promote sexual and reproductive health in the family because of their limited knowledge in this area.

CONCLUSIONS: With the emphasis on PMTCT in many SSA settings, men's sexual and reproductive health needs have been neglected. Male involvement in ANC offers one strategy to promote both PMTCT efforts and male engagement in health care. There is need for programs that address the specific health needs of men that focus on improving service delivery to accommodate men's sexual and reproductive health, especially in couples affected by HIV.

PED1164

A RANDOMIZED, CONTROLLED TRIAL OF SCALABLE, NON-SPECIALIST MENTAL HEALTH CARE FOR HIV-POSITIVE WOMEN IN KENYA AFFECTED BY GENDER-BASED VIOLENCE

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BACKGROUND: HIV-positive women suffer a high burden of mental disorders due in part to Gender Based Violence (GBV). Co-morbid depression and posttraumatic stress disorder (PTSD) are typical psychiatric consequences of GBV. Despite the attention received by the HIV-GBV syndemic, few clinics have integrated formal mental health care. This problem is acute in Sub-Saharan Africa, where the world's majority of HIV-positive women live and where prevalence of GBV against HIV-positive women is high.

METHODS: We conducted a randomized, controlled trial using an effectiveness-implementation-hybrid design. HIV-positive women affected by GBV with both Major Depressive Disorder (MDD) and PTSD were randomized to 12 sessions of Interpersonal Psychotherapy (IPT) plus Treatment As Usual (TAU) or TAU. After 12 weeks, those assigned to TAU were given IPT. Non-specialists (no prior mental health education required) were trained to deliver IPT inside the HIV clinic. Participants were re-assessed at 6 and 9 months, by which time all had received IPT. The primary outcomes were MDD and PTSD (Mini International Neuropsychiatric Interview [MINI]).

RESULTS: 261 participants were enrolled between May 2015 and July 2016. Using multilevel mixed-effects logistic regression, participants randomized to IPT+TAU had 75% lower odds of MDD (odds ratio [OR] after intervention 0.25, 95% CI [0.11 to 0.59], p=0.002) and 62% lower odds of PTSD (OR after intervention 0.38, [0.16 to 0.91], p= 0.03), than Wait List-TAU. IPT+TAU recipients had nearly a 19% reduction in disability and 35% decrease in work absenteeism, both significantly greater than controls. Gains were maintained at 6 and 9 month follow-up.

CONCLUSIONS: We showed that non-specialist IPT for depression and PTSD can be integrated with HIV care with excellent mental health results. Because depression and PTSD are associated with suboptimal HIV outcomes, as we pursue elimination of HIV, it is essential to employ scalable, evidence-based solutions for high risk psychiatric co-morbidity.

PED1165

GENDERED SYNDEMIC OF VIOLENCE, TRAUMA AND ADDICTION AS A BARRIER TO ANTIRETROVIRAL THERAPY ADHERENCE AMONG WOMEN LIVING WITH HIV IN METRO VANCOUVER, CANADA: CALL FOR CULTURALLY SAFE, TRAUMA-INFORMED CARE

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BACKGROUND: Adherence to antiretroviral therapy (ART) is a critical component of the HIV care continuum, yet despite recent advancements in ART, cisgender (cis) and transgender (trans) women living with HIV (WLWH) continue to experience sub-optimal adherence and viral load suppression. Gaps remain in our understanding regarding the design of programs with women that can facilitate adherence. The objectives of this study were, among WLWH, to: 1) describe different types of support needed to take ART); and 2) investigate the social and structural correlates associated with needing support for ART adherence.

METHODS: Data are drawn from SHAWNA (Sexual health and HIV/AIDS: Women's Longitudinal Needs Assessment), a community-based open research cohort with cis and trans WLWH, aged 14+ who live or access HIV services in Metro Vancouver, Canada (2014-present). Baseline and semi-annual questionnaires are administered by trained community and peer research associate interviewers alongside a clinical visit with a sexual health research nurse to support education and linkages to care. Bivariate and multivariable logistic regression using generalized estimating equations (GEE) and an exchangeable working correlation matrix was used to prospectively model factors associated with needing supports for ART adherence.

RESULTS: Among 276 WLWH, 51% (n=142) reported needing supports for ART adherence during the study period. Participants reported many interpersonal, structural and community and clinical supports that would facilitate and support ART adherence, including improved access to food (23%), addictions support (20%), improved housing (20%), peer support (18%) and transportation support (18%)

among others. In multivariable logistic regression, women who: were Indigenous (adjusted odds ratio (AOR):1.70, 95% confidence intervals[CI]:1.07-2.72), Afro-Canadian/Black or otherwise racialized (AOR:2.36, 95%CI:1.09-5.12); reported illicit drug use (AOR:2.15, 95%CI:1.43-3.22); reported physical violence (AOR:1.54, 95%CI:1.03-2.31); and reported lifetime post-traumatic stress disorder (AOR: 1.97, 95%CI:1.22-3.18) had increased odds of needing support for ART adherence.

CONCLUSIONS: This research suggests a critical need for trauma-informed and culturally safe practice and services for WLWH along the HIV care continuum to support ART adherence. All services should be developed by, with and for WLWH and tailored according to gender identity, taking into account history, culture, and trauma, including the broad negative impacts of settler colonialism for Indigenous people.

PED1166

FROM HIV TESTING TO LINKAGE: AN INNOVATIVE APPROACH OFFERED IN STI CARE FOCUSED ON MEN IN RECIFE, BRAZIL

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BACKGROUND: In May 2018, AIDS Healthcare Foundation (AHF) launched a wellness center – an innovative Sexually Transmitted Infections(STI) clinic for men, free of charge, in response to the increase HIV incidence among gay and other men who have sex with men(MSM) in Recife, Brazil. The aim of this abstract is to show how a differentiated approach to STI can contribute to expanding HIV diagnosis.

DESCRIPTION: The Clinic has expanded working hours, central location, communication and marketing tailored to men, multidisciplinary team, stigma-free services and an individual-centered approach. Is the only STIs specialized clinic in the region, and offers rapid tests for syphilis, HIV, Hepatitis B and C, diagnosis and treatment for STIs and linkage to HIV care.

Diagnosis	Total (N)	Positivity Ratio (%)*
HIV	621	6.17
Syphilis	2249	22.34
Hepatitis B	57	0.57
Hepatitis C	49	0.49
HPV infection	1040	10.33
Candidiasis	730	7.25
Urethral discharge	794	7.89
Herpes	443	4.40
Lymphogranuloma Venereum	34	0.34
Proctitis	145	1.44
Chancroid	309	3.07
Molluscum contagiosum	43	0.43
Orchitis	16	0.16
Others	444	4.41
Total	6974	Not applicable

[Table 1. Total diagnosis and positivity ratio among all clients assisted from May 2018 to November 2019, AHF Wellness Center, Recife, Brazil
**Positive ratio calculated based on 10,066 total clients]*

LESSONS LEARNED: From May 2018 to November 2019 10,066 clients were assisted, with an average age 33.69(12.31±SD) and 6.17% of HIV positivity ratio(621/10.066). Among 621 HIV positive clients, 91.6%(569/621) were MSM, 7.8%(48/621) were heterosexual; 6974 had at least one STI diagnosis. 88.7%(551/621) of HIV positive clients were linked to care. Hence, STI services can works as a gateway for HIV diagnosis and linkage.

CONCLUSIONS/NEXT STEPS: An innovative model focused on a target population showed to be sustainable and productive. Governments and non-governmental organizations can work together to expand access to STI care and HIV testing. Based on this model, AHF is opening a new wellness center focused on key population in the center of São Paulo, which is considered the "epicenter" of the HIV epidemic. Also, there is a planned expansion of outreach activities in poor areas by mobile clinics to expand access to STI care in Recife.

PED1167

BARRIERS AND ENHANCERS TO RETENTION IN INTEGRATED HIV AND MATERNAL AND CHILD HEALTH CARE: THE IEDEA-KENYA PMTCT COHORT

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BACKGROUND: Retention in care is a major challenge for pregnant and postpartum women living with HIV (WLHIV) in resource-limited settings. However, the factors influencing retention from the perspectives of women who are lost to follow-up (LTFU) are poorly understood. We explored these factors within an enhanced sub-cohort of the East Africa International Epidemiology Databases to Evaluate AIDS Consortium.

METHODS: From 3/2018 to 2/2019, a purposeful sample of pregnant and ≤6 months postpartum WLHIV ≥18 years of age were recruited from 5 integrated HIV and maternal and child health (HIV-MCH) clinics in Kenya. Women retained in care were recruited at the facility; women LTFU (last visit >90 days) were recruited through community tracking. A trained interviewer conducted semi-structured interviews in Kiswahili or English. Transcripts were analyzed thematically by two investigators based on codes developed from the literature using a social-ecological framework.

RESULTS: 41 WLHIV were interviewed: median (IQR) age 27 (23-32) years, 71% pregnant and 29% postpartum, 46% newly diagnosed with HIV during pregnancy, 27% had not disclosed their HIV status to their partner, and 39% had been LTFU. In the individual domain, prior PMTCT experience and desires to safeguard the infant's health enhanced retention but were offset by perceived lack of value in MCH services following the main infant immunization period (i.e. through 6-9 months postdelivery). In the peer/family domain, male partner financial and motivational support (or lack thereof) featured prominently. In the community/society domain, some women experienced social pressure to attend MCH while others experienced pressure to utilize traditional birth attendants. In the healthcare environment, long queues, frequent appointments and negative provider attitudes were key barriers. HIV-related stigma and fear of disclosure crossed multiple domains, particularly for LTFU women, and were driven by

perceptions of HIV as a fatal disease and fear of partner abandonment and violence. Both retained and LTFU women perceived that integrated HIV-MCH services increased the risk of disclosure.

CONCLUSIONS: Retention was influenced by multiple, complex social-ecological factors for pregnant and postpartum WLHIV. Stigma and fear of disclosure were prominent barriers for LTFU women. Refining the structure and efficiency of HIV-MCH clinics are potentially mutable ways to enhance retention.

PED1168

BUILDING RESILIENCE IN PARTNERSHIP WITH TRANSITIONAL AGE YOUTH LIVING WITH HIV

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BACKGROUND: The purpose of our program was to build resilience and provide psychoeducation about co-occurring trauma and substance use to transitional age youth (TAY) living with HIV (YLWH) and experiencing homelessness or marginal housing in San Francisco. This population reports high levels of substance use, Adverse Childhood Events, and symptoms of depression, as well as engagement in transactional sex, chemsex, and sex with multiple concurrent partners.

DESCRIPTION: Through a collaboration between a university and a community-based organization for TAY, the Seeking Safety (SS) program was adapted for sexual and gender minority YLWH. SS groups were delivered in weekly one-hour sessions over eight weeks in an open-group format, facilitated by behavioral health care nurses. Ten (8-week) groups were conducted at the CBO's HIV service site. Sessions included a check-in; a skills-based activity based on a PTSD/substance use topic selected by group members (e.g., Compassion, Healing from Anger and Healthy Relationships); and a check out. The implementation team conducted an evaluation of the SS program.

LESSONS LEARNED: Our evaluation is the first to demonstrate the acceptability of SS among homeless/marginally housed YLWH, and the feasibility of providing this intervention in a residential setting for young people. Group participants reported feeling comfortable and safe in the group, learning new skills for identifying how substance use and other behaviors may be linked to their trauma histories, developing a sense of community support among other YLWH, and satisfaction with the group being located where they also received services and housing. Implementation of the SS model supported organizational sustainability by building capacity and creating a flexible, adaptable structure for facilitation that could be implemented by staff (and potentially youth peers) with training and a brief weekly clinical supervision session.

CONCLUSIONS/NEXT STEPS: Seeking Safety is a low-threshold group intervention that addresses trauma and substance use YLWH. It was acceptable to YLWH and feasible to run in a youth-focused, residential community-based organization. Specific research on trauma-informed treatment for substance-using YLWH is imperative to standardize inclusive treatment. The Seeking Safety model provides a customizable treatment that remains flexible to the multiple trauma related challenges for substance using YLWH.

PED1169

AN EVALUATION OF COMMUNITY BASED INTERVENTION FOR HIV PREVENTION: BROTHA2BROTHA MODEL IN HARARE PROVINCE FROM 2017 TO 2018

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BACKGROUND: In Zimbabwe, 36% young men have basic knowledge HIV prevention, 50% of the young men don't know their status and are less likely to start HIV treatment than women. 60% of youths in Zimbabwe use illicit drugs. The Brotha2brotha program was designed to promote HIV prevention, uptake of Adolescent SRHR services, reduction of illicit drug use and teaching of life skills among vulnerable young boys and adolescents. Young men aged 10 - 24 years were recruited into the B2B in the districts of Harare. An evaluation done to assess the impact of the program among the youth of Harare.

METHODS: The evaluation employed an analytical cross sectional study of the B2B program. Interviewer-administered questionnaires were compiled in Harare at baseline, mid-term (12 months) and end line (24 months) of the study. Key informants such as the Brotha-2brotha mentors and Behavioral change officers were also interviewed. Inclusion criteria were to interview youths aged 10 - 24 years at baseline and those who had benefited from the program during its implementation. Data processed and analysed using EPI INFO.

RESULTS: Among the 300 questionnaires answered (90% response rate) were analyzed and mean age was 19 years. 85% of the participants reported to have utilized the HIV prevention and the Adolescent SRHR knowledge which they acquired to empower themselves. There was significant increase on uptake of VMMC and HTS service uptake among the youths ($p<0.001$). 62% of the boys in the sampled in Chitungwiza district were circumcised after exposure to the program. Level of drug and substance abuse among the youths in the communities of Hatfield and Mbare declined by 36% (2018 VFU reports). Income generating projects like building, welding, car washing among others were embraced by most youths, with those given loans to start projects by SMEs department doing well. The default rate on loan repayments from B2B members was below 5%.

CONCLUSIONS: Evaluation analysis illustrated that this model is effective in promoting HIV prevention and uptake of services among youths. B2B can be used as a tool to generate demand, disseminate comprehensive HIV, gender transformation, behavioral change and ASRHR information for vulnerable youths and adolescents.

PED1170

LONGITUDINAL TRAJECTORY PATTERNS OF ALCOHOL USE IN PATIENTS WITH HIV IN NORTHERN VIETNAM

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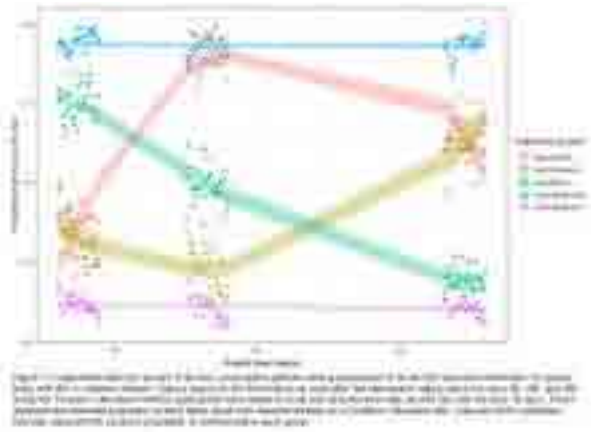
BACKGROUND: Prevalence of alcohol use disorder (AUD) is higher in people living with HIV than in the general population in Vietnam where sociocultural norms drive alcohol consumption. Results of the

REDART trial found that a targeted intervention to reduce alcohol consumption in treated patients living with HIV was highly effective. Closer analysis of participants' longitudinal consumption patterns is needed to better understand intervention mechanisms and their real-world applicability.

METHODS: Consumption patterns were documented by asking REDART trial participants to recall daily use over in the past 30 days at each of three follow-up visits (3, 6, 12 months). We used group-based trajectory modeling to describe common longitudinal trajectories. Multinomial logistic regression models were then used to assess the relationship between trajectory group membership and trial arm. Models were adjusted for demographic variables, pre-trial consumption habits, and a scale indicating readiness to reduce consumption.

RESULTS: We identified five trajectory groups. A predicted 44% of participants exhibited „consistently low" alcohol consumption; 19.7% „consistently high," 14.9% „declining," 12.2% „late increasing," and 9.3% „rise and fall." Those randomized to the intervention group were more likely to be in the "consistently low" group than in any other group, though findings lacked statistical significance for the "declining" and "consistently high" groups. Older age, being an ethnic minority (non-Kinh), and heavy drinking at baseline were predictive of membership in a suboptimal trajectory groups, while higher baseline readiness scores were protective against it.



CONCLUSIONS: The most common trajectory among REDART trial participants was a consistently low consumption pattern, to which intervention arm participants were more likely to belong. A wide variety of other consumption trajectories were also observed, including several suboptimal patterns. Insights from such analyses can inform screening strategies to identify and engage with individuals who face higher risk of suboptimal trajectory patterns, and for tailoring interventions to address their needs.

PED1171

DEPRESSION AND CONDOMLESS SEX IN HIV POSITIVE PATIENTS

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BACKGROUND: Background: Depression is a common psychological disorder among people who are living with HIV/AIDS. Few studies in the Iran have assessed the relationship of condom use and depression in this group of people. We examined whether depression is related to lack of condom use in Iranian HIV positive people.

METHODS: Methods: We recruited patients from 6 Voluntary Counselling and Testing (VCT) centers with heterogenic pattern of HIV positive persons in Tehran. Eighty-seven HIV positive people, age>= 30 years, completed a Depression Anxiety Stress Scales (DASS) questionnaires and demographic, treatment and condom use questions. DASS depression score ≥10 was defined as depression. Chi-squared test and logistic regression model was used to assess association.

RESULTS: Results: A total of 87 patients aged 21-62 years old (82.8% men) were enrolled in the study. About 62.1 % (n= 54) of patients had depression. Condomless sex was reported as 40.7 (n=22) and 15.2 % (n= 5) in depressed and normal patients, respectively. Age and sex adjusted Odds ratio in multiple logistic analysis indicated that depression is significantly associated with lack of condom use (OR= 2.87, P-value = 0.038).

CONCLUSIONS: Conclusions: The present study highlighted high prevalence of depression and low prevalence of condom use among HIV positive persons and the strong association between these two items. Depression is important health implication which requires special attention in this group of people. Development of depression management programs is warranted to increase condom use in the patients with HIV.

PED1172

PROJECT LAST MILE IN SOUTH AFRICA SUPPORTS A NATIONAL DIFFERENTIATED SERVICE DELIVERY (DSD) MODEL FOR INTEGRATED DISEASE MANAGEMENT AND IMPROVED ACCESS TO ANTIRETROVIRALS (ARVS)

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BACKGROUND: South Africa is home to 7.7 million people living with HIV and supports the largest antiretroviral therapy (ART) program globally. Non-communicable diseases threaten public health accounting for 51% of mortality. Despite global investment in HIV and the parallel threat of NCDs, there are few examples of integrated programs that leverage resources to tackle both. In 2014, the National Department of Health (NDoH) launched the Centralised Chronic Medicines Dispensing and Distribution (CCMDD) program to provide patients on antiretrovirals (ARVs) with differentiated access to medications via community-based pick-up points. The program ex-

panded to include other chronic diseases, including diabetes and hypertension, and co-morbidities. The study aims to describe the national expansion of CCMDD, and to examine the profile of CCMDD patients over time.

METHODS: Yale monitors CCMDD enrollment as part of its mixed methods evaluation for Project Last Mile (PLM), the National Strategic Partner for CCMDD since 2016. Yale has conducted four annual waves of qualitative data collection to understand stakeholder experiences with PLM. Cumulative data on CCMDD uptake [i.e., patients enrolled, facilities registered, pick-up points established] as well as where patients collect their medications [from external pick-up points (PuPs); adherence/outreach clubs; or facility-based fast lanes], and what they collect [ART only; Chronic only; and ART-Chronic] were extracted for analysis.

RESULTS: As of October 2019, 3,436 health facilities were registered across 46 health districts with 2,037 external PuPs established. A total of 2,008,172 patients were active on CCMDD, including 76% collecting ART [64% ART only, 12% ART plus Chron]; 479,120 [24%] were collecting for chronic diseases only, which significantly expanded since November 2018 (p <.05). Further, 734,005 (37%) of patients were collecting from external PuPs, a 73% uptick from 2018. The greater availability of external PuPs correlated with growth of patient selection of external PuPs over time (p<.01). Stakeholders confirmed that expanding the program to patients with NCDs destigmatized uptake, and credited PLM with external PuP expansion.

CONCLUSIONS: A growing number of patients are accessing medications via CCMDD, and a significant proportion have NCDs. As external pick-up points increase, demand improves. This signals potential for expanding this integrated differentiated service delivery model in similar settings.

PED1173

HAVING A PARTNER OF UNKNOWN HIV STATUS IS ASSOCIATED WITH MAJOR DEPRESSIVE SYMPTOMS AMONG PREGNANT HIV-UNINFECTED WOMEN IN KENYA

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BACKGROUND: Risk of HIV acquisition is elevated during pregnancy. Not knowing a sexual partner's HIV status is a risk factor for HIV acquisition. Partner HIV testing, PrEP use, and partner antiretroviral treatment can protect women and infants from HIV. Depression influences the ability of women to protect themselves from HIV during pregnancy. We evaluated depression and HIV risk factors among pregnant women.

METHODS: In an ongoing cluster RCT (NCT03070600), study nurses administered surveys to HIV uninfected pregnant women age 15-45 years at 20 public sector clinics in Western Kenya from January 2018-January 2019. At enrollment, women were assessed for depressive symptoms using the Patient Health Questionnaire-2 (PHQ-2); major depression was defined as scores ≥3. Women self-reported their partner's HIV status and self-perceived HIV risk (Extremely/very unlikely, somewhat/very likely). We calculated prevalence ratios using Poisson regression models, clustering by facility.

RESULTS: Among 4,145 pregnant HIV-uninfected women analyzed, median age was 23 years (IQR:20-28), median gestational age was 24 weeks (IQR:20-30), 84% were married, and 14% were employed. One in ten women screened PHQ-2 positive, consistent with major depressive symptoms (393/4145, 10%). Nearly half (1887/2200, 46%) self-perceived their risk for HIV as "somewhat or very likely", and frequency of major depressive symptoms was 60% higher among women with self-perceived high HIV risk [12% vs. 7%, Prevalence Ratio [PR]: 1.62, 95%CI:1.05-2.52, p=0.031]. Median lifetime number of sexual partners was higher among depressed versus non-depressed women (3 partners [IQR]:3[2-4] vs. 2[2-3], p<0.001), and frequency of depression was higher with each additional sexual partner [PR: 1.03, 95% CI: 1.01-1.05, p=0.002].

Twenty-six percent of women did not know their partner's HIV status (1089/4145); depression was more frequent among those with unknown partner HIV status versus those who knew their partner's status (13% vs 8%, PR:1.49 95% CI:1.03-2.13, p=0.032].

CONCLUSIONS: In this large study of pregnant women, symptoms of major depression were associated with not knowing partner HIV status, number of lifetime sexual partners, and self-perceived HIV risk. Addressing psychosocial issues may improve HIV prevention strategies among pregnant women in HIV high-burden settings.

PED1174

MISSION POSSIBLE: INTEGRATING GENERAL HEALTH SERVICES WITH CARE CASCADE OF HIV EXPOSED INFANTS USING ACTIVE CASE FOLLOW UP RESULTS IN REDUCING POSITIVITY: AN EXPERIENCE FROM AHANA PROJECT IN INDIA

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BACKGROUND: While Govt. of India has a goal of achieving EMTCT by 2020 the performance remained dismal as only 38% pregnant women screened for HIV against HMIS registration in 2016-17, ART linkage was poor and lack of cascade management resulted in huge linkage loss, and vertical transmission was high. Complementing Govt.'s effort Project Ahana was launched supported by The Global Fund in 14 states of India. Expansion of service access and active case follow up has resulted in bridging the service gap and also improved cascade management.

DESCRIPTION: Intensive outreach mechanism were put in place to follow up every HIV positive pregnant women with PMTCT services. Around 11,218 pregnant women were followed up and record was maintained in a prospective cohort. The cohort recorded follow up services and complete infant cascade. The cohort data for the period of Jan, 2016 to September 19 was analysed.

LESSONS LEARNED: Analysis from national data suggests, HIV positivity was 6.35% during 2016-17 amongst the HIV exposed infants when tested at 18 months since birth. Seventy six children confirmed as HIV positive out of 2,332 children (3.26%) completed 18 months and received HIV testing. Linkages to EID testing within 2 months of birth improved from 36% during 2016-17 to more than 90% in the period of April to Sept, 19.

CONCLUSIONS/NEXT STEPS: Single window care provision by integrating services across sector based on gap analysis using PLHIV cohort and regular outreach follow up with HIV exposed infants has resulted in reducing the vertical transmission from mother to child. Learning suggests, ensuring linkage, maintaining adherence of the

pregnant women and following up of HIV exposed infants with EID testing and other necessary care and support services aligned with general public health services is critical. Ahana demonstrate a successful model of PMTCT through integration of general health services with HIV.

ACCESS TO APPROPRIATE HEALTHCARE SERVICES (INCLUDING FOR CO-INFECTIONS AND CO-MORBIDITIES)

PED1175

OVERCOMING ACCESS BARRIERS TO ADDRESSING THE IMPACT OF HIV-ASSOCIATED NEUROCOGNITIVE DISORDER ON THE MENTAL HEALTH OF PEOPLE LIVING WITH HIV: SERVICE PROVIDER PERSPECTIVES AND STRATEGIES

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BACKGROUND: Since the advent of combination antiretroviral therapy, the incidence of dementia related to HIV-Associated Neurocognitive Disorder (HAND) has become rare. However, research has documented that milder forms of HAND have increased in prevalence in recent decades. In this context, people living with HIV/HAND (PLWH[2)] have been experiencing challenges performing complex activities of daily living, especially when mental health (MH) issues coexist, which service providers have to address in their work.

METHODS: From June 2016 to May 2017, we conducted semistructured, one-on-one interviews with providers (*n=33;* Table 1) from the Ontario HIV sector to obtain their perspectives on the impact of HAND on their clients' MH, and how to address this impact. We employed Thematic Analysis (Braun & Clarke, 2006) on our interview data to generate our results.

Identifies As	Female = 18	Male = 15	Straight = 25	Gay = 8	Genderqueer = 1	Cis = 32	Trans = 0
Age Range	<25 y/o = 1		25-34 y/o = 11	35-44 y/o = 10	45-54y/o = 7	55-64y/o = 4	
Race/ Ethnicity	White = 19	Black = 4	Latino = 2	S/SE/E Asian = 6	W Asian/M Eastern = 1		Aboriginal = 1
Region	Downtown Toronto = 21			Greater Toronto Area = 6		Southwest Ontario = 6	

[Table 1]

RESULTS: We generated two superordinate themes: (1) barriers to addressing the impact of HAND and (2) strategies providers used to overcome barriers. Three types of barriers were identified. *Personal barriers* included providers' lack of awareness and knowledge of HAND. *Service access barriers* included limited availability of local primary care and MH services; limited access to MH services with adequate expertise/experience working with PLWH[2]; and HIV stigma. *Systemic barriers* were related to lack of capacity in the Ontario HIV sector. Three types of strategies to overcome barriers were identified. *Intrapersonal strategies* involved staying informed about HAND. *Interpersonal strategies* included providing practical assistance, counselling, and referrals. *Organizational strategies* included creating dedicated support groups for PLWH[2]; partnering with organizations with services not available within their organization; and advocating for greater access to MH services with expertise/experience working with PLWH[2].

CONCLUSIONS: Our findings have substantial implications for informing/influencing national and global intervention programs supporting the MH of PLWH[2].

PED1176

WE ARE ALL WOMEN: BARRIERS AND FACILITATORS TO INCLUSION OF TRANSGENDER WOMEN IN HIV TREATMENT AND SUPPORT SERVICES DESIGNED FOR CISGENDER WOMEN

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BACKGROUND: In HIV research, services, and programming, it is increasingly urgent to disaggregate transgender women from the behavioral risk category of "men who have sex with men (MSM)." Transgender women, as women, share more in common with cisgender (non-transgender) women with respect to sociocultural context and factors influencing HIV risk and outcomes, particularly trauma, than they do with MSM. However, it is not yet clear whether both transgender and cisgender women would find integrated, all-women HIV programs and services desirable and beneficial.

METHODS: We Are All Women was a qualitative study conducted between April 2016 and January 2017 utilizing a conceptual framework based on gender affirmation and trauma-informed care to explore barriers and facilitators to inclusion of transgender women in HIV treatment and support services traditionally focused on cisgender women. Purposive sampling was used to recruit participants for 6 semi-structured, facilitated focus groups with cisgender and transgender women (2 with cis women 2 with trans women, and 2 with cis and trans women together) and 5 semi-structured, in-depth interviews with HIV care providers in the San Francisco Bay Area. Focus groups were in person, lasted one hour, and consisted of 2 facilitators and 2-11 participants (totaling 10 trans and 22 cis women). Interviews with providers were conducted by phone and lasted 60-90 minutes. All sessions were recorded and transcribed.

RESULTS: Both trans women and cis women identified the desire for gender affirmation, a feeling of safety (specifically space without men), and potential community-building within a care and healing context as powerful facilitators of an inclusive all-women care environment. Primary barriers to integrated cis and trans women care were acceptability and feasibility. Although cis women generally expressed acceptability, their language and behavior sometimes reflected discomfort that distanced and stigmatized trans women. The combination of high needs—particularly associated with trauma—and constrained resources raised questions about the feasibility of integrated services.

CONCLUSIONS: Although both transgender and cisgender women generally supported the idea of trans-inclusive all-women HIV services, they identified interpersonal and structural challenges in implementing them. Notwithstanding, they identified strategies related to physical environment, community engagement, and trans visibility that would make such services attractive.

PED1177

BARRIERS AND FACILITATORS TO ENGAGEMENT WITH THE CASCADE OF HIV CARE IN THE PHILIPPINES AMONG MEN WHO HAVE SEX WITH MEN (MSM): FINDINGS FROM A COMPREHENSIVE QUALITATIVE ENQUIRY

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BACKGROUND: The HIV epidemic in the Philippines has been expanding rapidly, with MSM accounting for most new diagnoses. Epidemiological surveillance in the Philippines shows high levels of people presenting with advanced infection (1,312 in January to July 2019) and high levels of mortality (460 in January to July 2019). Such numbers reflect delays, failures and missed opportunities in the HIV care cascade. This research sought to understand the social contexts that make MSM more vulnerable to HIV and to identify barriers and facilitators to their seeking testing and treatment.

METHODS: Qualitative research was conducted in Manila, the Philippines, from July to November 2018. The methodology comprised twenty key informant interviews with healthcare workers, researchers and policymakers, and three focus group discussions with seventeen healthcare workers from community-based HIV/AIDS organisations. They explored the social contexts of HIV transmission and how organisations understood these and responded. Interviews were transcribed and coded in NVivo to generate themes.

RESULTS: Participants reported a widespread lack of awareness of HIV among MSM, with illness often undetected if physical symptoms were not present. Fear of discrimination after a positive result also influenced the desire to test. However, new models of community-based testing are emerging that seek to reach more MSM, addressing some barriers yet creating new complexities for healthcare workers. Significant barriers exist in linking people to care with high levels of 'lost to follow-up', and the responsibility and failure to engage often misdirected at the individual. Many participants noted the continued need to travel long distances to access treatment hubs, and for these trips to occur regularly due to medication 'stock outs' and procurement issues, affecting adherence. New models for treatment are also emerging to address these barriers, with the rise of one-stop-shops for testing and treatment and digital health interventions to encourage adherence.

CONCLUSIONS: In order to understand the drivers of barriers and facilitators to the Cascade of Care, the social context in which individuals engage with it needs to be understood and addressed. MSM face multiple challenges in their attempts to seek testing and treatment, with new approaches needed to ensure they achieve an undetectable viral load.

PED1178

FACILITATORS AND BARRIERS OF HEALTHCARE ACCESS AMONG HIV-POSITIVE STIMULANT USERS

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BACKGROUND: Drug users account for a large portion of HIV/AIDS cases in the United States and many are not receiving medical care, despite the publically supported national HIV care system. As a result, HIV-positive drug users continue to have poorer HIV clinical outcomes and faster progression to AIDS than nonusers. Prior research suggests that stimulant users are affected by unique stressors that impact healthcare utilization and access. Our study aimed to examine factors affecting HIV-positive stimulant users and their perception of healthcare access. Specifically, we sought to test a predictive model examining the relationship between latent constructs (i.e., socioeconomic status, mental health, stimulant use), health literacy, distrust and healthcare access.

METHODS: Participants completed a 2-3 hour study visit which included questionnaires and audio computer-assisted self-interview (ACASI) technology that assessed correlates of healthcare access: health literacy, healthcare distrust and environmental stressors. Structural equation modeling was performed in SAS 9.4. Multiple linear regression was performed in SPSS 26.0.

RESULTS: 104 participants with mean age 48.2 ± 9.8 yrs completed the survey; the majority were male (65.4) and African American (83.7%). Mental health, stimulant use, and socioeconomic status were identified as latent constructs significantly associated with health literacy. Direct effects were significant for the association between health literacy and healthcare access (B=.47, p=.01) and distrust and healthcare access (B=-.24, p=.00). Individuals who reported higher health literacy and lower distrust were more likely to report higher perceived healthcare access. No indirect effects were found.

CONCLUSIONS: Our findings suggest that health literacy and distrust of healthcare systems may be underestimated in their role in perceived healthcare access among HIV-positive stimulant users. Addressing these issues during patient-provider interactions may help improve perceptions of healthcare access among HIV-positive drug users, particularly those negotiating continuum of HIV care along with mental health issues and chronic poverty.

PED1179

'I CANNOT FAIL TO COME AFTER PEOPLE ARE WORRIED ABOUT ME': FACTORS AND MECHANISMS ENABLING RETURN TO HIV CARE AMONG PREVIOUSLY DISENGAGED PATIENTS IN ZAMBIA

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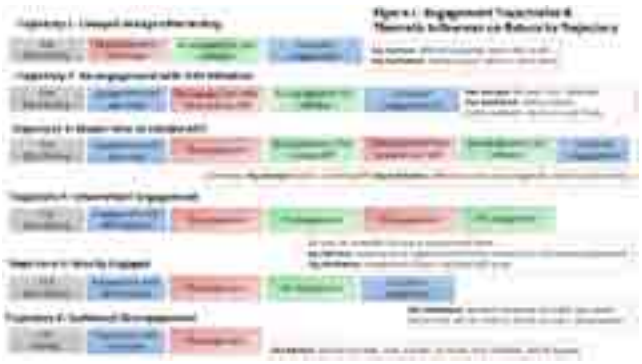
BACKGROUND: While dynamic movement of patients in and out of HIV care is common, the ability of HIV programs to facilitate return to care is impeded by limited data on what influences re-engagement. Understanding the positive behavior of return to care among patients living with HIV is critical for long-term continuity of care. Our study identified both factors that influenced and the mechanisms that enabled return.

METHODS: We conducted narrative interviews with twenty purposefully sampled people living with HIV in Lusaka, Zambia who had disengaged from HIV care and subsequently re-engaged. We applied thematic narrative analysis informed by a social ecological approach.

RESULTS: Participants included 13 women and 7 men aged 21–50 years from 10 health facilities. We identified six return trajectories based on patterns of engagement since HIV testing. (Figure 1) Important, interactive re-engagement facilitators included encourage-

ment, having a personal connection to the facility through a family member or friendly health care worker, experiences of symptomatic illness, the desire to avoid future illness, facility outreach after missed visits, and securing ART outside of the routine clinic visit system. While activated under specific constellations of conditions, across the varied narratives there were five underlying mechanisms of return:

1) patients feeling valued,
2) establishing supportive accountability through caring relationships with health care workers or family,
3) guidance on practical steps required to re-start care,
4) improved treatment accessibility, and
5) identifying and supporting management of specific barriers, such as depression.



[Figure 1.]

CONCLUSIONS: Re-engagement, which is often cyclical, depends on factors and contexts coming together to enable patient return. Understanding a patient's engagement trajectory may help to identify key re-engagement facilitators. A supportive environment for return would include health care worker friendliness and easier ART access to better accommodate individual patient needs. Efforts to increase return should target the specific mechanisms underlying diverse re-engagement facilitators.

PED1180

REASONS FOR PRESENTATION WITH ADVANCED HIV DISEASE AMONG INDIVIDUALS IN BOTSWANA: A MIXED-METHOD STUDY

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BACKGROUND: Botswana has an established antiretroviral therapy (ART) programme with good population-level coverage, but the burden of advanced HIV-disease remains high. We aimed to understand barriers to HIV testing and effective treatment leading to advanced HIV.

METHODS: A mixed-methods study at Princess Marina Hospital, Gaborone. We collected demographic and clinical data from a convenience sample of admissions during the period July 2017–May 2019. In-depth interviews were conducted with a purposively selected subset of 18 patients and analysed using the Health Belief Model framework.

RESULTS: 294 admissions with advanced HIV were included (Table 1). Of 291 with available data, 18%(51/291) did not know their HIV-status; 18%(52/291) knew their HIV-positive status but were not in care; 3%(9/291) were in HIV-care but not on ART; and 13%(37/291) had defaulted ART. 48%(141/291) reported being on ART, 35% of whom(50/141) had a suppressed viral load.Eighteen interviews were conducted. Participants knew their sexual behaviours could lead to HIV exposure but did not consider themselves susceptible, so delayed testing. When testing, services were well regarded. HIV infection was frequently stigmatised and was particularly severe if manifesting in weight loss or inability to perform usual social roles and addressing these issues were the benefits of treatment. Acute illness presented a cue to action. Barriers to care among ART-experienced participants were limited benefits following early initiation, side-effects, waiting times and healthcare worker attitudes.

Participant Demographics
n 294, age median (range) 38 years (18-78 years), female %(n) 43(126)

Diagnoses		% (n)
Cryptococcal meningitis		29 (84)
Other CNS infections		9 (26)
Respiratory infections (exc PTB)		19 (57)
Pulmonary TB		13 (37)
Extra-pulmonary TB (exp TBM)		7 (19)
Malignancy		8 (24)
Gastrointestinal infection		5 (14)
Other		11 (33)
Point in the Care Cascade n=291		% (n)
New HIV diagnosis		18 (52)
Known HIV diagnosis		82 (239)
	Not in care	18 (52)
	In care, never on ART	3 (9)
	In care, defaulted ART	13 (37)
	On ART	48 (141)
Of those on ART:	Suppressed	35 (50)
	Detectable	24 (34)
	No recent viral load	40 (57)

ART: Antiretroviral therapy, CNS: Central nervous system, PTB: Pulmonary tuberculosis. Other CNS infections: Tuberculous meningitis (11), bacterial meningitis (7), viral meningitis (7), space occupying lesion (1), seizures (1). Respiratory infections: Pneumocystis pneumonia (44), bacterial pneumonia (12), empyema (1). Malignancy: Kaposi Sarcoma (15), cervical cancer (7), vulval cancer (1), lymphoma (1). Other: Anaemia (10), pancytopenia (4), cytomegalovirus (1), myelitis (1), sepsis (1).

[Figure 1. Demographics, diagnoses and point in the care cascade]

CONCLUSIONS: Most patients(82%) developing advanced HIV disease already knew their HIV status, but were not effectively engaging in care or taking ART. There is shame surrounding HIV infection and disbelief concerning risk. Limited understanding of the benefits of early ART and healthcare related factors including waiting times and staff attitudes were barriers to effective care. Differentiated models of care are needed to engage and retain all patient groups in care.

ANTIRETROVIRAL THERAPY (INCLUDING TREATMENT AS PREVENTION)

PED1181

A RANDOMIZED CONTROLLED TRIAL OF COGNITIVE BEHAVIORAL THERAPY OUTCOME FOR ADHERENCE AND DEPRESSION (CBT-AD) AMONG HIV PATIENTS ON ANTI RETRO VIRAL THERAPY (ART) IN JIMMA UNIVERSITY MEDICAL CENTER (JUMC)

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BACKGROUND: Persons living with HIV/AIDS (PLHIV) are able to live full lifespans after infection, however, rates of anxiety disorders among this population are elevated compared to national samples. Depression symptoms and disorders have a negative effect on medication adherence, quality of life and other psychological disorders, such as depression. The aim of this study was to evaluate Cognitive Behavioral Therapy Outcome for Adherence and Depression (CBT-AD) reduction.

METHODS: A two arm, randomized, controlled, trial comparing CBT-AD was employed. The study intervention activities lasted for 6 months from February 1st 2018 to July 30th 2018. Eligible 274 HIV infected patients were selected by using simple random sampling technique. ANCOVA and repeated measures analyses were done to know between and within subject variability. Variables with p-value less than ≤0.05 used as cutoff point for statistical significance.

RESULTS: CBT-AD (N=134 participants) had significant large effect size improvements in depression (f= 853.21, p < .001, partial eta squared=0.78), perceived stigma (f=125.54, p < 0.001, partial eta squared= 0.317), sleep quality (f=20.10, p<0.001, partial eta squared= 0.317) compared to control group (n=140 participants) at post treatment (4 months). Over three follow-ups, CBT-AD groups (n==122 participants) maintained lower depressive symptoms (f=507.97, p<0.001, partial eta squared= 0.808), lower perceived stigma (f=1012.14, P<0.001, Partial Eta Squared=0.893) regardless of sociodemographic characteristic differences.

CONCLUSIONS: CBT was helpful to reduce depression, perceived stigma and improve ART medication adherence and sleep quality. Structured CBT should be integrated in the management of patients with depression, adherence, poor sleep quality and stigma.

PED1183

HERBAL MEDICINE CEASATION AND EFFICACY OF ANTIRETROVIRAL DRUGS IN THE TREATMENT OF HIV: STUDY OF NASARAWA STATE NIGERIA

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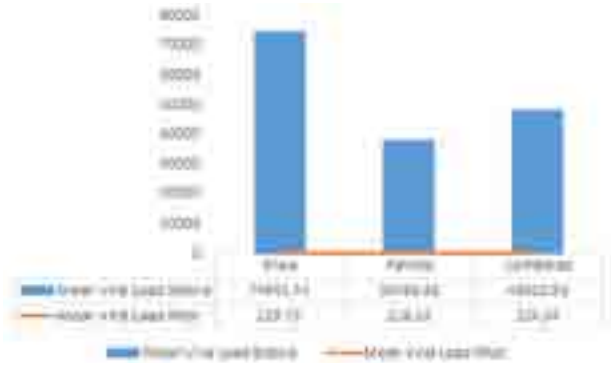
BACKGROUND: Use of herbal medicine among HIV-infected individuals in Nigeria and Nasarawa State in particular is on the increase in the past decade and has led to number of mortality cases. Most common reasons for the usage include been promised cure by the traditional healers, traditional beliefs that herbal medicine is better than orthodox medicine, been tired of daily pills. This cross-sectional study was to assess herbal medicine utilization among PLHIV and its impacts on viral suppression during and after ceasation.

METHODS: Purposive sampling method was used disproportionately to select 89 participants from 7 ART facilities in Nasarawa State. Socio-demographic data were collected using structured, pretested questionnaire via interview while viral load result test, and ART regimen were collected from the clients' records for a period of 10 months. Analysis was done using MINITAB 14.

RESULTS: Result showed 100% [male-32 (28.3%), female-81 (71.7%)] aged between 18-60 years with average mean age of 35 years reported usage of herbal medicine from traditional healers. The average mean duration in care with concomitant use of herbs and ARVs was 10 months. All the clients were on first line ARV regimen (Tenofovir Disproxil Fumarate + Lamivudine + Dolutegravir OR Tenofovir Disproxil Fumarate + Lamivudine + Efavirenz). Concomitant use of ARVs and herbal medicine had average mean viral load result of 48810.86cp/ml. The mean viral load result after ceasation of concomitant use following 3-months enhanced adherence counseling was 224.54cp/ml showing the negative impacts of concomitant use of herbal medicine and ARVs on viral suppression.



[Figure]

CONCLUSIONS: Herbal medicine used by PLHIV in Nasarawa State negatively affects the efficacy of ARVs. Enhanced adherence counseling was found to be a very effective tool at ensuring cessation of herbal medicine usage among PLHIV. There is need for further studies on the components of these herbal medicine and its specific interaction with ARVs.

PED1184

U=U - CATALYST OR BARRIER FOR MEN'S ENGAGEMENT IN ART? STAKEHOLDER VIEWS FROM BLANTYRE, MALAWI

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BACKGROUND: The slogan **U**ndetectable = **U**ntransmittable, based on three studies which showed virtually no transmission from a virally suppressed PLHIV to their HIV-negative partner, became popular from 2014. We explored familiarity with this slogan among stakeholders in Blantyre, the Malawian city with the highest HIV prevalence rate (17.7%) and the worst viral load (VL) suppression rate (59.5%) in the country. Our particular interest was in stakeholders' views of the potential appeal of this slogan to men, as men's VL suppression lags behind women's in Malawi.

METHODS: The U=U data emerged from a qualitative study among stakeholders (n=16) and men on ART: n=24 with detectable VL , n=17 with undetectable VL, and 17 men in the community. We conducted

in-depth interviews (in Chichewa and English) in Blantyre and surrounding communities in November/December 2019 and translated and transcribed, coded and analyzed them. Stakeholders included health personnel of ART treatment sites, academics, NGO and church-based program implementers.

RESULTS: Out of 16 stakeholders, 14 - including all health personnel - were unfamiliar with the slogan. When explained, some stakeholders held positive views such as: boosting men's adherence; appealing to 'kind-hearted' men in preventing onward transmission; enabling discordant couples to forego condom use; motivating men to enquire about the HIV-status of their partner and contributing to an HIV-free generation. Stakeholders saw sexually active men and those spending time away from their families as benefitting most from U=U. Opinions varied on its appeal for male youth.

Widespread concerns related to: equating 'undetectable' with 'healed', which may impact adherence negatively; an increase in promiscuity and clients' re-infection. Some felt that a small risk of transmission remained. Especially health workers emphasized the need for protection through condoms and a reduction of partners.

CONCLUSIONS: The results show that the slogan U=U is largely unknown among HIV-stakeholders in a high prevalence area. If U=U is to have a positive effect on men's engagement with ART, 'undetectable' needs to be carefully explained and more information on the benefits of treatment for the client's own protection and that of others needs to be made known – to stakeholders, clients and communities.

PED1185

IMMEDIATE INITIATION TIME FOR ANTIRETROVIRAL TREATMENT OF HIV POSITIVE DIAGNOSED PATIENTS AND ASSOCIATED FACTORS IN CAMEROON

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BACKGROUND: The World Health Organization recommends rapid (≤ 7 days) initiation of antiretroviral treatment (ART) for HIV-positive patients. The objective of our work was to estimate the initiation time for antiretroviral treatment of HIV positive diagnosed patients and associated risk factors in Cameroon.

METHODS: Based on a prospectively designed analysis, we conducted a cross-sectional study in the 10 regions of Cameroon from October to December 2017, targeting 5013 HIV positive patient on treatment over 60 sites selected according to locolisation of the site, number of patients on treatment and gender by using previous Demographic Health Surveys. All patients beyond 15 years old who visited the selected facilities were enrolled after giving their inform consent. We collected information about their HIV diagnosis, ART initiation and care services. We estimated the median initiation time and we compared it across different factors using log-rank test. We explored associated risk factors using cox model.

RESULTS: A total of 4338 patients were enrolled (86.4% sample coverage). The median age was 36 years [IQR: 29-45]. After being diagnosed 24.1% repeat their HIV test and 12.4% of them took others treatments (traditional, auto medication, delivery prayers) before starting ARV Treatment. The median initiation time for ART was 2 days [IQR :0-14] and was not different between gender (Log-rank statistic 3.3 vs -3.3: p-value=0.83). Patients living in urban area or did not took alternative treatment before starting ART were more likely to initiate ART immediately comparing to rural area or alternative treatment (RR:1.08; 95% CI:1.0-1.17; RR:1.67; 95% CI:1.47-1.89 respectively). Moreover, the relative risk to initiate ART was higher among patients who had no educational level (RR:1.39 95% CI: 1.15-1.67). Patients who lived less than 1km from the facility were more likely to initiate rapidly ART than those living more than 10 km from the facility (RR:1.23 95% CI: 1.10-1.38).

CONCLUSIONS: Our results show that the median of immediate initiation time for ART is in accordance with WHO recommendation. Our findings support the fact that specific strategies like in-depth counseling should be emphasized in patients, living far from facility in rural area and with no educational background.

PED1186

ENHANCING ACCESS TO AND THE PROMOTION OF ADHERENCE TO THERAPY FOR CLIENTS DISPLACED BY SOCIAL INSTABILITY USING MOBILE APPLICATIONS: THE CASE OF CAMEROON

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BACKGROUND: Cameroon for the past three years has been facing a sociopolitical crisis in its English-speaking regions. This situation has led to the loss of over 2000 lives and the displacement of close to 530.000 mostly internally and to neighboring Nigeria. As a result of this humanitarian crisis, access to the regions remains difficult, coupled with inaccessibility to counselling and other medical services by people living with HIV/AIDS (PLHIV). Thus, there has been a growing challenge of keeping track PLHIV who have moved and have become IDPs, with challenges in continuing their Antiretroviral therapy (ART) and other services.

DESCRIPTION: In the mist of this conflict, mobile phones and its innovative capabilities could be used to increase access to services for PLHIV . Through the mobile phone numbers of clients and those of caregivers accessed on our databases, at least 5000 clients have been traced to their new destinations and given the much needed support to access psychosocial counselling and linkages to treatment in the new destinations. These people have been able to access the needed services and avoid the discontinuity in their care and treatment.

LESSONS LEARNED: This paper presents the success and challenges in use of mobile technology in response to socio-political tensions that results in displacement of huge segments of populations including affected PLHIV, those in need of care and support. The purpose of the paper is first, to persuade the government of Cameroon to support and incorporate actions that increase the innovative use of mobile phone technologies to complement existing traditional approaches to counselling, psychosocial support and access to treatment. Secondly, to make suggestions on how civil society organisations and other collaborators in the HIV/AIDS landscape can synergize their resources to establish innovation ecosystems that inform systematic approaches to technology transfer and knowledge sharing for enhanced counselling, psychosocial support and improved access to treatment for PLHIV.

CONCLUSIONS/NEXT STEPS: In conclusion, the use of mobile phones and mobile applications is a great tool to bring back to care, patients declared lost to follow up. This is true especially for IDPs. Further research is needed to evaluate the impact of such interventions at a national level.

AWARENESS, INFORMATION AND RISK PERCEPTION REGARDING HIV TRANSMISSION AND PREVENTION

PED1187

LOW AWARENESS AND UPTAKE OF PREP AMONG THAI TRANSGENDER WOMEN: A PRE-ASSESSMENT BEFORE THE LAUNCH OF A TRANSGENDER WOMEN-SPECIFIC PREP CAMPAIGN

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BACKGROUND: Despite the known efficacy of pre-exposure prophylaxis (PrEP) in preventing HIV acquisition, awareness and uptake of PrEP remain very limited among Thai transgender women (TGW). As a leading transgender health clinic in Thailand, the Tangerine Community Health Clinic understands the need for TGW-specific PrEP demand generation. We conducted an assessment of PrEP awareness and willingness-to-use, as well as campaign preferences, among Thai TGW in order to guide the development of a TGW-specific PrEP awareness and demand generation campaign.

METHODS: In October 2019, a pre-campaign assessment was conducted among 100 participants who were self-identified as TGW, 18 years of age or older and self-reported sexually active within the last 6 months. Participants were recruited in person in public spaces around hotspot areas throughout Bangkok, Thailand. A self-administered questionnaire was used to assess their awareness and use of PrEP, reasons for not using PrEP if aware, and preferred advertising channels for a hypothetical TGW-specific PrEP campaign.

RESULTS: Of 100 respondents, 40% reported having heard of PrEP and 17% were currently using PrEP. Among those who have heard of PrEP, 42% heard from community health workers, 32% from friends, 21% from online media and 5% from healthcare providers. Among those who were aware but not on PrEP, the most common reason was perceived low HIV risk (83%), either because they used condoms or had clean-looking sexual partners. Respondents also reported not knowing where to access PrEP (26%) and not wanting routine HIV testing (15%). Online platforms were the most preferred channels (74%) among TGW to access PrEP information.

CONCLUSIONS: Our findings showed low levels of PrEP awareness, and reluctance to access PrEP driven by low levels of risk perception, even among individuals who may have substantial HIV risk. Our campaign will steer away from "loss-framed" promotion linked to HIV risk and instead focus on popular TGW influencers emphasizing a gain-frame perspective on increased confidence and control in their daily lives when using PrEP. Based on preferences for online communications, this campaign will focus 70% on online media platforms with 30% offline advertising through buses and public transportation platforms.

PED1188

MAKE ART STOP AIDS: USING PARTICIPATORY ARTS METHODS TO EMPOWER MALAWIAN YOUTH TO TAKE CONTROL OF THEIR SEXUAL AND REPRODUCTIVE HEALTH AND HIV AIDS

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BACKGROUND: Project aimed to empower Malawian Youth to take control of their sexual and reproductive health, contributing to reduced HIV incidence and higher quality of life. The purpose of the project is to improve sexual and reproductive health (SRH) knowledge, attitudes and practices among tertiary and secondary school students through near-pear, participatory, arts-based approaches.

DESCRIPTION: 40 tertiary school students were trained in participatory, arts-based approaches and comprehensive SRH and HIV/AIDS. 234 secondary school students were trained in participatory, arts-based approaches and comprehensive SRH and HIV/AIDS · 3400 students were reached during Secondary school festivals and tertiary school performances · 445 of people reached through the tertiary school performances and festivals received HIV testing services during the events representing 13% HTS reach against target of 10% · 60 secondary school teachers trained in SRH and participatory methods so that they can bolster the work of MASA Squads and provide support to youth living with HIV (YLHIVs).

LESSONS LEARNED: The evaluation used a mixed methods cohort study design to compare students' SRH KAP before and after project participation. A total of 348 pre- and post-tests were conducted for quantitative data collection while qualitative data was collected through 11 focus groups and 5 in-depth interviews. Quantitative analysis, using a paired-sample t-test, revealed students had an average of 7.3% increase in SRH KAP upon project completion. Thematic analysis of the qualitative data showed that students felt MASA remedied shortcomings of previous SRH education. Students felt equipped, confident, and passionate about sharing their new knowledge with peers, siblings, and parents.

CONCLUSIONS/NEXT STEPS: - The project resulted in improved knowledge, attitude and practices of the students on HIV/AIDS issues.

- Future project iterations should place emphasis on the areas that the students expressed interest to learn more about, and topics where there was less change seen in the KAP surveys through this project like menstrual health, female condom usage and demonstration and gender based violence among girls and women living with HIV AIDS.

- Students felt the project would be essential for people in rural areas with less access to formal education, they wanted the project in more schools, for longer periods of time, and in more regions!

PED1189

USING INTERACTIVE BOARD GAMES TO REACH COMMERCIAL MOTORCYCLE (BODABODA) RIDERS IN UGANDA WITH HIV/AIDS INFORMATION AND SERVICES. A CASE STUDY OF WAKISO DISTRICT

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BACKGROUND: The Uganda AIDS Commission categorises commercial motorcycle riders (also locally known as Bodaboda) among the most at risk population to acquire HIV. A recent study by the Makerere University School of Public Health and the US Center for Diseases Control puts the HIV/AIDS prevalence rate at 7.5% among Bodaboda riders in Kampala compared to 4.5% among other men. This is due to their risky lifestyle of having multiple and irregular sexual partners coupled with poor health seeking behavior. The mobile nature of their passenger transportation work offers them very limited attention span to health related messages.

DESCRIPTION: Boda Beeramu is a unique innovative project that was designed by PHAU as a way of reaching Bodaboda riders in Wakiso district in Central Uganda with accurate information on HIV/AIDS prevention, treatment and care using designed custom-designed Ludo boards. The board games were designed with HIV messages on condom use, advocacy, sexual network, counselling and testing. Each bodaboda stage had an HIV Awareness Champion, well-trained with basic knowledge on HIV prevention, treatment and care, who clarifies on contentious issues that emerge from his fellow bodaboda riders. Furthermore, stage activations/outreaches were conducted to provide integrated HIV/AIDS Services complimented with condom distribution and themed IEC materials to foster interactive discussions on HIV/AIDS.

LESSONS LEARNED: 35 Bodaboda HIV awareness champions (peer educators) trained on basic HIV/AIDS treatment, prevention and care knowledge.

3000 bodaboda riders directly reached with accurate information on HIV/AIDS prevention, treatment and care (excluding those tested).

12 free HIV counselling and testing sessions conducted.

2117 people tested for HIV, 35 of whom tested positive and were effectively referred for treatment at AIDS Health Care Foundation (AHF) and public health facilities.

146880 condoms distributed during outreaches and in the 30 dispensers installed at different bodaboda stages we work with.

CONCLUSIONS/NEXT STEPS: In order to reach key populations with a very limited attention span to health messaging, innovating HIV projects around the things they love to interact with like board games (as the case is with Ugandan Bodaboda riders) is key. They play the game as they learn a thing or two about HIV.

PED1191

INCLUSIVE EDUCATION TO PREVENT HIV AMONG MSM AND TG IN BANGLADESH

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BACKGROUND: Bangladesh faces a concentrated epidemic; the overall HIV prevalence remains <1% but gradually increasing which is 0.9% in 2019 among MSM and TG. Bangladesh Government has taken all steps to prevent HIV since 1985 including HIV content in national curriculum. But HIV is still taboo and even teachers are not willing to discuss in the class, therefore the students are not getting information appropriately. MSM and TG are being deprived of their education rights, discriminated and harassed due to their gender identity and effeminate gesture that compel them to quit the schools.

DESCRIPTION: As a part of GO & NGO partnership, Bandhu started working with National Curriculum and Textbook Board (NCTB) in 2017 to develop inclusive curriculum and developed Supplementary Reading Material (SRM) in 2018 for Class VI which was tested in six schools in urban and rural settings in 2019. For SRM contents, NCTB conducted a research in 17 schools where opinion of students, teachers and guardians were recorded. NCTB also invited famous children-story writers to write life-oriented stories and after approval of NCTB, the SRM was given to 600 students as a pilot project in 2019 which was approved as inclusive curriculum for 2020.

LESSONS LEARNED: Evidence-based advocacy with burning issues may sensitize the influential people, therefore Education Ministry acknowledged the vulnerabilities of TG and gave priority to prevalence HIV through GO/NGO partnership. Content and dissemination of information is equally important particularly while dealing sensitive issues with the children. Involvement of popular writers was another timely decision to draw the attention of the students which reflects the commitment of 600 students and their guardians. Proper motivation is the best tool to involve children in the awareness campaign who can work as future catalysts.

CONCLUSIONS/NEXT STEPS: National inclusive-education curriculum was revised but requires further monitoring to fulfill the objective. More research is required and to ensure gender empowerment and gender equality, public-private partnership, 360-degree program is important.

PED1192

"THE GENERATION WE HAVE IS ADDICTED TO DRUGS AND ALCOHOL": EXPLORING BARRIERS TO YOUNG MEN'S TRANSITION TO ADULTHOOD AND HIV-ACQUISITION RISK IN RURAL SOUTH AFRICA

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BACKGROUND: In South Africa young men's transition to adulthood is complicated by historical disparities, racial inequalities, youth unemployment, violent crime, HIV/AIDS burden and other social challenges. We describe barriers to young men's transition to adulthood and the impact on HIV-acquisition risk behaviours in rural KwaZulu-Natal (KZN), South Africa with a high burden of HIV.

METHODS: Data were from 54 young men aged 15-24 years (twenty in-depth interviews and six focus group discussions were conducted in 2017-18). Participants were purposively selected from a rapid ethnographic study mapping the HIV prevention landscape for young people in the area. Following ethical approval and informed consent, participants explored their experiences of living in the community and transitioning into adulthood. Data were transcribed, translated verbatim, coded using NVivo and analysed thematically.

RESULTS: There are three interconnected challenges to young men's transition to adulthood: unemployment, substance abuse and risky behaviours. Unemployment was seen to expose them to crime and gangsterism causing early deaths and complicated by criminal records that limit their employability in an environment with few job opportunities. Substance abuse (e.g. alcohol and drugs) interfered with the young men's ability to complete high school, causing some to drop out of school. This led to limited skill development and unemployment. Most young men described being exposed to risky sexual behaviours while influenced by alcohol and drugs such as unprotected sex that could lead to becoming 'immature fathers' and/or contracting sexually transmitted infections and HIV. Young men felt pressured by peers and expected to exhibit these behaviours to affirm their sense of belonging as 'men' within their social networks. Overall, young men face a cycle of barriers which multiply their risks and potentially derail their future pathways.

CONCLUSIONS: South Africa is among the countries in Africa experiencing a 'youth bulge' and multiple transition barriers, particularly among young men, can lead to longer term negative health outcomes. The social pressures might increase their risk of contracting HIV. Interventions should engage men and empower them to tackle young men's wider social, structural and health needs to adequately navigate transition process in resource-constrained settings.

PED1193

HIV RISK PERCEPTION, WILLINGNESS AND INTEREST IN PREP AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN YANGON, MYANMAR

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is the use of an antiretroviral medication to prevent the acquisition of HIV infection by uninfected persons. Among populations at high-risk of HIV infection such as men who have sex with men (MSM) and transgender women (TGW), HIV risk perception is one of the indicators for successful PrEP uptake and adherence.

METHODS: Prior to PrEP implementation, Population Services International (PSI) Myanmar did a formative assessment of MSM/TGW in Yangon, Myanmar, during April 2019. At PSI drop-in centers (DiC), MSM/TGW who came in for a HIV test and had a negative test result were subsequently invited to a short interview. This assessment explored their HIV risk perception, knowledge of and willingness to take PrEP.

RESULTS: A total of 104 MSM/TGW agreed to participate. Of them, 13.5% self-identified as women/TGW and 75% were under 30 years of age. On HIV risk perception, 58.1% said that they had low risk of getting HIV infection, 32.3% said medium risk, and the rest (9.7%) high risk. On PrEP, 59.6% had never heard about it and 69.2% said they would take it if free while 42.3% said they would take it at a cost. Willingness to take PrEP for free was higher among those with medium risk perception than those with low risk perception (81.1% vs 65.1%). This difference was found to be statistically significant on multiple logistic regression [Odds ratio (OR) 3.39, 95% Confidence Interval (CI) 1.01-11.6]. However, significant difference was not found for willingness to take PrEP at a cost [OR 2.07, 95% CI 0.79 – 5.47]. Upon their interest for further information, the respondents ranked the potential side-effects of PrEP as the question of the highest importance.

CONCLUSIONS: As expected, we found that those with higher HIV risk perception were more willing to take PrEP if it were available for free. Still, such willingness might not be present to take PrEP at a cost. In addition, the majority had low risk perception and the concern of potential side effects. Therefore, these factors will have to be carefully addressed for a successful PrEP implementation.

PED1194

CHARACTERISTICS OF THE POPULATION THAT RESORT TO COMMUNITY TESTING SITES: COMPARISON BETWEEN HETEROSEXUAL MEN AND MSM

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BACKGROUND: In Portugal, trends show that new diagnoses have declined, and the 90-90-90 goals were achieved in 2017. Despite this scenario, Portugal exhibits one of the highest rates of new HIV/AIDS diagnoses among European countries. Moreover, the highest proportion of undiagnosed infections was among heterosexual males with an mean time from infection to diagnosis of 3.4 years. Testing constitutes an important prevention strategy, therefore merits an analysis of testing in heterosexual men.

METHODS: Observational, descriptive study. Abraço is a NGO with five screening sites nationwide, for HIV, HCV, HBV, and syphilis. Participants must be men, 18 years or older, who attended Abraço's screening site, during 2019, and provide informed consent. Participants were invited to answer an anonymous self-administered questionnaire that assessed sociodemographic, screening history, sexual practices and risk perception to HIV. Data were analyzed using the statistical package for Social Science (SPSS).

RESULTS: In 2019, 2532 men were tested, of which 1364 (53.9%) were heterosexual men. This group showed a mean of 36.1 years and had a college educational level (46.7%). For 88.7% was the first time in our screening site and the foremost reasons to do the screening were curiosity (57.9%). We observed in this sample 10 cases of reactive for HIV (0.7%); 4 cases of reactive for HCV (0.3%); 6 cases of reactive for HBV (0.4%); 10 cases of syphilis (0.7%). A third of the cases of HIV reactive never had been tested. The main reason for not using condoms was trust in a partner (29.3%). We observed that 34.7% of the Heterosexual men never had been tested for HIV in comparison with 26% of MSM. Heterosexual men show lower rates of use of our screening sites (p=0), regularity of HIV testing (p=0) and showed lower risk perception of HIV infection (p=0).

CONCLUSIONS: The number of undiagnosed heterosexual men in Portugal remains a concern, highlighting the need for more effective and innovative prevention and early diagnosis strategies. Context-specific studies to evaluate the effectiveness of interventions to address barriers to HIV testing are needed. Efforts are discussed to address the need for public awareness about HIV risk and the benefits of testing.

PED1195

HIV AND AIDS PREVENTION: KNOWLEDGE OF OLDER PERSONS IN THE WESTERN CAPE AND KWAZULU-NATAL PROVINCES, SOUTH AFRICA AND IN LESOTHO

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BACKGROUND: Population ageing and growing access to antiretroviral therapies in South Africa are resulting in ageing of the regional HIV and AIDS epidemic. Research and educational programmes have focused on persons < 50 years. Knowledge is needed to inform the development and testing of evidence-based, targeted HIV prevention intervention, as well as policies and best practice programmes for older persons.

METHODS: A cross-sectional, quantitative survey, and a qualitative study, and an HIV/AIDS education intervention and post intervention follow-up conducted between January 2016 and November 2018 to assess HIV and AIDS knowledge, attitudes and practices (KAP). A total sample of 1320 participants aged ≥50 years at five sites: two in the Western Cape and one in KwaZulu-Natal provinces of South Africa, and in Lesotho. Descriptive and logistic regression analyses were performed. Numerical variables were expressed as median and range, and categorical variables as frequencies.

Logistic regression analysis assessed an association between demographic characteristics and the Health Literacy score, and between demographic characteristics and the KAP score. Odds ratios (OR) and 95% confidence intervals (CI) measured association for bivariate analysis and adjusted odds ratios (AOR) for multivariate analysis.

RESULTS: A total of 1163 subjects participated in the quantitative surveys. Seventy percent were female, 26% married and 38% widowed. The median age was 63 years (range 50-98 years). The majority had a primary school education (54%); 15% had no schooling. Health literacy was inadequate in 56%. The knowledge, attitudes and practices (KAP) score was inadequate in 64%, but improved by 10% post educational intervention. The focus group discussions revealed three themes: The HIV/AIDS epidemic had impacted the subjects' communities heavily and continuing education is vital; Programmes have had minimal success in changing the tide of the epidemic and fear of stigmatisation remains; and societal shift in attitudes towards HIV/AIDS is needed for those living with HIV to feel accepted.

CONCLUSIONS: The KAP level in older persons is poor, and is a barrier to their dealing with own risk and that of their family and community of contracting the virus. Policy and programmes are needed, tailored to the older population, the majority of which has poor health literacy.

PED1196

GEBRAK (JOINT MOVEMENT WITH CADRES) TO STRENGTHEN ZERO STIGMA OF HIV AIDS STRATEGY ON ADOLESCENTS

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BACKGROUND: Adolescents are vulnerable groups with the second highest HIV AIDS case in Indonesia. The lack of understanding of reproductive health and narcotics accompanied by the high stigma of society against HIV AIDS is the main contributing factor. Therefore, through the funding from the Ministry of Research and Technology of the Republic of Indonesia in 2019, we conducted a strategic study and initiated a community Empowerment program called GEBRAK (Joint movement with cadres). This innovation is a strategy in achieving zero stigma and discrimination in Three Zeros to increase youth participation in VCT (Voluntary Counseling and Testing) as HIV prevention and early detection efforts.

DESCRIPTION: GEBRAK (Joint movement with cadres) involved the role of cadres as the spearhead of health promotion in the community. This Program collaborates with Primary Health Centre as a VCT mobile service provider. In the first phase, we formed and trained cadres from youth community in Village with the name SETIA (HIV AIDS Adolescent Cadres). Furthermore, trained cadres will provide intensive education to teenagers in the village, school, and boarding house. In the final stage, the adolescent is invited to perform early detection of HIV. In order for the youth to be interested in VCT, we cooperate with the village device to conduct activities once a month, such as talk show, Bazaar, gymnastics, fun running, or music concerts.

LESSONS LEARNED: In a research we have done in January to December 2019, that GEBRAK intervention proved seven times more effective in increasing adolescents participation in VCT. There are 76% of 15 until 24 year old teenagers willing to VCT, with the reduction of negative stigma on HIV AIDS by 80%.

CONCLUSIONS/NEXT STEPS: GEBRAK is effective to increase youth participation in VCT, and reduces negative stigma about HIV AIDS needed cooperation between the Government, NGOS, health workers, cadres, and communities to make this program optimally. We have created a policy brief addressed to the Ministry of Health as an advocacy effort. Furthermore, we will conduct an in-depth review of the evaluation of GEBRAK implementation before finally becoming a health policy in the prevention and elimination of the stigma of HIV AIDS in Indonesia.

PED1197

DEVELOPMENT OF AN HIV PREVENTION DECISION SUPPORT TOOL TO IMPROVE MECHANISMS OF OFFERING PREP TO WOMEN IN A U.S. FAMILY PLANNING SETTING

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BACKGROUND: The majority of new HIV diagnoses in the United States (US) occur in the southern US, and Black women are disproportionately affected, accounting for 69% of new HIV diagnoses among cisgender women. Pre-exposure prophylaxis (PrEP) use among Black women in the southern US is strikingly low, and Black women have one of the highest unmet needs for HIV prevention in the US. Interventions are needed in clinical settings, where women access care, to support awareness of HIV vulnerability, improve knowledge of HIV prevention options, facilitate informed decision-making, and motivate women to seek out and use HIV prevention strategies, including PrEP, as appropriate. We developed an HIV prevention decision support tool (DST) for women to use prior to family planning appointments in a family planning clinic in Duval County, Florida.

METHODS: We relied on available evidence regarding best practices for the structure and content of the DST. We gathered feedback via focus groups (N=8; total participants=43) and interviews (N=20) from predominantly cisgender women in Jacksonville, Florida and San Francisco, California. We also obtained iterative feedback from a community advisory board in Jacksonville comprised of leaders of community organizations and patients.

RESULTS: Based on feedback, the DST begins with offering information about vulnerabilities to HIV. The vast majority of participants recommended this information be as specific to the location of the clinic as possible, highlighting both behavioral vulnerabilities and structural vulnerabilities such as HIV rates by zip code. Participants appreciated examples of women who might consider PrEP. Participants valued not promoting one HIV prevention method over another and presenting information about side effects and safety clearly and directly to promote trust. Finally, participants agreed that the DST should be offered to everyone attending the clinics, and patients could assess for themselves how much to engage with the information in the DST.

CONCLUSIONS: An HIV prevention DST offers an innovative approach for providing universal education, facilitating women's agency to learn about and identify their vulnerabilities to HIV and interest in PrEP. DSTs may be an important mechanism to expand knowledge and use of PrEP among women in the US for whom it may be appropriate.

PED1198

PERCEIVED HEALTH AND STIGMA AMONG A POPULATION OF INDIVIDUALS DIAGNOSED WITH ACUTE HIV: REPORT FROM THE SEARCH010 COHORT

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BACKGROUND: Diagnosis during acute HIV infection (AHI) reveals individuals with high infectivity, need for ART initiation, and adherence counseling. Grace and colleagues (2015) described experiences of gay AHI-diagnosed men, including undetectability as an "emergent identity". AHI may also be associated with lower perceived HIV burden and internalized stigma compared to chronic HIV. We describe acute identity in a large cohort in Thailand, SEARCH010.

METHODS: We conducted an online survey in 2019 of SEARCH010 cohort members. The questionnaire included general health status, HIV burden (Brief IPQ measure, score range 0-80), Internalized AIDS-Related Stigma (score range 0-6); as well purposively-designed items on meaning of acute status, perceptions of ART, and infectiousness:

RESULTS: Among 408 participants almost all rated their health as excellent (27%), very good (46%), or good (26%). 91% reported undetectable viral load.

The mean HIV burden score on the IPQ was 26.1 (SD=10.8) out of a possible score of 80, indicating low overall HIV burden. Respondents also indicated high satisfaction with ART and low current side effects (M=8.0; M=2.6 respectively; scale 0-10). The mean internalized stigma score was 3.6 (SD=1.6). 25% reported not disclosing to anyone; those respondents had a mean stigma score of 3.7, which was not significantly higher than those who had disclosed (M=3.5).

Almost all (94%) agreed or strongly agreed that acute status means a better chance for cure from new treatments; 80% agreed or strongly agreed that their immune system is stronger than people treated later. 29% rated their risk of transmission with unprotected sex as medium or high, while 63% rated the risk as low or nonexistent.

CONCLUSIONS: In this research cohort diagnosed and treated at the earliest stage of infection, perceptions of general health status and strength of immune system were positive and illness burden low. Most reported an undetectable viral load and equated acute status with greater likelihood of cure, supporting the concept of an "acute identity". Yet our findings demonstrate higher internalized stigma compared to several chronic HIV populations. After achieving viral suppression through immediate ART after AHI diagnosis, it is notable that one-third weren't aware of or didn't internalize that Undetectable=Untransmittable.

PED1199

THE TRENDS OF COMPOSITE SCORES OF KNOWLEDGE AND ATTITUDES ABOUT HIV/AIDS IN 47 SUB-SAHARAN AFRICA COUNTRIES FROM 1998 TO 2017

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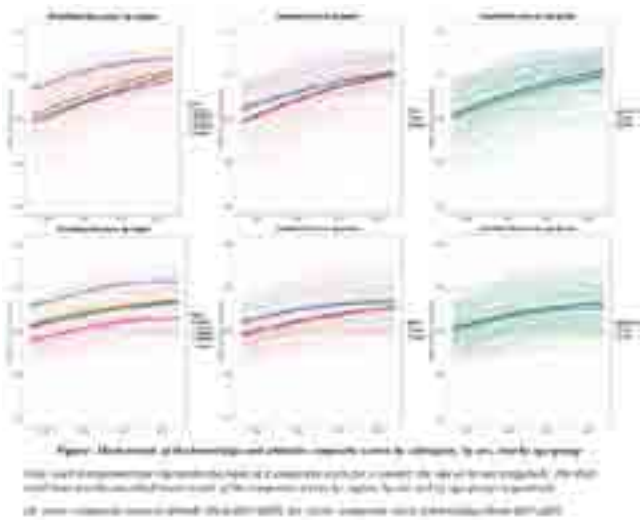
BACKGROUND: Knowing the level and trends of people's knowledge and attitudes about HIV/AIDS are crucial to the success of HIV/AIDS interventions and to understanding the evolution of HIV/AIDS epidemic. Although there are survey data on national levels of HIV/AIDS knowledge and attitudes, these data are sparse and sporadic over time and across counties and have rarely been complied to establish trends. To fill in the gap, this study estimated trends of composite scores of knowledge and attitudes about HIV/AIDS in 47 SSA countries from 1998 to 2017.

METHODS: We systematically searched for survey data on 16 key indicators of HIV/AIDS knowledge and attitudes for the 47 SSA countries from 1998 to 2017 in GHDx. We imputed the missing indicators using multiple imputation and synthesized the point estimates of each key indicator into trend using spatial-temporal Gaussian process regression (ST-GPR). Lastly, we calculated HIV/AIDS knowledge and attitude composite scores and their respective 95% confidence intervals using the simulated draws produced from ST-GPR.

RESULTS: We identified 220 surveys that had at least one of the 16 key indicators of HIV/AIDS knowledge and attitudes. The table and figure below showed the changes of knowledge and attitudes scores over time.

	knowledge score			attitude score		
	1998	2017	annualized rate (%)	1998	2017	annualized rate (%)
Overall	0.516	0.762	2.07	0.509	0.647	1.27
By region						
Central	0.496	0.758	2.26	0.525	0.663	1.23
Eastern/Northern	0.524	0.775	2.09	0.533	0.673	1.23
Southern	0.671	0.847	1.23	0.646	0.789	1.06
Western	0.472	0.725	2.28	0.445	0.579	1.39
By sex						
Male	0.554	0.768	1.73	0.546	0.664	1.04
Female	0.481	0.756	2.41	0.476	0.632	1.51
By age groups						
15-24	0.504	0.741	2.05	0.500	0.631	1.23
25-49	0.523	0.775	2.09	0.516	0.659	1.29

[Table. Changes of composite scores of knowledge and attitudes about HIV/AIDS]



CONCLUSIONS: Despite heterogeneity across countries, people's knowledge and attitudes about HIV/AIDS have generally improved from 1998 to 2017. However, the inequalities in knowledge and attitudes by sex and age are concerning given the demographic expansion of younger populations and the large fraction of new HIV cases among adolescents and young adults, particularly young women, in SSA.

PED1200

PROVIDING CONTRACEPTIVE SERVICES TO YOUNG PEOPLE IN SMALL MEDIUM ENTERPRISES AND VOCATIONAL TRAINING INSTITUTIONS: LESSONS FROM YOUTH ENTERPRISE MODEL PROJECT IN UGANDA

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BACKGROUND: Although several interventions targeting young people's access to contraceptives exist at various levels, few rigorous evaluations that provide evidence of what works have been undertaken. Drawing from the experience of implementation of a 5 year UNFPA funded Youth Enterprise Model (YEM) project in two districts in Uganda, we argue that providing contraceptive services to young people can benefit from utilization of a multi-pronged approach that links the youth to existing points of access; the community; the institution (financial institutions and Vocational Training Institutions) and the Health facilities.

METHODS: A quasi-experimental design was used to compare contraceptive use in Kampala and Mubende districts where YEM was implemented and Wakiso and Mityana as comparison districts. Data for the study were drawn from interviews conducted between May and August 2018 with 1,261 young people aged 10-24 years selected from Vocational Training Institutes (VTIs) and Small and Medium Enterprises (SMEs). In addition, we conducted capacity assessment for 17 health facilities, 10 focus group discussions with young people and 15 in-depth interviews with project stakeholders. Data were analysed using multivariate logistic regressions. Comparison between intervention and control districts were done to establish the strength of the intervention.

RESULTS: Thirty two percent (32%) of young people have ever used a contraceptive method. Exposure to YEM had a significant influence on young people's knowledge of contraceptives with young people from intervention districts more likely to mention seven or more contraceptive methods compared to those from control districts (OR=1.567, P=0.000). The findings also suggest a strong association between exposure to an intervention and the likelihood that one will influence others to use contraceptives. Young people from intervention districts more likely to encourage their spouse and friends to use contraceptives to prevent unplanned pregnancy compared to those from control districts (OR=2.13, P=0.00) (OR=1.92, P=0.000).

CONCLUSIONS: Providing contraceptive services to young people requires a multi-pronged approach. Contraceptive use increases with availability of multiple points of access. We recommend that future interventions need to ensure integration of contraceptive services at such points as community, institution (financial and VTIs) and health facilities.

PED1201

BREAKING DOWN MISCONCEPTIONS ABOUT HIV AMONG YOUNG PEOPLE IN UGANDA - STRAIGHT TALK APPROACH TO COMPREHENSIVE SEXUALITY EDUCATION IN UGANDA

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BACKGROUND: Young people continue to face considerable social and cultural barriers to accessing sexual and reproductive health information and services. There aren't many people talking to children and teenagers in remote and hard to reach areas in Uganda about sex, about their health and bodies. Because discussing sex and related matters is often taboo, young people are left to handle issues of sexual feelings, physical changes, disease prevention and avoidance of pregnancy alone. One of the biggest challenges in health communication is breaking down the „enormous wall" of misconceptions around sexual health and adolescence among young people.

DESCRIPTION: Straight Talk Foundation (STF), an indigenous not for profit organization operating in Uganda uses conversation to gradually break down misconceptions and getting kids to understand what it is to have a changing body.

STF approaches issues of adolescence and sexual health with a conversation approach rather than messaging. The Straight Talk newspapers feature real-life stories of ordinary Ugandan children and teenagers. The aim of the newspapers is to demystify growth and development and break down big issues, such as early marriage, rape, HIV/Aids and defilement.

400,000 copies for Young Talk and copies Straight Talk newsletters are distributed to numerous destinations on a quarterly basis.

Young Talk is distributed to 14,450 primary schools; Straight Talk is distributed to 3630 secondary schools. Besides schools, Young Talk and Straight Talk are also dispatched to 554 Tertiary institutions, 1883 Health centers, 528 Non Government Organization (NGOs), 1523 Community based organization (CBOs),80 Church of Uganda based institutions, 118 Catholic based institutions, 48 Islam based institutions, 78 Baptists, and 35 libraries.

LESSONS LEARNED: Boys who are exposed to Straight Talk media projects are 40% less likely to have started sex than boys who aren't. Many are more likely to be tested for HIV, are less likely to say their current girlfriend is casual.

CONCLUSIONS/NEXT STEPS: Straight Talk approach has proved very useful because it allows children access to information on HIV prevention and underlying sexuality/Adolescent Sexual Reproductive Health issues that they might be worried about, with their emotions or their bodies, that they might not be able to talk about at home.

COMBINATION HIV PREVENTION

PED1202

EFFECT OF A COMBINATION INCOME-GENERATING INTERVENTION ON HIV PREVENTIVE ATTITUDES AMONG ADOLESCENT GIRLS IN NIGERIA: RESULTS FROM A QUASI-EXPERIMENT

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BACKGROUND: Despite the growing interest in income-generating interventions to reduce HIV risk among young women, there has been limited research conducted in Nigeria to determine the extent to which such interventions may address the growing HIV risk and vulnerabilities among adolescent girls and young women (AGYW). The objective of this study was to examine the effect of a combination income-generating intervention on HIV prevention attitudes among in-school adolescent girls in Nigeria.

METHODS: We utilized a school-based quasi-experimental study design. One hundred and forty-seven girls from 4 secondary schools were assigned to receive the intervention conditions (4 sessions of HIV education + jewelry micro-enterprise training + youth development micro-credit for jewelry micro-enterprise) and 177 AGYW attending 3 secondary schools were assigned to the control condition (4 sessions of HIV education only). Changes in means scores from baseline to first follow-up between intervention and control groups were compared using t-test on each outcome. Multi-level linear regression models were conducted to examine the effect of the intervention on the primary outcomes (HIV prevention attitude, reduction in sexual risk-taking intentions and attitude towards toward income generation).

RESULTS: Of the 324 study participants, the mean (SD) age was 15.04 (0.89) years; 53% were Yorubas, 72% were Christians. Most of the participants (89.9%) lived with their parents and had never had sex (97.5%). Data obtained at baseline and immediately after completion of the intervention revealed a significant increase in attitude towards income-generation for participants in the intervention (M, +5.55) and control groups (M, +5.2), F=6.65, df=323, p=0.01. In the regression model, compared to the control group, participants in the intervention group demonstrated increased HIV prevention attitude (B=-0.08, t (0.036), 95% CI 4.89-4.72) and reduction in sexual risk-taking intentions (B=-16.68, t (3.18), 95% CI 6.30-27.06). Also, hope was significantly associated with a decrease in sexual risk-taking intentions (B=-0.144, t (2.52), 95% CI 0.25-0.31) and an increase in HIV prevention attitudes (B=0.21, t (2.23), 95% CI 0.006-0.11) in the regression models.

CONCLUSIONS: In addition to promoting HIV preventive attitudes, interventions promoting economic independence may contribute to reductions in HIV risk behaviors among adolescent girls and young women by promoting hope.

PED1203

EMPOWERING YOUNG EXPERTS: TRAINING ADOLESCENT GIRLS AND YOUNG WOMEN TO BE AGENTS OF CHANGE CAN INCREASE ORAL PREP UPTAKE

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BACKGROUND: Inadequate information, coupled with barriers to accessing HIV prevention services, makes it difficult for adolescent girls and young women (AGYW) to protect themselves against HIV. Building AGYW knowledge and skills to engage in advocacy and peer support around HIV prevention can change this dynamic and increase uptake of HIV prevention services, including oral pre-exposure prophylaxis (PrEP).

DESCRIPTION: We implemented the OPTIONS HIV Prevention Ambassador Training with 17 people already working as PrEP ambassadors in Mazowe District, Zimbabwe. Ambassadors were aged 16-59; 8 were under <24, and 7 were aged 25-35. Some were older than 35 (n=3) and/or male (n=3) who were already educating AGYW about PrEP and wanted additional training. Knowledge and attitudes about sexual and reproductive health and PrEP were assessed before and after the training through a pre/post survey. Ambassadors were followed up at six weeks and four months post-training to ask how they applied their training.

LESSONS LEARNED: Average scores measuring correct knowledge about PrEP increased by 39% post-training. Six weeks later, ambassadors reported referring 125 AGYW for PrEP initiation and re-initiation. Ambassadors reported increased motivation, knowledge, and confidence in their work and noted that the printed toolkit provided during the training made them feel more empowered to discuss HIV prevention with peers and community members.

At four months, ambassadors continued to find the toolkits helpful, with some reporting using the toolkits to prepare for literacy sessions and that peers borrowed toolkits to read. The most useful topics reported at four months were myths and misconceptions about PrEP and HIV and tips for using PrEP. Finally, ambassadors reported that the training and toolkit promoted their status in communities as professionals equipped with HIV prevention information, skills and tools. AGYW PrEP initiations were ~33 per month before the training and increased to a monthly average of 42 post-training, representing a 26% increase.

CONCLUSIONS/NEXT STEPS: The training empowered AGYW ambassadors to support HIV prevention among their peers, and PrEP initiations increased among AGYW in Mazowe District following the training. The OPTIONS HIV Prevention Ambassador Training fills an important need in delivering oral PrEP to AGYW and could be applied in other districts and countries.

COMMUNITY MOBILIZATION AND DEMAND CREATION

PED1204

IT TAKES A VILLAGE... OF TACTICS TO SUCCESSFULLY DRIVE DEMAND CREATION FOR HIV PREVENTION

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BACKGROUND: In 2016, South Africa (SA) introduced Pre-Exposure Prophylaxis (PrEP) as an additional HIV prevention method. Project PrEP, a Unitaid-funded initiative implemented by WitsRHI in collaboration with National Department of Health, is implementing PrEP for adolescent girls and young women (AGYW) as part of comprehensive sexual and reproductive health services in four priority clusters in SA. The project's demand creation arm aims to reach 90% (328 517) of AGYW within its catchment population.

METHODS: Utilizing a youth engagement process, the project developed a comprehensive demand creation strategy (Figure 1) combining innovative methods, including online and face-to-face.

[Figure 1. Project PrEP holistic and comprehensive demand creation and social mobilisation strategy]

Reach and engagement data are collected through attendance registers and, online engagement is measured through Facebook/Twitter metrics and Google analytics.

RESULTS: Table 1 shows reach by demographic group and channel for the period November 2018 to 2019 – total reach was 3.275 million (with some individuals reached through more than one channel).

[Table 1. Total demand creation reach for Project PrEP, November 2018-2019]

Online engagement on Facebook posts only, measured at 30828, excluding private messages received and responded to. Events and outreach were most effective at reaching AGYW directly with a strong call to action. A targeted social media approach worked best at creating awareness and driving demand for on-the-ground activities. Since inception in January 2018, Project PrEP has initiated 5736 individuals on PrEP, of which 3075 are AGYW.

CONCLUSIONS: The demand creation strategy demonstrated success in reaching a diverse audience with communication and successfully engaged young people and their communities while driving demand for PrEP. A combination of online/digital and face-to-face communication is required.

PED1205

USING HUMAN CENTERED DESIGN TO CREATE DEMAND AND INCREASE UTILIZATION OF HIV/AIDS SERVICES AMONG YOUNG PEOPLE IN UGANDA. A CASE STUDY OF HOIMA AND MASINDI DISTRICT

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BACKGROUND: Statistics show evidence of inadequate or lack of accurate HIV/AIDS and SRHR information and services among young people in Uganda. For instance, teenage pregnancy is higher among uneducated girls: 45% of girls without education have already had a baby, compared to 16% of girls with secondary education. (UBOS and Macro International Inc 2011). Young people are poorly informed about issues of HIV, STI and family planning hence making them more vulnerable to engage in risky sexual behaviors.

DESCRIPTION: Yo Space is a brand designed by the young people for the young people; to increase access and uptake of youth HIV/AIDS and SRH information and services. It was created as a result of an illuminating Human Centered Design (HCD) process where young people from various categories shared the barriers, they face around accessing and using high quality HIV/AIDS and SRHR information and services, how they react to them, and possible solutions to them. PHAU have been utilized to breathe life into Space in several districts; using edutainment and other behavior change strategies to increase the uptake of HIV/AIDS and SRHR information and services among young people through door-door sensitization using peer educators, community Market day outreaches, Institutional outreaches.

LESSONS LEARNED: - 35,382 young people were reached with age appropriate HIV/SRH information through door to door mobilization by our trained peer educators.

- 32,128 were referred to selected facilities to receive integrated HIV/SRHR services.
- 1,852 young people directly received HIV/SRHR information and services during the community/market day outreaches.
- 4,690 young people directly received HIV/SRHR information and services during the Institutional outreaches.
- 204,240 male condoms were distributed.

CONCLUSIONS/NEXT STEPS: Integrated HIV/AIDS interventions especially intended to reach the young women and girls should be brought where they are through peers they know, respect and often interact with. Musicians, actors, opinion leaders and public icons can be used as ambassadors in dissemination of HIV/AIDS information to influence behavior change, increase acceptability and utilization of services. This is due to the fact that all young people look up to these people as role models, mentors and sources of inspiration.

PED1206

SCALING UP HIV TESTING AND PREP UPTAKES AMONG MEN-WHO-HAVE-SEX-WITH MEN (MSM) THROUGH ONLINE OUTREACH ON DATING APPLICATIONS AND SOCIAL MEDIA

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BACKGROUND: Thai men who have sex with men (MSM) are increasingly using online platforms, especially social media and dating applications, to socialize and seek sexual partners. This is a challenge for organizations seeking to promote HIV and STI information and services. SWING as a part of the USAID- and PEPFAR-funded LINKAGES project has been implementing an online outreach program linked to an online reservation platform called TestMeNow.net.

DESCRIPTION: SWING identified popular online platforms - including LINE, Facebook, and the BlueD and Hornet dating apps - and used online influencers to deliver key HIV and sexual health messages via posts, chats and live streaming broadcasts. Influencers used monitored digital "tokens" to link clients to TestMeNow.net, where they made appointments for HIV, PrEP, and other services at LINKAGES-affiliated health facilities. Service uptake and outcomes were tracked by TestMeNow and verifiable by clinic registers.

LESSONS LEARNED: Between April and September 2019, 975 reservations were made, and 488 MSM received an HIV test. Online recruitment accounted for 27% of total HIV testing (n=1,840) during this period, and when compared with traditional outreach (n=161) or walk-in clients (n=1,191), individuals recruited online were more likely to be first-time testers (13% versus 6% and 1%, respectively), and more likely to test positive (7% versus 1% and 6%). Additionally, 25% of online HIV-negative clients (n=453) accessed PrEP, while none of the 159 HIV-negative outreach clients did so.

Performance was not uniform: general population social media (chiefly Facebook) reached and tested the most clients, but applications targeting MSM were more likely to reach clients who had not received an HIV test (21% versus 9%) and were slightly more likely to identify new cases of HIV infection (9% versus 7%). Clients on MSM apps who tested negative were also more likely to access PrEP (37% versus 21%).

CONCLUSIONS/NEXT STEPS: MSM-targeted online outreach with engagement of online influencers on social and online medias, especially MSM dating apps, can identify high-risk MSM and promote HIV testing and PrEP services to those in need. However, the absolute number of clients reached online remains low and to achieve epidemic impact this model needs to be brought to scale.

PED1207

THE BIG BROTHER-YOUNG BROTHER MENTORSHIP APPROACH TO HIV PREVENTION: A CASE OF ADOLESCENT BOYS AND YOUNG MEN IN MANICALAND PROVINCE OF ZIMBABWE

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BACKGROUND: The power and impact of same sex mentorship initiatives in HIV prevention among adolescent boys and young men remains unexplored and untapped in Zimbabwe yet young men and boys remain a vulnerable group to HIV infection. Adolescent boys and young men's access to comprehensive sexuality education and services remains compromised in the secondary schools of Manicaland province because most donor funded programmes focus on girls and young women.

DESCRIPTION: Through the Big Brother Young Brother Initiative, SAYWHAT facilitates for mentorship, capacity building and leadership skills development of male students in order to advance advocacy and influence meaningful decisions on the Sexual and Reproductive Health and Rights of adolescent boys and young men. The initiative is spearheaded by trained Big Brothers who are male students (19-24 years) in teacher training colleges who are on Teaching Practice at local Secondary Schools. They provide mentorship and to boys (15-19 years) in the Secondary Schools on key Sexual and Reproductive Health and Rights issues affecting them. The ‚Big Brother' support includes providing HIV prevention and management information, mentorship, counselling and HIV referral services to the Young Brothers. Twenty five Big Brothers were trained in September 2017, formed 25 Young Brother Clubs of 10 adolescent boys each and mentored 250 adolescent boys in 10 schools in Manicaland Province by September 2018.The initiative is still ongoing.

LESSONS LEARNED: Same sex mentorship is a powerful tool in scaling up access to HIV prevention services among adolescent boys. It empowers them to open up on issues of sexual abuse and HIV positivity and to make positive choices for a healthier future. Big Brothers referred 686 adolescent boys for HIV testing and counselling; 529 boys accessed HIV testing at local health facilities; 18 adolescent boys disclosed their HIV status; 2 Support Groups were formed in 2 schools with the support from the Big Brothers; and a Male Engagement Charter was signed with local schools development committees.

CONCLUSIONS/NEXT STEPS: Scale up use of the Big Brother-Young Brother Mentorship Approach to more schools in Manicaland Province and advocate the adoption of the Big Brother-Young Brother Mentorship Approach in the secondary schools HIV and AIDS curriculum.

PED1208

DEPLOYING TRADITIONAL HEALERS TO MOBILIZE HIGH RISK INDIVIDUALS FOR HIV TESTING SERVICES (HTS) IN KALIRO DISTRICT, UGANDA

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BACKGROUND: Achieving UNAIDS' 95-95-95 goals is reliant on timely identification and linkage of people living with HIV into uninterrupted care. Widespread use of traditional instead of modern health services is a major cause for delayed HIV diagnosis in Busoga region. Approximately 60% of people in Busoga region often seek traditional healers and spiritualist as their first and preferred line of care.

DESCRIPTION: From March to July 2018, the USAID Regional Health Integration to Enhance Services in East Central Uganda (RHITES-EC) alongside Busoga Kingdom engaged 54 traditional healers in high-burden sub-counties in Kaliro district to mobilize high-risk individuals for HIV testing services (HTS). The project used a modified village health team audience engagement and referral package to conduct a three-day training for 54 traditional healers. It included values clarification, addressing gaps in HIV knowledge, and strengthening communication/referral skills and use of tools.

LESSONS LEARNED: Results from 15 of the deployed traditional healers showed and increase in the number of clients referred for HTS from 0 in March 2018 to 120 by the end of July 2018. Of the 120, 114 were tested for HIV and 50 were found to be positive (44% yield). Additionally, four presumptive TB cases were referred for TB testing and one tested positive (25% yield). The healers attributed the willingness of their clients to go for HTS to the trust the clients had in them. "By the time I can convince a poor villager to bring me a whole goat in a day, what about convincing him to take an HIV test" said a spiritualist."

CONCLUSIONS/NEXT STEPS: Enlisting traditional healers as partners and referral agents, and training and equipping them with relevant tools and skills can be transformational, play a significant role in improving timely diagnosis of PLHIV, and should be considered for scale up. Caution needs to be taken to address the above shortfalls, such as low literacy levels and secretive operations of the traditional healers. These shortfalls could be addressed by further simplifying the support tools and addressing the fear of repremand and loss of revenue when they refer their clients.

PED1209

USING MULTIPLE ENTRY POINTS TO INCREASE SERVICE UPTAKE FOR HIV PREVENTION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN

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BACKGROUND: Pact's USAID-funded Triple R project is supporting The Government of Eswatini to reach the 95-95-95 UNAIDS targets though high-impact HIV interventions targeting most vulnerable and at-risk populations. HIV risk behaviors impact adolescent girls and young women (AGYW): 50.6% of females 15 and older who reported sex before age 15 years were HIV positive, as well as 45.3% of

those with two or more sexual partners. Intimate partner violence peaks at 9.8% among women 20- 24 years[i] The project aims to increase uptake of high impact HIV prevention services among AGYW in Eswatini.

[i] Swaziland HIV Incidence Measurement Survey (SHIMS) 2: 2016-2017

DESCRIPTION: The Triple R project's mobilization and demand creation for HIV service uptake among AGYW is accomplished through small group sessions, interpersonal communication and social media. Home visits, group-based HIV prevention sessions, gender-based violence sessions, parenting sessions, and economic empowerment groups led by community workers are entry points for service provision. In 2019, the project mobilized 40,430 AGYW for HIV prevention messaging, 531 have tested for HIV and received their results and 206 have enrolled in PrEP. 847 AGYW accessed HIV information from the project through social media while 40,430 accessed HIV information through the community workers.

LESSONS LEARNED: Aligning HIV prevention sessions with outreach clinical services events increase uptake of services among AGYW. Locally recruited community workers have strong community connections due to their contextual knowledge that facilitates trusting relationships for service uptake and adherence to care among AGYW. Interpersonal communication is integral aspect in the mobilization of AGYW for service uptake. Furthermore, investing in the retention of community workers for improved institutional knowledge management and sustainability of quality service delivery is crucial.

CONCLUSIONS/NEXT STEPS: The Triple R project aims to increase uptake of high impact HIV prevention services among AGYW in Eswatini. Having multiple entry points provides them with the opportunity to connect to different community workers, build trusting relationships and access to customized health messages. Effective interpersonal communication skills enable community workers to build rapport and to confidently engage with AGYW. Further work is required to establish factors that influence AGYW's uptake of PrEP services.

PED1210

PROJECT LAST MILE AND GIRL CHAMP: THE IMPACT OF PRIVATE SECTOR STRATEGIC MARKETING EXPERTISE ON DEMAND FOR HEALTH SERVICES AMONGST ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) IN ESWATINI

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BACKGROUND: In 2018, eSwatini had the highest HIV prevalence globally, with 27.3% of adults living with HIV. New HIV infections in young women quadruple those in young men (aged 15–24 years). Context-driven interventions that target adolescent girls and young women (AGYW) for HIV prevention and services are lacking. The private sector has potential to drive demand by leveraging strategic marketing processes that successfully engage youth with multinational brands. Project Last Mile (PLM) shares expertise from The Coca-Cola Company to strengthen public health systems in Africa. In eSwatini, PLM worked with the Ministry of Health to co-create Girl Champ (GC), an aspirational brand and community-mobilized response where AGYW can access information, support, and wellness activities in a girls-only environment during clinic-based events. The COACH curriculum was developed for clinic staff to provide youth-friendly care and reinforce messaging.

DESCRIPTION: Yale applied mixed methods to assess the impact of GC over time. Specifically, we assessed stakeholder experiences with implementing GC in Manzini region, through 16 qualitative interviews and 547 feedback surveys. We also tracked attendance at GC events, and quantified the proportion of those in attendance who were new to care and reached overall during activations. Data were abstracted from the Clinic Management Information System (CMIS) to explore pre-/post trends in AGYW health service utilization and HIV testing in two facilities where electronic data were available.

LESSONS LEARNED: In November 2018, GC was piloted in three clinics attracting 1,722 AGYW for participation, and reaching 19% of the AGYW population from participating tinkhundla (municipalities). Seventy-three percent (n=1,236) of attendees were newly registered for health services during GC events. Analysis of CMIS data showed no statistically significant improvements in number of facility visits or HIV Testing and Counseling (HTC) visits among AGYW at GC-experienced clinics over time. Feedback from AGYW participants was highly positive; interviews with key stakeholders described collective ownership, feasibility and endorsement for this approach.

CONCLUSIONS/NEXT STEPS: Public-private sector partnerships may be uniquely positioned to develop and implement novel demand creation interventions with significant reach to potentiate linkage to care. Interventions that emphasize health and wellness (gain-framing) vs. HIV prevention (risk-framing) may have more resonance with youth.

COMMUNITY-BASED APPROACHES (INCLUDING EMPOWERMENT, OUTREACH AND SERVICE DELIVERY)

PED1211

THE ROLE OF SPIRITUAL HEALERS IN LINKAGE TO CARE IN THE TREAT ALL ERA IN ZAMBIA: A QUALITATIVE STUDY

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BACKGROUND: Despite adoption of a universal "Test and Start" strategy in Zambia, recent programmatic data suggests that only 78% of people living with HIV were on treatment.The role played by non-clinical stakeholders in the decision to not start ART needs to be better understood. Within the Zambian context, this includes the role of spiritual healers.

METHODS: We implemented a qualitative study, nested within a larger retrospective cohort study, to add context and explanatory power to our analysis of routinely collected linkage data from Lusaka, Zambia. We conducted key informant interviews with 10 spiritual healers, in-depth interviews with 61 patients and 20 focus group discussions with health care workers (HCW) recruited through snowballing, purposive and convenience sampling respectively. Semi-structured interview and discussion guides sought to collect data about factors influencing linkage to care after a HIV positive diagnosis. A thematic

framework was developed for data analysis using both inductive reasoning based on emerging themes and deductive reasoning based on an empirically supported "linkage to care pathway".

RESULTS: HCWs reported that among influential people in patients' lives, spiritual healers had substantial power to stop their congregants from taking ART. Some ART patients confirmed that they did not return to care after being told by their spiritual healers that prayer and faith were the only cure for HIV. Others who had successfully linked to ART mentioned that spiritual healers had given them hope and helped them to accept their HIV positive status. All spiritual healers believed they successfully helped congregants to live positive lives through counseling. Only one spiritual healer, who had no basic HIV training, dissuaded congregants from taking ART, persuading them to instead rely on prayers. The rest, who mentioned receiving basic HIV training at their evangelical schools, encouraged patients to both take medication and to pray.

CONCLUSIONS: Spiritual healers can positively influence linkage to care when counseling people living with HIV. Basic HIV training for spiritual healers may be critical to facilitate linkage to ART. Evangelical schools and pastor and church leader education provide an opportunity to implement a curriculum on ART and HIV care.

PED1212

CREATING A PROFESSIONAL COMMUNITY OF FRONTLINE WORKERS AS AN INNOVATIVE METHOD TO IMPROVE THE CARE OF PEOPLE LIVING WITH HIV/AIDS

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BACKGROUND: People living with HIV/AIDS (PLWHA) in San Francisco are dependent on frontline workers at San Francisco Department of Public Health (SFDPH) clinics and non-profit organizations to navigate a convoluted landscape of services. Due to gaps in education, lack of local professional community support, low wages, and high turnover of frontline workers, PLWHA's access to care and services is diminished, leading to higher rates of mortality, morbidity, and suffering.

In 2015, the SF HIV Frontline Organizing Group (SF HIV FOG) was formed in response to a lack of inter-agency communication, disorganized access to information, and high turnover rates of frontline workers. SF HIV FOG created a forum for frontline workers to support each other in day-to-day tasks and enable access to education, empowering frontline workers to more effectively support PLWHA.

DESCRIPTION: SF HIV FOG is a grassroots collaboration between community-based HIV service organizations and representatives of SF DPH. It provides training and professional networking opportunities for frontline workers in San Francisco to improve inter-agency collaboration and community awareness, thus enhancing the delivery of services to PLWHA. Examples include training events on transgender care, HIV and aging, and public health insurance programs as well as supporting campaigns such as Undetectable equals Untransmittable (U=U).

LESSONS LEARNED: Through December 2019, SF HIV FOG delivered 21 trainings and events for more than 500 frontline workers. Participant evaluations show a 22% increase in content knowledge and a 95% recommendation rate. In 2019, 87% of respondents who attended trainings were able to implement information learned within 30 days of attending a specific training. 88% of respondents to the year-end survey report that the ListServ is a useful resource to efficiently problem-solve specific client issues.

CONCLUSIONS/NEXT STEPS: Results demonstrate that community-based organizations are an effective tool to supplement training for frontline workers and provide opportunities for professional development. The demand for training has led to the development of a coaching program as an alternative means for frontline workers to grow in their capacity to support PLWHA.

SF HIV FOG can serve as a model for agencies in other municipalities to support various providers who work with PLWHA.

PED1213

OPTIMIZING COMMUNITY CARE FOR ORPHANS AND VULNERABLE CHILDREN (OVC): A QUALITATIVE COMPARATIVE ANALYSIS OF THE ACTIONABLE DRIVERS OF CHANGES IN HIV STATUS KNOWLEDGE WITHIN AN OVC PROGRAM IN MOZAMBIQUE

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BACKGROUND: In Mozambique, 72% of people living with HIV (PLHIV) know their status, and 66% of HIV-exposed infants have been tested for HIV by eight weeks of age (UNAIDS, 2018). The U.S. government funds community organizations in Mozambique to support vulnerable families in accessing HIV testing and treatment services through case workers. Community-based case workers are widely accepted as critical to finding untested clients, but little is known about what makes these staff effective. MEASURE Evaluation—funded by the United States Agency for International Development*—sought to identify the combinations of case management attributes that lead to improvements in the first 90 in the UNAIDS 90-90-90 HIV prevention continuum: that is, the proportion of PLHIV who know their HIV status.

METHODS: Data were collected using qualitative and quantitative methods in August 2019. We selected six community-based organizations (CBOs) in three provinces in Mozambique. Of these CBOs, there was an even split between rural and urban and between high and low proportions of program beneficiaries with unknown HIV status. We applied fuzzy-set qualitative comparative analysis, based on 119 interviews with randomly selected case workers and their supervisors to answer the study's questions.

RESULTS: Results highlight the importance of case worker experience, CBO case worker management support strategies, right-sized caseloads that balance numbers of cases with complexity of cases, and covering job-related expenses (e.g., transportation and mobile phones) in achieving high rates of beneficiaries who know their HIV status.

CONCLUSIONS: Our findings suggest that CBOs can be highly effective in using case workers to address the first 90 by following these case management practices: a formal process to assign cases that considers workload; at least two types of support for case workers, such as weekly care team meetings, weekly supervisor meetings, and/or low supervision ratios; and covering case workers' job-related expenses. CBOs also benefit by hiring experienced case workers and training them continuously.

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PED1214

PERCEIVED CHALLENGES IN PROVIDING SERVICES FOR PEOPLE WHO USE DRUGS BY VIETNAMESE COMMUNITY HEALTH WORKERS

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BACKGROUND: As a response to the dual epidemic of HIV and drug use, decentralization of services would play a crucial role in improving treatment continuum and outcomes among hard-to-reach populations including people who use drugs (PWUD). However, little is known about community health workers' (CHW) needs in providing services for PWUD. This study aims to investigate factors related to CHW's reported challenges in providing services for PWUD in Vietnam.

METHODS: A cross-sectional survey was conducted using audio computer-assisted self-interview method among 300 CHW among 60 communes in Vietnam, regarding their perception and attitude of providing services for PWUD. We used multi-item scales to measure CHW's negative attitudes toward PWUD, perceived challenges in service provision, perceived risk at work, institutional support, and job satisfaction. We used multiple linear regression to identify correlates of CHW's perception of challenges in providing services for PWUD.

RESULTS: Of all participants, 213 (71.0%) reported monthly contact with PWUD. After controlling for gender, occupation, time in the medical field and other job-related factors, participants with more education (β=-1.417, p=0.014) or monthly contacting with PWUD (β=-1.597, p=0.003) reported a lower level of perceived challenges. CHWs with a higher level of negative attitude toward PWUD (β=0.228, p<0.001) or perceived higher risk of working with PWUD (β=0.274, p<0.001) had a higher level of perceived challenges in providing services to the population. Perceived institutional support and job satisfaction were not associated with perceived challenges.

CONCLUSIONS: Most CHWs have initial contact with PWUD, which would facilitate service decentralization as a natural next step. Our findings suggest that stigma reduction interventions could be included in the medical training for HIV and addiction service decentralization.

PED1215

REDUCING HIV/AIDS RISK THROUGH ECONOMIC EMPOWERMENT AND HIV PREVENTION STRATEGIES FOR OUT-OF-SCHOOL ADOLESCENTS GIRLS AND YOUNG WOMEN (AGYW): A CASE IN MAYUGE DISTRICT, EASTERN UGANDA

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BACKGROUND: Uganda has the world's youngest population with 78% under the age of 30, and yet 21.4% of this fall below the poverty line. This is more pronounced in the rural areas, including Mayuge District in Eastern Uganda where only 22% have a secure income. In 2016, Act4Africa Uganda conducted a needs assessment and established that education was a problem for girls in Mayuge with consequences of increased poverty, unemployment, sex working, low levels of financial literacy and early marriages. Women's poverty and HIV vulnerability form a vicious cycle where poverty limits access to HIV prevention, care and treatment services.

DESCRIPTION: Working in partnership with the District Local Government and trained community mentors, out-of-school AGYW were identified and selected from four sub-counties across Mayuge district. 90 groups were created, with 30 members each of AGYW aged 15- 30 years. An integrated and holistic approach was employed to offer HIV/AIDS prevention knowledge and services to these groups through comprehensive HIV/AIDS information, mobile HIV/AIDS Counseling and Testing (HCT) clinics and distribution of condoms. These groups received economic empowerment through provision of financial literacy training and were supported to establish saving groups and income generating activities that were identified by the groups.

LESSONS LEARNED: From 2016 through December 2019, a total of 1,884 out-of-school AGYW attended basic financial training and 1, 203 enterprises set up with an equivalent of $ 40,035 saved in groups. A total of 8, 663 people, including both primary and secondary beneficiaries, were reached with HIV Counseling and Testing services, through these groups. Notably, 76% were AGYW aged 15- 30 years and of these 58% had not been tested previously. Out of these, four percent were tested positive and referred to the nearest health facility for enrollment into care and treatment. 9,022 packs of condoms were distributed and 8,749 IEC leaflets.

CONCLUSIONS/NEXT STEPS: HIV/AIDS prevention efforts in poor, rural communities can be effective if combined with poverty reduction programs. Availing community spaces in which peer groups of AGYW meet regularly to access HIV prevention and economic empowerment information and services is a great medium for reducing HIV/AIDS risk among out-of-school AGYW.

PED1216

OUTCOME OF INDEX TESTING AND LINKAGE AMONG KEY AND VULNERABLE POPULATIONS USING MOBILE HIV SERVICES IN MBEYA AND SONGWE REGIONS, TANZANIA

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BACKGROUND: To achieve the UNAIDS target of 95-95-95 by 2030 effective approaches to HIV testing are required. Index testing service has shown potential benefits in reaching and identifying new HIV positive clients, improving adherence to ART, and HIV prevention for the serodiscordant couples. Although there is growing evidence supports the feasibility and effectiveness of Index testing in identifying new HIV clients, but our literature search indicates paucity of data on its uptake through mobile HIV testing services. We aimed to assess outcome and lessons learned during the implementation of index testing among KVP.

DESCRIPTION: From January to September 2019 the mobile outreach team visited identified communities in the border regions of Mbeya and Songwe and offered country recommended HIV prevention services. HIV positive diagnosed clients were privately referred to nurse counselors for index-partner testing process and upon giving their consensus for "partner tracing", the counselors collected contact information for each index case notified. The client sexual part-

ners were contacted by the nurse counselor for HIV counseling and encouraged to undergo HIV testing, the result of partner HIV status and linkage to care were recorded in HTS register.

LESSONS LEARNED: A total of 241 HIV positive clients were approached for the index testing process; 200 index partners were successfully notified and tested by the mobile HIV services. A total of 106 (53%) were female partners, and of these 65% were married. Among the reached clients 56 (28%) tested HIV positive and of these 54 (96.4%) were successfully linked into HIV care and treatment. The positivity rate was higher among female index partners 33 (31%), divorced 18 (47%) and adolescents 9 (30%), The differences in positivity within the respective categories were statistically insignificant. HIV negative index partners were linked to the nearby clinics for pre-exposure prophylaxis.

CONCLUSIONS/NEXT STEPS: Index testing and linkage into care using mobile HIV services is feasible in these communities. The results shows that this approach is highly effective in early identification of clients with HIV and linking them into care, it also facilitates risk reduction among high-risk uninfected partners.

PED1217

KEY POPULATION-LED, COMMUNITY-BASED TEST-AND-TREAT APPROACH TO ADDRESS THE GAPS IN THE HIV CARE CASCADE AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER-WOMEN IN THE PHILIPPINES: A RETROSPECTIVE COHORT ANALYSIS

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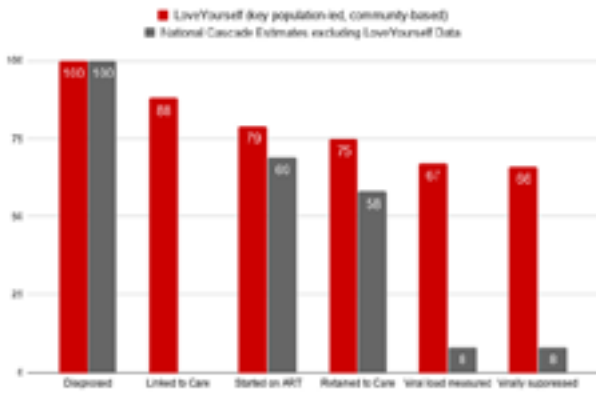
BACKGROUND: The Philippines has the fastest growing epidemic in the world with HIV prevalences among men who have sex with men (MSM) and transgender-women (TGW) that are 49 and 25 times greater, respectively, than in the general population. These demand effective strategies for treatment in these key population (KP) groups. KP-specific service delivery and community-based interventions (CBI) are both determined to improve HIV response yet local CBI programs have not been evaluated within the Philippines. This study aims to evaluate care cascade outcomes in a KP-led, community-based HIV test-and-treat center and to determine factors that affect these outcomes.

METHODS: A retrospective cohort analysis was done among those who were diagnosed in a KP-led, community-based HIV test-and-treat center in the Philippines from January 2016 to March 2019. Enrollment among each component of the HIV care cascade and its predictors were determined.

RESULTS: Mere comparison with national estimates show apparent benefits. Largest attrition in the cascade of the KP-led, community-based center occurs in linkage to care while nationally, it is on viral load measurement. Using 90-90-90 UNAIDS outcomes measure, 75.3% were retained on ART and 87.5% were virally suppressed in the KP-led center, higher than national estimates 60% and 17%, respectively. Sexually-transmitted co-infection (*aOR*=.56, *p*=.047) was found to be a barrier to ART initiation while history of female sexual encounter (*aOR*=3.96, *p*=.000) and condom use (*aOR*=4.577, *p*=.000) were facilitators. Having more than one comorbid and/or co-infection at diagnosis, polypathology (*aOR*=.61, *p*=.038), makes viral suppression less likely but employment (*aOR*=1.60, *p*=.033) leads to otherwise.



[Figure 1. Comparison of HIV care cascade outcomes]

CONCLUSIONS: Care cascade outcomes among KP may be known to be poorer relative to the general population but outcome in this KP-led community-based intervention is promising. Results suggest that predictors go beyond clinical parameters and include behavioral and socio-economic factors. These factors are needed to be addressed to reach the UNAIDS 90-90-90 target.

PED1218

CROWDSOURCING OPEN CONTEST AS A TOOL FOR PRE-EXPOSURE PROPHYLAXIS (PREP) PROMOTION AND COMMUNITY ENGAGEMENT IN A U.S. HIV HIGH-BURDEN AREA

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is an efficacious biomedical intervention that can reduce new HIV infections and is one of the four pillars of the U.S. Department of Health and Human Services (HHS) Ending the HIV Epidemic Initiative. Black communities in the southern U.S. bear a high burden of HIV, and yet PrEP awareness and uptake remain low. Novel approaches to promote PrEP are particularly needed. Open contests, a form of crowdsourcing, involve recruiting a large number of community members to develop solutions to public health problems in the form of a contest. My Voice My Choice (MVMC) was a crowdsourcing open contest for PrEP promotion messages among Black communities in Baltimore.

DESCRIPTION: Working with a community steering group, MVMC utilized social media and in-person events to engage communities for novel ideas that can promote PrEP awareness and update. Top finalists were chosen by a community panel of judges and community voting.

LESSONS LEARNED: MVMC received a total of 79 valid submissions in less than 3 months. Majority of the contestants (83%) were Black/African American, 40% were aged 18 to 24, 65% self-identified as homosexual, gay, queer, same gender loving, bisexual or pan sexual, and 73% had never taken PrEP. Top finalists were chosen after 155 online votes were submitted by community members in Baltimore. Qualitative in-depth interviews were conducted with 17 contest participants self-reported as non-Hispanic Black. The interview guide was developed using findings from HIV prevention research among Black sexual minority men in Baltimore and feedback from the com-

munity steering group. Thematic analysis was conducted on the qualitative interviews. Findings reveal crowdsourcing open contests to be a mechanism for fostering culturally meaningful PrEP promotion, building rapport with communities, and community engagement.

CONCLUSIONS/NEXT STEPS: MVMC demonstrated the feasibility and acceptability of a crowdsourcing open contest approach in the creation of community-engaged PrEP promotion messages. Crowdsourcing open contests can be a useful tool for PrEP promotion and other health promotion among U.S. Black communities. This approach could be used to identify and implement programs and policies that are more responsive to community needs and build up existing community assets.

PED1219

ONLINE TECHNOLOGIES AS SPACES OF 'RISK' AND OPPORTUNITY: COMMUNITY-BASED OUTREACH AND TESTING USING ONLINE SEXUAL NETWORKING APPLICATIONS IN THE PHILIPPINES

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BACKGROUND: The HIV epidemic in the Philippines has been expanding rapidly, with most new diagnoses occurring among 'men who have sex with men' (MSM). However, the social contexts in which MSM negotiate HIV risk in the country remain underexamined, especially given the new and evolving phenomenon of seeking partners online via sexual networking technologies. 'Apps' have become a means of information dissemination and health promotion, yet the role of these interventions in the Philippines is unclear.

METHODS: The methodology comprised qualitative research conducted between July and November 2018 in Manila, the Philippines. Twenty key informant interviews and three focus group discussions were conducted with healthcare workers from community-based HIV/AIDS organisations and local government units, as well as policymakers, activists and researchers. This research sought to analyse emerging healthcare interventions that seek to reach MSM via sexual networking apps, with participants discussing the interventions delivered and how they perform.

RESULTS: The expanding epidemic was seen as being driven by new social contexts of sex as more MSM seek sex online. Sexual networking apps were seen as an opportunity for intervention, with participants reporting the capacity to reach new 'discreet' sexual subjectivities and the 'hard to reach'. Healthcare workers create profiles on sexual networking apps to raise awareness of HIV, message individuals deemed to be at high risk, and encourage HIV testing, with interventions seen to provide a window onto bodies of risk. While these address key areas of need, such as barriers to accessing information and service utilisation for underserved groups, their potential impact is limited due to the one-to-one style of engagement. Furthermore, healthcare workers report difficulty in their ability to link people to care.

CONCLUSIONS: Online technologies facilitate new ways to negotiate risk, and new opportunities for healthcare workers to intervene. While these interventions provide a community-based form of testing and may reach MSM otherwise inaccessible through physical outreach, they have created new complexities for healthcare workers by reconfiguring boundaries between them and target populations. Such interventions provide a new form of surveillance, with the impact on risk reduction unclear. Furthermore, sufficient resources are not provided to link patients testing positive to treatment.

PED1220

WORKING WITH YOUNG PEOPLE TO DESIGN AND IMPLEMENT AN INTERVENTION FOR PREP UPTAKE AND PERSISTENCE

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BACKGROUND: Adolescent girls and young women (AGYW) in Kenya experience heightened risk for HIV, which is compounded by high rates of gender-based violence (GBV). We used a participatory process involving AGYW in developing an intervention to support their pre-exposure prophylaxis (PrEP) use in the context of GBV and gender inequality in Siaya County, Kenya.

DESCRIPTION: We conducted formative research with 24 AGYW to understand PrEP and GBV related challenges and intervention preferences.Through a series of 3 consultations with our youth advisory board (YAB), youth guided our formative research, interpreted results, and participated in a human-centred design workshop to identify appropriate interventions and contribute to their design. Additional workshops following intervention development helped pre-test the manualized components, including specific activities, language, and implementation factors.

LESSONS LEARNED: YAB engagement in the design of formative research, interpretation of results, intervention design and testing led to an intervention responsive to AGYW's stated needs for PrEP support in the context of their relationships. While the intervention conceptualized at the proposal stage of the research was clinic-based GBV screening and counselling, the formative research and YAB feedback identified a need to work at the community level, engage men in the intervention, and provide peer support. This led to the development of a manualized support club for AGYW interested in PrEP, community-based male sensitization sessions addressing male partner concerns with PrEP and couples-based community events. Intervention pre-testing with YAB and AGYW helped further refine the intervention, including specific stories for drama-based activities and the implementation of these performances at the couples' events. The intervention is being evaluated for acceptability and effectiveness through a six-month pilot community randomized control trial nested within the DREAMS program. Thus far nearly all (94%) participants reported they would recommend it to a friend.

CONCLUSIONS/NEXT STEPS: Youth engagement is critical to designing appropriate interventions addressing complex issues that affect them such as PrEP use in the context of GBV. Formative research with AGYW and early feedback from our YAB resulted in significant changes to the intervention design, as well as contextual changes to improve its implementation. While the pilot RCT is ongoing, preliminary findings suggest its acceptability.

PED1222

LESSONS FROM A COMBINATION PREVENTION APPROACH TO REDUCE TRANSMISSION OF HIV AMONG 15 – 29-YEAR-OLDS IN THE CONTEXT OF A GENERALIZED HIV/AIDS EPIDEMIC

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BACKGROUND: Adolescent girls and young women (AGYW) in Eswatini are highly impacted by HIV. 29.8% of HIV+ females 15 – 24 years are unaware of their HIV status, while among those who are aware of their status, 83.7% are on treatment and 81.2% are virally suppressed[i]. Pact's PEPFAR/USAID-funded Triple R project responds to the HIV prevention needs of priority populations, especially AGYW, to halt to the spread of HIV and mitigate its impact on Eswatini.

[i] Swaziland HIV Incidence Measurement Survey (SHIMS) 2: 2016-2017

DESCRIPTION: After Triple R conducted vulnerability assessments in 2018, the project linked AGYW to trained Life Mentors (LMs) who used a 'safe spaces' model to deliver HIV prevention messaging on risk awareness, condom use, HTS, PrEP and PEP, livelihoods and linking AGYW to clinical services. A critical component of this approach was a combination of one-on-one and small groups mentorship in which LMs guide AGYW through discussions that directly impact their risk to HIV by using specially designed job aids.

LESSONS LEARNED: AGYW feedback through the mentorship activities provided valuable lessons on factors hindering their agency to protect themselves from infection. Prominent issues identified included economic dependence on sexual partners; low self-esteem; lack of condom negotiation skills; and, not knowing how to select a partner who cares about you. This feedback was then used to adapt the mentorship content to address these barriers.

	FY2018	FY2019	FY2020(Q1)
# AGYW Reached with HIV Prevention Messaging	15105	36584	12048
# AGYW Linked to Livelihood Activities	0	7774	3304
# AGYW Reached with HTS	2162	6542	1925
HIV Case Identification	31(1.4%)	152(2%)	25(1.3%)
# AGYW Reached with PrEP	0	176	297

[Table]

CONCLUSIONS/NEXT STEPS: Providing a tailored combination HIV prevention package driven by beneficiary feedback improves their understanding of risk and uptake of services. Strengthening SBCC components builds individual self-worth, provides practical skills on applying this knowledge (i.e. negotiating condom use) and provides support for linkages to services that will enable AGYW to gain economic independence. Altogether, this gives AGYW the agency to fully utilize the HIV prevention services that are then made available to them and reduces their risk of infection.

PED1223

A COMMUNITY-BASED INTERVENTION (MEN'S SPACES) TO ENGAGE MEN IN HIV AND SEXUAL HEALTH SERVICES IN MALAWI: A PILOT STUDY

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BACKGROUND: Men continue to have worse health outcomes than women, including greater HIV-related morbidity and mortality. Gender disparities are, in part, due to men's underutilization of health services. Further, men have inadequate knowledge or perceived importance of their own health. We developed and piloted a community-based intervention, "Men's Spaces", for men to discuss their health concerns, gain information about their own sexual health risks and needs, and develop strategies to overcome barriers to men's use of health services.

METHODS: We conducted formative data to inform intervention design: in-depth interviews with men (n=20) and focus group discussions with married women and Health Advisory Committees (n=46) across four communities in Southern Malawi. The Men's Spaces intervention was piloted in the same villages and included a one-time interactive session with men aged 25-40 regarding their sexual health, healthy relationships, strategies to overcome facility-level barriers to care, and blood-pressure screening and HIV testing/treatment. Exit surveys and medical chart reviews were conducted following Men's Spaces. Data were collected between October 2018 – June 2019.

RESULTS: Formative data show that men desired interventions focused on improving their own sexual health, strengthening intimate relationships, and promoting health seeking behaviour to facilitate income generation activities in the future. Men desired interventions with their peers in informal settings rather than formal, class-room style interventions. Men's Spaces was implemented with 183 men across four villages. The intervention lasted for an average of 3 hours with ~45 men per session. Attendees were mid-age (median 30yrs), 70% working, 61% had >2partners in past 12months, and 62% had not tested within 12months. All attendees reported they would attend Men's Spaces again and would encourage their peers to attend. 75% of attendees received HIV self-test (HIVST) kits and 44.3% used HIVST and immediately reported their test results to intervention staff. Six (7.4%) men were newly diagnosed as HIV-positive and five (83%) initiated ART that day.

CONCLUSIONS: Men were ready and willing to engage in health services and desired interventions focused on their own sexual health, strengthening romantic relationships, and income generation. A community, peer-based intervention was feasible and acceptable for men.

PED1224

NOVEL MECHANISMS FOR DIFFERENTIATED OUTREACH USING VIRTUAL PEER SUPPORT AND ACCESS TO HIV PREVENTION-TREATMENT SERVICES AMONG MSM AND TRANSGENDER YOUTH ACROSS INDIA

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BACKGROUND: Virtual spaces are being increasingly used by men who have sex with men (MSM) and transgender women (TGW) for establishing social and sexual connections. E-support groups may be crucial to providing LGBTQ communities access to peer-support, information, and linkage-to-care, particularly those closeted and in unfavorable socio-legal environments. This abstract present mixed-methods analyses of a LGBTQ youth e-support group serving as a novel model for differentiated outreach.

METHODS: We launched a secret Facebook™ Group (e-group) in 2011 for LGBTQ young people in India to provide an easy online forum for social connections, moderated by trained volunteer peers. Access to the private group is approved by moderators/members and group-members could then use the e-group to socialize online, seek information, or passively observe. We used Facebook™ Analytics and Grytics™ online-software to extract, de-identify, and analyze all e-group's posts/comments, likes/reactions from 2011–2018. To understand how the e-group may foster support for differentiated care, we used grounded theory to qualitatively analyze extracted posts/comments, and identified key themes and mechanisms.

RESULTS: Data (n=8372 members) comprised 107,934 posts, 802,554 comments, and 1,748,070 reactions. Most members were in age-groups 18–24 (25%) and 25–34 years (45%), respectively. Members were frequently from Mumbai (28%), Delhi (8%), Pune (7%), Kolkata (7%), and Bangalore (6%). Most posts (94.5%) received reactions and 57.8% posts received comments. Themes most often discussed were: Safer sex/HIV/STI information; crises support; social acceptance; general health; social events. The e-group facilitated access to crises support, addressed social acceptance issues (coming out, bullying, pressures to conform to heteronormativity), provided information on social events, and peer connections. Posts using quizzes, campaigns on HIV/STI information featured prominently to educate group members and appeared to increase members' motivation to test by improving HIV/STI awareness and risk-perception, addressing stigma, and countering myths/misconceptions.

CONCLUSIONS: E-support groups play an important role in connecting MSM and TGW youth to care and support services by fostering social support as well as HIV/STI awareness. In settings where marginalized youth fear HIV-related stigma, moderated online social support groups could contribute significantly to existing HIV interventions as a differentiated outreach and care model engaging hard-to-reach MSM and TGW youth.

PED1225

RESILIENCE IN AN AIDS SERVICE ORGANIZATION (ASO): INTEGRATING SYRINGE SERVICES, NARCAN TRAINING AND POST-OVERDOSE SUPPORT INTO HIV/STI PREVENTION AND TREATMENT FOR PEOPLE WHO INJECT DRUGS IN THE USA

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BACKGROUND: AIDS Project Worcester (APW) was established in 1987 and is located in Worcester, Massachusetts, the second largest city in New England. As the structural drivers of HIV and AIDS have shifted in the Northeast United States, APW has expanded its focus to include emerging health issues that affect its clientele. It was the first agency to offer Narcan (naloxone) trainings in central Massachusetts. We describe how our Narcan training and syringe services programs have strengthened our relationships with people who inject drugs (PWID) and enabled us to link them to HIV/STI and addiction care, support and treatment services.

DESCRIPTION: APW began offering Narcan training in central Massachusetts in 2007. Since 2011, we have trained 9,732 individuals, provided 5,606 refills, and saved 2,216 lives. Our Narcan program paved the way for a comprehensive syringe services program and a coordinated opioid overdose response in Worcester county. The syringe services program currently works with 2,005 unique clients and has had 4,910 client encounters through outreach and agency visits. In 2018, we collected 160,017 used syringes and distributed 97,817 clean syringes. We also provided blankets, food, condoms, conducted 2,100 HIV and STI screenings, and linked PWID to HIV and addiction care. We also piloted a post-overdose support team (POST) program that links overdose survivors to HIV/STI and addiction support services.

LESSONS LEARNED: APW's resilience as an ASO is attributable to three things: a) our adaptability, and responsiveness to emerging community needs; b) our "no-barriers to care" goal, through which we bring services directly to our clients via mobile outreach and; c) our cultural competency, as APW staff resemble clients in terms of race, ethnicity, class, sexual orientation, gender identity, addiction history, HIV status, and immigration status.

CONCLUSIONS/NEXT STEPS: As the opioid epidemic continues in the USA, ASOs need to provide comprehensive services to PWID. APW's incremental approach of community-engagement through Narcan training and scaling up to syringe services provides a model for other ASOs seeking to expand into this arena. Our Narcan trainings have helped de-stigmatize injection drug use and addiction support services in our target communities, and strengthened our relationships with PWIDs and their social networks.

PED1227

SUPPORTING THE '10-10-10': RESULTS FROM THE CEDAR PROJECT WELTEL MHEALTH PROGRAM FOR HIV-RELATED HEALTH AND WELLNESS AMONG YOUNG INDIGENOUS PEOPLE WHO HAVE USED DRUGS IN TWO CANADIAN CITIES

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BACKGROUND: Systemic oppression and lack of cultural safety impede Indigenous people living with/at risk of HIV from engagement with HIV prevention and cascade of care services. Indigenous leaders remain concerned that Indigenous peoples may become the '10-10-10' of UNAIDS 90-90-90 targets – those who are left behind. They have called for responses that acknowledge impacts of colonial traumas, while building on Indigenous resilience and wholistic perspectives of health and wellbeing. Simultaneously, use mHealth has emerged as a tool to support engagement in the HIV care cascade and ancillary services.

METHODS: This study presents results from a two-way supportive text messaging program to support HIV-related health and wellness among young Indigenous people who have used drugs living with/at risk of HIV. Cedar Project's WelTel mHealth Program consisted of a bundle of supports, including a mobile phone, long-distance plan, and weekly supportive text messaging with case managers. It was offered to 131 (52 HIV+) young Indigenous people who have used drugs in the Cedar Project cohort in two Canadian cities. Each Monday, a 'how's it going?' text was sent automatically. Case managers responded to all participants and followed up with those who replied with a specific need. A mixed-methods approach evaluated to what extent and in what ways the program supported HIV-related health and wellness.

RESULTS: Overall, 5217 'how's it going?' texts were sent September 2014-January 2016, of which 3982 (76.3%) received a response. The mHealth program facilitated family (re)connections and strengthened relationships with Case Managers to facilitate engagement with a variety of mainstream and Indigenous supports. Flexibility allowed it to be participant-led and self-determined. Among participants with HIV, receiving mHealth was associated with 2.09 (95%CI: 1.15-3.79; p=0.016) increase in odds of HIV viral suppression compared to the pre-program period. Among all participants, mHealth was associated with slightly higher mean resilience score (adjusted coefficient=3.02; 95%CI:0.34-5.69; p=0.027).

CONCLUSIONS: Cedar Project WelTel mHealth Program represents a feasible and valued tool to support culturally-safe, healing-informed, and strengths-based responses to HIV among young Indigenous people who have used drugs living with/at risk of HIV that nurtures connection to culture and family, and supports self-determination over health and wellness.

PED1228

CHAMPS IN ACTION: AN INNOVATIVE CAPACITY BUILDING MODEL OF HIV-STIGMA REDUCTION

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BACKGROUND: HIV stigma perpetuates marginalization and limits access to inclusive care by people living with HIV (PLHIV). Drawing on the positive empirical results of CHAMP, a stigma reduction intervention, an alliance of five ethno-specific AIDS service organizations (ASOs) in Toronto, Canada, secured resources to scale-up this intervention in Toronto's African, Caribbean, Asian and Latino communities. The planned total number of participants in the 5-year CHAMPs-In-Action project is 160/year x 4 years (n=640), with an anticipated minimum diffusion of reaching 800/year x 4 years (n=3200) through HIV championship and stigma reduction activities.

DESCRIPTION: Phase One of CHAMPs-In-Action uses an integrated model of 'train-the-trainer' and 'community-of-practice' to build capacity among PLHIV, project staff, volunteers and community leaders from the five alliance ASOs and communities to become CHAMP facilitators and advocates of stigma reduction. The program consists of:

(1) a four-day training on Acceptance and Commitment Therapy and Collective Empowerment;

(2) follow-up practice workshops, and

(3) onsite mentorship to deliver the CHAMP intervention.

Mixed methods of surveys and group discussions were used pre- and post- training to assess effectiveness of CHAMP and the implementation model.

LESSONS LEARNED: In Phase 1, two cohorts of PLHIV and non-PLHIV leaders, staff, and volunteers (n=20) completed the train-the-trainer program. Pre-and post-training measures showed that graduates had:

(1) increased psychological flexibility;

(2) improved mental wellbeing;

(3) increased self-efficacy in dealing with stigma related adversities, and,

(4) more confidence to challenge HIV stigma at the personal and community levels.

In addition, 17 graduates (85%) engaged in the community-of-practice program, in which they were mentored to co-facilitate seven community CHAMP stigma-reduction programs organized by the Alliance ASOs. These graduates trained 123 participants, including service providers, LGBTQ and newcomers in their respective ethnocultural communities.

CONCLUSIONS/NEXT STEPS: Community-based stigma reduction is critical to addressing HIV vulnerability in marginalized communities. The effectiveness of anti-stigma interventions can be enhanced through the integrated use of strength-based training, structured mentorship, and capacity building. Furthermore, community partnership and alliance building are needed to provide structured opportunities that enable graduates to apply their newly gained knowledge as CHAMP facilitators and HIV champions.

PED1229

INCREASING CLIENT ENROLLMENT IN COMMUNITY CLIENT LED ART DELIVERY (CCLAD) MODEL: A QUALITY IMPROVEMENT PROJECT AT FORT PORTAL REGIONAL REFERRAL HOSPITAL IN UGANDA

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BACKGROUND: Differentiated ART Service Delivery (DSD) at Fort Portal Regional Referral Hospital (FPRRH) was launched in November-2017. Uganda's Ministry of Health recommends 15% of the stable clients in HIV care receive services in CCLAD. Clients in CCLAD model were 1.5% (93/6174) in September-2018 at FPRRH. We set out to increase the percentage enrollment in CCLAD to 15% by April-2019.

DESCRIPTION: A quality improvement project was conducted in FPRRH from September-2018 to April-2019. Health workers, expert clients, Community Based organizations, People Living with HIV/AIDS (PLHIV) representatives brainstormed to identify causes of low CCLAD enrollment using fishbone diagram. These were facility-related (inadequate clients' categorization according to clinical stability, knowledge gaps among health workers, inability to capture DSD in Electronic Medical Records, low data use, suboptimal advocacy for CCLAD) and client-related (limited awareness on DSD, stigma, and non-disclosure). Interventions from a driver diagram were prioritized in a focusing matrix, and included client sensitization by PLHIV, training of health workers, backlog DSD entry in revised EMR, weekly joint data review, and linkages to DSD by CBOs. Data on CCLAD was extracted from EMR, exported to excel, analyzed for proportion in CCLAD among the stable clients in Fast Track Drug Refill (FTDR).

LESSONS LEARNED: CCLAD enrolment increased from 1.5 % (93/6174), to 16 % (756/4768) between September-18 and February-2019; 507 (67%) were female. Six clients were under 25years.
During scale up of isoniazid preventive therapy and ART optimization in January-2019, clients in Fast Track Delivery Model who started a new drug were classified as unstable before MoH provided guidance in March-19 to maintain their clinical status as stable. This affected the denominator for the indicator.

[Figure 1. Proportion of stable clients enrolled in CCLAD at FPRRH Sep-18 to Apr-19.]

CONCLUSIONS/NEXT STEPS: Health worker training, peer-led patient engagement, and improved data systems favor implementation of new models/policies in HIV/AIDS management. Guideline modification should be adapted for DSD models, for uniform scale up of quality.

PED1324

ACCELERATING HIV STATUS DISCLOSURE BY CAREGIVERS OF ORPHANS AND VULNERABLE CHILDREN TO LAY SOCIAL WELFARE VOLUNTEERS IN TANZANIA

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BACKGROUND: HIV status disclosure facilitates access to HIV-related prevention and treatment services and increases opportunities for social support, implementing HIV risk reduction with partners, and index testing for sexual partners or children. This study compares rates over time of adult HIV status disclosure to a community social welfare program in Tanzania.

METHODS: Community social welfare volunteers enrolled and provided services to caregivers of orphans and vulnerable children (OVC). The analysis included caregivers who were assessed at baseline (2017–2018), received services, and assessed again at midline (2019). Caregivers who reported having been tested were asked to voluntarily report the status in order for the volunteer to establish service needs and provide referrals. Those who reported their HIV status as negative or positive were grouped as "disclosed", and those who knew their status but did not report it were documented as "undisclosed." Stuart-Maxwell tests compared disclosure rates at baseline and midline.

RESULTS: 140,664 caregivers (72% female) from 70 councils of Tanzania were analyzed. The mean age of the caregivers at enrollment was 47.4 years. Overall HIV status disclosure to the project was 81.3% at baseline and significantly increased to 96.1% at midline ($p<0.001$). Disclosure at baseline varied significantly by sociodemographic characteristics ($p<0.05$), with higher disclosure in females, urban residence, and higher education, but the variations disappeared at the midline and remained around 96% across all sociodemographics ($p>0.05$). Male disclosure increased from 80.2% to 96.2%. Of the 26,329 caregivers who did not disclose their HIV status at baseline, 94.7% (n=24,933) had disclosed by midline, and 10.2% (n=2,675) were HIV positive and linked to HIV services.

CONCLUSIONS: Lay social welfare volunteers successfully encouraged HIV status disclosure among OVC caregivers in Tanzania, thereby broadening its services for HIV-positive caregivers. In contrast to volunteer health cadres, lay social welfare volunteers provide continuous and frequent household support for a wide range of needs, such as economic strengthening, parenting, and violence prevention and response. Integrating adult HIV disclosure is a strategy to improve linkages to index testing for children and linkage to ART services. Introduction of a validated adult HIV risk screening tool for use by community volunteers is recommended.

COMPREHENSIVE SEXUALITY EDUCATION

PED1230

NOT TOO YOUNG TO KNOW: ADVOCACY PROJECT BY ADOLESCENTS GIRLS AND BOYS AGES 10 TO 14 IN NIGERIA USING PHOTOVOICE

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BACKGROUND: Adolescents in Nigeria are at significant risk for poor sexual and reproductive health (SRH) outcomes. Adolescents, especially girls, have the right to be informed about Comprehensive Sexuality Education (CSE). Lack of knowledge often leads to risky behavior such as unsafe sex, which can lead to unwanted pregnancies, Sexually Transmitted Infection (STI), including HIV.

Not Too Young To KNOW": is a Women Deliver small grant-funded advocacy project aimed at building the capacity of young adolescent in using photography and digital storytelling to advocate for the adoption of the 2018 revised International Technical Guidance on Sexuality Education guidelines in Nigeria's secondary schools.

DESCRIPTION: From January to June 2019, 19 adolescents ages 10-14 from four different schools in Akure South Local Government Area in Ondo State, Nigeria were selected to participate in the project. They were trained on photography and photovoice and were able to use photography to show their knowledge gap on sexual and reproductive health especially HIV/AIDS. A photo exhibition took place, where the adolescents discussed and presented their pictures to stakeholders, parents, community and religious leaders and school principals. The concluding part of the project was various advocacy visits by the adolescents to the commissioners of Education, Health, Youth and Sports Development in the State. It gave the adolescents a platform to speak on issues about their sexual and reproductive Health and advocate for CSE in their schools.

LESSONS LEARNED: The project moved the needle for gender equality, it provided equal opportunities for girls and boys to acquire knowledge and skills in photography and advocacy. The inclusion of girls as beneficiaries and advocates for their reproductive health and rights brought awareness on the need for education and empowerment of the girl child. Majority of the duty bearers in the State are now important players in the quest for the adoption of the international technical guidelines on CSE in secondary schools.

CONCLUSIONS/NEXT STEPS: Involvement of the young adolescents as advocates on this project helped with the success recorded on the project. This approach should be continued in future advocacy projects where the direct benefactors and stakeholders are involved and engaged in implementation.

PED1231

GAPS IN HIV TRANSMISSION KNOWLEDGE AMONG MEN WHO HAVE SEX WITH MEN, TRANSGENDER WOMEN, AND GENDER QUEER INDIVIDUALS IN TWO CITIES IN ZIMBABWE

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BACKGROUND: Key populations (KP), including men who have sex with men (MSM), transgender women (TGW), and gender queer (GQ) individuals are disproportionately affected by HIV. To inform HIV prevention programming among KP in Zimbabwe, we evaluated HIV knowledge in these groups

METHODS: From March-July 2019, 1194 MSM and 344 TGW/GQ ≥18 years were recruited for a cross-sectional survey using respondent-driven sampling (RDS) in Harare and Bulawayo, Zimbabwe. Consenting participants completed a questionnaire and received HIV testing. Comprehensive HIV knowledge—aligned to the UNAIDS definition—was defined by correctly answering five questions on HIV transmission risk. Additional questions specific to anal sex were also asked. We report sample proportions without RDS weights as the sample did not reach convergence for HIV. Pearson's Chi-squared and Fisher's exact tests were used to assess prevalence differences by demographic factors and HIV status.

RESULTS: Overall, comprehensive HIV knowledge varied significantly by city (Harare: 80.5%, Bulawayo: 65.6%, p<0.0001) but not by HIV status (p>0.05). For Bulawayo it varied significantly by gender identity; for Harare the difference was of borderline significance (Table). Approximately half of participants were aware that anal sex was the most efficient mode for sexual acquisition of HIV. Overall TGW/GQ participants were more aware than MSM (p<0.0001); this remained significant for Harare when stratified by city (Table). In both cities, less than one-third of participants reported condomless receptive anal intercourse (CRAI) put them most at risk for HIV, with most reporting that CRAI and condomless insertive anal sex carry the same risk (Table).

	Harare					Bulawayo				
	MSM (n=431)		TGW/GQ (n=287)			MSM (n=763)		TGW/GQ (n=57)		
	%	n	%	n	p-value	%	n	%	n	p-value
Comprehensive knowledge of HIV	83	357	77	221	0.05	67	513	44	25	<0.001
Anal sex is the most efficient method for sexual acquisition of HIV	55	236	65	187	0.006	48	364	56	32	0.22
If a condom is not used, what kind of anal sex puts you most at risk for HIV? (n=2 don't know/refuse)										
Insertive anal sex	3	14	2	5		28	211	18	10	
Receptive anal sex	19	82	23	65		20	152	32	18	
Both have the same risk	77	334	75	216		48	363	51	29	
Both have no risk	0	1	0	1	0.397	5	35	0	0	0.043

CONCLUSIONS: Findings highlight gaps in HIV transmission knowledge related to anal sex. TGW/GQ participants were more aware of the risks of HIV transmission through anal sex than MSM though awareness was low. Given misperceptions, messaging around HIV risk and CRAI for MSM and TGW/GQ should be strengthened in Harare and Bulawayo.

CONDOMS AND LUBRICANTS

PED1232

KHUSHPUDIS (PLEASURE PACKS): INNOVATIVE CONDOM-LUBRICANT PACKAGES FOR SOCIAL MARKETING AMONG YOUNG MSM-TG USING ONLINE AND OFFLINE PROMOTION TECHNIQUES IN MUMBAI, INDIA

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BACKGROUND: Young men who have sex with men (MSM) and transgender communities in India are disproportionately affected by HIV. Socio-cultural stigmas and hostile legal environments decrease access to HIV testing, condom–lubricant use, factual safe- sex information and increase vulnerability to violence. Water-based lubricant use is limited by inadequate provisions under national programs and unviable commercially-available options. Yaariyan, a youth LGBTQ initiative of The Humsafar Trust implemented a unique social-marketing strategy to facilitate MSM and TG youth's access to condoms, lubricants, and safe-sex information.

DESCRIPTION: Supported by The MTV Staying Alive Foundation, the social marketing campaign created Khushpudis (Pleasure Pack) comprising one regular condom, flavoured condom, a single-use water-based lubricant sachet, and a booklet on safe sex (condom- and lubricant use, pre- and post-exposure prophylaxis) and crises redressal information. The packaging allowed for Khushpudis to be carried discreetly and to convey safe-sex information in pocket-fit, non-clinical and colourful formats. The Khushpudis were launched and distributed free at an LGBTQ community-event in August 2017 and were socially marketed at INR 20/pack and offered a 50% discount to students and underprivileged communities from September 2017 following a selfie campaign. In the short duration around 5000 Khushpudis have been socially marketed to MSM and TG youth and 1000 distributed for free at community events.

LESSONS LEARNED: Strategies like Khushpudis encourage newer outlook toward existing strategies. Flavoured and regular condoms emphasize on consistent condom use for penetrative and oral sex. Single-use water-based lubricant sachets facilitate uptake and use of lubricants as opposed to commercially-available indiscreetly packaged lubricants. Vibrant, pocket-fitting educational material allows easy stowing in safe spaces such as wallets for later reading or around sex/facing crises. Further, community-led social media campaigns facilitate ownership and contribute to awareness and uptake.

CONCLUSIONS/NEXT STEPS: Khushpudis should be integrated into national HIV programs with an emphasis on social marketing for sustainability. Social media must be explored as a channel for promotion and demand generation. Groups working with key populations should consider adopting a model like Khushpudis into existing interventions to facilitate condom–lubricant use and uptake, particularly among young MSM and transgender populations.

COUPLES- OR FAMILY-CENTRED APPROACHES

PED1233

"THESE MEDICINES ARE THE ONES TO SAVE MY MARRIAGE": DYADIC-LEVEL INFLUENCE AND DECISION-MAKING AMONG SERODISCORDANT COUPLES IN TANZANIA RECEIVING ACCESS TO PREP

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BACKGROUND: The Dyadic-based Diagnosis, Care, and Prevention (DDCP) study in Tanzania is investigating the feasibility and acceptability of an intervention among HIV-serodiscordant couples that provides access to pre-exposure prophylaxis (PrEP) for HIV-negative partners, regardless of the HIV-positive partner's ART status. This qualitative sub-study aimed to understand and describe how relationship factors affect couples' decisions to:
(1) participate in the DDCP study and
(2) utilize PrEP.

METHODS: Semi-structured in-depth interviews were conducted among a subset of DDCP participants (n=22) as well as individuals involved in serodiscordant relationships who declined study participation (n=9). Interviews focused on couples' decision-making regarding study participation and couple-level influence on medication use. Interviews were transcribed verbatim and translated from Kiswahili into English. Data were analyzed using thematic analysis.

RESULTS: Within the 31 interviews conducted, the mean age was 47.9 years (range: 32-71), and the sample included 13 HIV-negative (4 women; 9 men) and 18 HIV-positive individuals (12 women; 6 men). Discordance was often viewed as "a two-person secret" shared between partners. Couples perceived partner support as critical to maintaining the discordant relationship and showed support through gestures such as providing medication reminders and encouraging HIV testing for HIV-negative partners. Decisions to participate in the study were made jointly. No participants reported feeling coerced to join, although individuals frequently described being encouraged to join by their partners. Among non-participants, reasons for declining participation included lack of time/convenience or misunderstandings about the study. Among participants, PrEP availability for HIV-negative partners diminished HIV-positive partners' feelings of guilt and worry, and HIV-negative partners viewed PrEP as a means to support their partners while maintaining their health. Partners mostly supported the other's medication use. Overall HIV-positive partners' ART use did not significantly impact HIV-negative partners' PrEP use and vice versa. Couples frequently reported maintaining condom use while taking PrEP and/or ART, although for couples not using condoms, PrEP was seen as essential for relationship survival.

CONCLUSIONS: On the dyadic level, introducing PrEP was generally well-received by couples and provided important benefits to both partners. For research studies involving serodiscordant couples, partner-level influence on participation should be considered throughout recruitment, informed consent, and study implementation.

PED1234

COPING STRATEGIES AND NEEDS AMONG HIV-NEGATIVE WOMEN MARRIED TO HIV-POSITIVE MEN WHO HAVE SEX WITH MEN IN CHINA

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BACKGROUND: Stigma towards men who have sex with men (MSM) is prevalent, and many MSM are married to women. This study aims to provide a comprehensive understanding of coping strategies and the need for support among HIV-negative women in serodiscordant relationships with HIV-positive MSM.

METHODS: We conducted 19 qualitative in-depth interviews with women in serodiscordant relationships, who were recruited by collaborating with two local health organizations in Sichuan, China in 2017. Semi-structured interviews were conducted, and the interview guide included questions about their feelings, experiences, and coping strategies in terms of the serodiscordant relationship and sexual orientation/behavior. Qualitative data were transcribed verbatim and analyzed using content analysis. Two of the authors read all transcripts and selected coding units independently. The identification of sub-categories and categories was discussed and agreed upon among a panel with a multidisciplinary background.

RESULTS: Among the 19 enrolled participants, the median age was 39 years (range: 26-55), all participants had full-time or part-time jobs, and 9 participants attended college or above. We found that these women utilized multiple coping strategies both within the family and externally. Coping strategies within the family included keeping husbands' HIV diagnosis confidential, integrating husband's HIV treatment management into family routines, restoring spousal relationships, protecting themselves from HIV infection, denying, self-blaming, and persuading the husbands to see the psychiatrist due to homosexual behaviors. Coping strategies outside the family included seeking information from multiple sources, peer support, and online support. Participants expressed needs for more information, psychological support, stigma reduction, and special counseling on how to handle their husband's homosexual identity and/or behavior.

CONCLUSIONS: HIV-negative women married to HIV-positive MSM develop both adaptive and maladaptive coping strategies, and the majority of these women's needs are unmet under the current service system in China. A tailored supporting system is needed by considering their attitude and acceptance towards HIV-positive status and homosexual behavior.

DEVELOPMENT AND POVERTY ALLEVIATION

PED1235

PLACEMENT OF TRANSGENDER YOUTH AS CORPORATE EMPLOYEES: HELP TO MAINSTREAM THE COMMUNITY AND REDUCES THE VULNERABILITIES TO HIV & AIDS

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BACKGROUND: The Indian Supreme Court's NALSA judgement of 2014 recognized the third gender, and recommended for reservations in jobs and education. Despite this, the enrolment by TG youth in educational institutes and jobs remains suboptimal. The literacy rates continue to remain low among TGs, and the community sustains on begging and sex work, which increases their vulnerability towards HIV and other health issues. The Humsafar Trust, conducted sensitization meetings with corporate's in Delhi NCR to highlight the issues of community and facilitate the process of recruitment.

DESCRIPTION: Under the CONNECT project, we conducted meetings with representatives of corporates e.g VLCC beauty & wellness chain, Lemon tree hotels and Publicis Sapient. The various meetings were attended by 40 corporate representatives . They were sensitized on issues faced by the TG community in general and with regard to employment. The support was provided to develop the TG inclusive HR policies, in subsequent meetings. The suitable candidates were referred and recruitment was done.

LESSONS LEARNED: As a success among our referred candidates, 11 Transgender persons were placed in these corporate houses. The CV pool of candidates was developed by Humsafar and accordingly the suitable candidates were referred to the corporate houses. The soft skill training was imparted to the candidates to face the interviews confidently. The challenges are very basic level positions were offered to candidates, in initial phase.

CONCLUSIONS/NEXT STEPS: The engagement and sensitization with corporate houses in long run will help the corporate's to develop TG friendly HR policies and build confidence to hire managerial level staff from Transgender communities. There is need to organize Job conclaves for community persons at larger level. The policy makers should focus on integration of trans youth into the mainstream society and at workplace.

FINANCIAL INCENTIVES, MICRO-FINANCE AND OTHER ECONOMIC APPROACHES

PED1236

EFFECT OF FINANCIAL COMPENSATION ON SAME-DAY ACCEPTANCE OF VMMC IN ZAMBIA; BREAKING IT DOWN BY AGE AND RISK PROFILE

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BACKGROUND: A well-documented barrier to voluntary medical male circumcision (VMMC) is financial loss due to time taken to undergo and recover from VMMC. We explored whether financial compensation would increase VMMC uptake in Zambia in different age groups and risk segments.

DESCRIPTION: We implemented a 2-phased outcome evaluation of an enhanced demand creation strategy and financial compensation to increase VMMC uptake among high-risk men in two districts. Eligible men were aged ≥18 years, uncircumcised, and self-reported ≥1 HIV risk factor in the past 6 months. The study was in 6 sites, and enrolled 6820 men in Phase 1 and 3734 in Phase 2. In Phase 1, we implemented human-centered design-informed interpersonal communication (IPC) and VMMC referral. In Phase 2 financial compensation of 200 ZMW (~US$17) was added. The VMMC same-day conversion rate (% high-risk men circumcised on same day of enrollment) was calculated by phase, risk segment and age group. Analysis was done using the Cochran–Mantel–Haenszel test with Haldane-Anscombe correction.

A behavioral-psychographic segmentation model by IPSOS was used with priority segments based on risk being Knowledgeable hesitants, Self-reliant and, Socially-supported believers.

LESSONS LEARNED: There is increased uptake of same-day circumcision with financial compensation among clients aged 20 and above. In particular, there is a marked increase in uptake for clients aged 25 to 34-years.

Odds ratios for same-day acceptance of VMMC indicate that clients aged 25-29 years are 12.9 times more likely to go for same-day VMMC when financial compensation is offered, with men in high risk segments aged 20-24, 25-29 and 35-39 being 11 to 38 times more likely.

Risk Segment	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50+
All Clients	3.8 (P<.001)	7.7 (P<.001)	11.9 (P<.001)	7.5 (P<.001)	8.3 (P<.001)	26.4 (P<.001)	32.5 (P<.001)	35.6 (P<.001)
Blue (Self-reliant believers /high Risk)	1.6 (P=.43)	1.9 (P<.001)	15.6 (P<.001)	14.2 (P=.001)	13.7 (P=.002)	8.8 (P=.02)	7.8 (P=.12)	.7 (P=.88)
Brown (Traditional believers/high risk)	4.1 (P=.001)	3.5 (P<.001)	5.1 (P<.001)	4.8 (P=.04)	6 (P=.07)	16.3 (P=.002)	3.1 (P=.51)	7.3 (P=.18)
Green (Friends-driven hesitants / Average risk)	3.9 (P=.01)	11 (P<.001)	7.1 (P<.001)	3 (P=.19)	8.4 (P=.10)	1.8 (P=.76)	4.3 (P=.34)	3 (P=.54)
Grey (Indifferent rejecters /low risk)	4.4 (P<.001)	7.3 (P<.001)	6.2 (P<.001)	7.4 (P<.001)	2.4 (P=.39)	28.7 (P=.001)	46 (P<.001)	11.3 (P=.08)
Orange (Knowledgeable hesitants/high Risk)	3.1 (P=.1)	12.8 (P<.001)	38 (P<.001)	11 (P=.007)	10 (P=.07)	1.3 (P=.90)	2 (P=.73)	2.8 (P=.56)
Purple (Scared rejectors /low risk)	17.6 (P<.001)	6.6 (P<.001)	109.6 (P<.001)	35.6 (P<.001)	5.6 (P=.03)	15.2 (P=.03)	6 (P=.27)	21 (P=.02)
Yellow (Socially-supported/high Risk)	2.9 (P=.23)	15.8 (P<.001)	25.5 (P<.001)	8 (P=.03)	8.3 (P=.03)	2.9 (P=.009)	6.7 (P=.23)	4.5 (P=.38)

[Table]

CONCLUSIONS/NEXT STEPS: There is a marked increase in uptake of VMMC. The high likelihood of same-day acceptance of VMMC by men aged above 20 years indicates this is a viable alternative for mop up strategies targeting the priority age groups, high risk men and to meet ambitious coverage targets.

PED1237

INTEGRATING A MULTI-LEVEL ADHERENCE PROGRAM INTO HIV CARE MANAGEMENT: LESSONS LEARNED FROM THE UNDETECTABLES VIRAL SUPPRESSION PROGRAM IN NEW YORK CITY

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BACKGROUND: The Undetectables Viral Load Suppression (VLS) Program is a client-centered model that employs social marketing and a toolkit of evidence-based adherence supports, including collaborative care planning, adherence counseling, and financial incentives (FIs) for VLS. The program aims to improve retention in care and linkage to support services and to increase VLS among vulnerable populations.

DESCRIPTION: The Undetectables was developed and piloted by Housing Works, a NYC-based non-governmental organization, beginning in 2014. The program supports people living with HIV (PLWH) with individual and/or structural barriers to adherence. Clinicians, care managers, and clients collaboratively develop a care plan including strategies from The Undetectables toolkit: case conferencing; Motivational Interviewing-based counseling; adherence support groups; adherence devices; directly observed therapy; and quarterly $100 FIs for lab results showing a viral load <200 copies/mL. The social marketing campaign features superheroes called The Undetectables to engage clients, staff, and the community.

Encouraged by preliminary findings from Housing Works' two-year demonstration project, the New York City Health Department and Housing Works convened stakeholders in mid-2015 to explore program scale-up. In July 2016, over $1.5 million in City-funded contracts were awarded to seven NGOs, community health centers, and hospitals. To date, over 2,700 New Yorkers have been enrolled.

LESSONS LEARNED: As of December 31, 2018, among enrolled clients engaged in care (n=1,870), 87.2% were virally suppressed. Among clients enrolled for the entire 2018 calendar year (n=1,195), 70.4% demonstrated evidence of durable VLS. Based on implementation experience and study of existing research on FIs, recommendations include: identify essential vs. recommended program components; build organization-wide support; leverage existing care management resources; package FIs with other evidence-based strategies; deliver program to individuals with barriers to adherence, including people who have achieved VLS but continue to face barriers; and plan for sustainability.

CONCLUSIONS/NEXT STEPS: Interventions that support durable VLS are needed for individual health, to prevent new HIV infections, and to advance health equity. The Undetectables provides a blueprint for local governments and NGO partners to bring promising interventions to scale.

PED1238

ENHANCING FINANCIAL MANAGEMENT THROUGH COMMUNITY-LED INTERVENTION: A FOCUS ON COMMUNITY ORGANIZATION MANAGED BY FSWS IN INDIA

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BACKGROUND: The majority of female sex workers (FSWs) in India are highly vulnerable in multiple dimensions, which is primarily due to a lack of financial security. This study describes a peer-led community-led intervention on financial management abilities to economically empower FSWs in Andhra Pradesh.

DESCRIPTION: A list of FSWs associated with CO was prepared and screened for consent to participate in the intervention. A total of 218 FSWs gave consent and further divided into 12 groups with 15-20 in each. The leaders from each group received a 3-day classroom training in phase-1 by an external expert. Topics included financial literacy, services from formal financial institutions, loans, business management, networking with stakeholders, risk mitigation, and financial planning. In phase-2, group leaders trained their community members in community settings, which were closely monitored by a subject expert. The entire intervention on financial management delivered in 3 half-day sessions involving both classroom training and participatory approaches. A total of 177 FSWs received in the full intervention in community settings, where FSWs did participate. Lack of time to engage for three days, loss of income and prior commitments were the key reasons cited for non-participation.

LESSONS LEARNED: The evaluation using a quasi-experimental study suggests that there was a gain of eight percentage points (pp) in financial security among FSWs in the intervention area than those in the control area. Further, there was a 27 pp increase in financial autonomy among FSWs in the intervention area as against the control area. Delivery of intervention contents prepared based as per the need of community enhanced their financial capability and confidence in negotiating with clients and other stakeholders. Engaging and community sensitive contents in the training modules along with sensitized trainers make it more acceptable and effective in communicating the messages.

CONCLUSIONS/NEXT STEPS: Financial security and management are critical for a vulnerable population like FSWs. While this intervention clearly demonstrated that short training modules delivered in small sessions can be effective, there needs to be more comprehensive engagement with the communities to address their social, financial and structural vulnerabilities.

PED1239

HEP C TIP: EMPLOYING A COMMUNITY-BASED TREATMENT INCENTIVE PROGRAM TO ENGAGE AND RETAIN VULNERABLE PERSONS IN CURATIVE HEPATITIS C TREATMENT

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BACKGROUND: Social and structural barriers to hepatitis C (HCV) testing, treatment uptake, and cure among marginalized communities include substance use, homelessness, poverty, comorbidities like HIV infection, and complicated insurance protocols. We examine the effectiveness of the Hepatitis C Treatment Incentive Program (TIP) intervention, an 18-month demonstration project at a large U.S. metropolis-based health and social service agency providing primary care (PC) to persons marginalized by experiences of homelessness, behavioral health issues and extreme poverty. TIP's integrated approach includes social marketing, interdisciplinary care planning, care navigation, behavioral health interventions, adherence support groups, and up to five $100 gift card incentives over a one-year period for achieving and maintaining an undetectable HCV RNA viral load (<15 IU/mL). We hypothesized that financial incentives, added to integrated care, can improve HCV identification, treatment engagement and adherence among socially vulnerable persons.

METHODS: We utilized a repeated measures, longitudinal design to compare outcomes for participants in PC during the 18 months pre-TIP implementation (October 1, 2014-March 31, 2016) (n=716) to outcomes for PC participants during the 18-month TIP intervention (April 1, 2016- September 30, 2017) (n=2,870).

RESULTS: Among HCV RNA positive PC clients, 56% were HIV positive; 46% Black; 35% Latinx; 22% cisgender female; and 4% transgender. Compared to non-TIP participants, a significantly higher proportion of TIP participants knew their HCV status (77% vs. 60%, p<0.0001). HCV prevalence was high in both groups: 18% in the intervention, vs 25% in the comparison group, compared to a prevalence of 1.4% in the general population. Among those who knew their status, 43% in the intervention group engaged in treatment, compared to 16% in the comparison group (p<0.0001). Among those engaged in treatment, 90% achieved sustained virologic suppression in the TIP group, compared to 67% in the comparison group (p<0.05).

CONCLUSIONS: The TIP intervention significantly improved HCV outcomes at every point of the treatment cascade among a population with an extremely high prevalence of HCV infection who face multiple barriers to successful HCV care. Our results indicate that an integrative, multidimensional intervention like TIP, implemented in a community-based setting, can improve HCV treatment engagement and outcomes for socially vulnerable communities.

HARM REDUCTION

PED1240

LOW THRESHOLD HARM REDUCTION SERVICES ENGAGE MSM IN DRUG & ALCOHOL TREATMENT

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BACKGROUND: Men who have sex with men (MSM) are more likely than the general population to experience substance use disorder (SUD), which increases HIV/HCV infection risk and leads to poorer HIV medication and PrEP adherence. Yet drug treatment programs--for MSM and others--oftentimes fail to meet the complicated needs of drug users. Most treatment clinics require abstinence, have burdensome enrollment procedures and are expensive--leading to only 1 in 10 people with SUD receiving treatment and a 58% drop-out rate. To engage and retain MSM in substance use treatment, The Stonewall Project (TSP) provides a continuum of harm reduction services that validate the experiences of MSM and provide evidence-based treatment to reduce harms caused by drugs and alcohol.

DESCRIPTION: Founded in 1998 by and for MSM, TSP began as a response to methamphetamine use and HIV transmission in San Francisco, and has expanded to address all forms of substance and alcohol use. Services are free, with many low-threshold access points, including syringe access; an enhanced contingency management program for people using stimulants; brief alcohol counseling; and, walk-in group and individual counseling. In one year, 22% (n=170) of 789 people who used drop-in services entered the formalized "enrolled" program, receiving one-on-one counseling and weekly support groups. Of 237 people who enrolled within the past year, 87% were retained through program "graduation" or left with satisfactory progress.

LESSONS LEARNED: TSP is able to mitigate traditional barriers to care, regardless of substance use status, complexity of client presentation, or ability to pay. Lower-threshold services enable clients to move toward higher levels of engagement, while diminishing risk of HIV/HCV exposure. Best practices include: creating welcoming spaces; providing hospitality and easy-to-eat food; not enforcing rigid group times; supporting harm reduction goals; giving non-judgmental support; allowing programming to evolve to meet clients' changing needs; and, hiring and training staff with diversity of identities and substance use histories.

CONCLUSIONS/NEXT STEPS: By funding and creating lower-threshold services, care providers reduce and sometimes entirely overcome barriers to care that higher-level services demand. A continuum of services allow participants to access services wherever they may be in stages of change.

HIV TESTING (INCLUDING HIV SELF-TESTING)

PED1241

HIV TESTING RECOMMENDATIONS BY BRAZILIAN HEALTHCARE STUDENTS: A CASE VIGNETTES SURVEY

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BACKGROUND: Provider-initiated HIV Testing and Counseling (PITC) is a WHO-recommended strategy to increase testing in vulnerable populations. However, provider's initiative for recommending an HIV test may be inadequate. In this study, we investigated patterns and determinants of HIV testing recommendations by healthcare students from Sao Paulo, Brazil.

METHODS: Willingness to recommend HIV testing was evaluated using 3 case vignettes. 2 vignettes presented patients with the same HIV risk profile but varying by a single characteristic (case 1, high vs. low socio-economic status; case 2, MSM vs. heterosexual), randomly assigned to participants. Case 3, describing a patient with no apparent risk factors, was presented to all participants. We explored patients' and participants' characteristics as potential predictors of willingness to recommend HIV testing.

RESULTS: 300 medical and nursing students completed the survey. Most were female (63%), young (median 21yo), white/caucasian (85%), with heterosexual orientation (82%); 48% declared having a religion.

In case 1 (young, female, university student with tuberculosis symptoms), 62% reported they would likely/very likely recommend HIV testing when the patient lived in a poor neighborhood, whereas 54% would do so when the patient lived in a rich neighborhood (p=0.145).

In case 2 (young, asymptomatic male reporting occasional unprotected sex) 68% reported they would likely/very likely recommend HIV testing when the patient was MSM, whereas 47% would do so when the patient was heterosexual (p<0.001).

In case vignette 3, only 40% (95%CI 35-46%) of the participants declared they would likely/very likely recommend HIV testing for a young, female patient without apparent risk factors.

Self-perceived HIV risk, depicted by moderate/high concern with HIV infection in the past year, was significantly associated with HIV test recommendation in case vignette 3 (p=0.040).

	Group A N=147	Group B N=153	p-value
Case 1 A 25-year-old, female, university student presenting with tuberculosis symptoms	Patient lives in a **poor** neighborhood	Patient lives in a **rich** neighborhood	0.145
Likely/very likely to recommend HIV testing (%)	91 (62)	82 (54)	
Case 2 A 22-year-old asymptomatic male patient with a stable partner and reporting occasional unprotected sex, undergoing routine exams prior to a sabbatical leave	Patient is **homosexual**	Patient is **heterosexual**	**<0.001**
Likely/very likely to recommend HIV testing (%)	100 (68)	72 (47)	
Case 3 A 35-year-old asymptomatic female patient undergoing a routine pap-smear test. She reports having sex with casual partners over the past year, always with condoms.			
Likely/very likely to recommend HIV testing	122 (41; 95% CI 35-46%)		
Students with moderate/high concern with HIV infection (N=84)	42 (50; 95% CI 39-61%)		
Students with no/low concern with HIV infection (N=216)	80 (37; 95% CI 31-44%)		

[Table]

CONCLUSIONS: Our findings suggest that healthcare students' willingness to recommend HIV testing is low and recommendations were more frequent to a hypothetical MSM. Moreover, self-perceived HIV risk was associated with more frequent HIV testing recommendations. Educational strategies should be adopted to increase awareness and PITC.

PED1242

TO TELL OR NOT TO TELL: WILLINGNESS TO DISCLOSE A POSITIVE HIV STATUS AMONG INDIVIDUALS PREPARING FOR HIV TESTING DURING ANTENATAL CARE IN TANZANIA

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BACKGROUND: Status disclosure among people living with HIV can help individuals attain social support, reduce transmission risks, and improve care engagement. This study assessed willingness to disclose a positive HIV status among pregnant women and their partners preparing for HIV testing in two antenatal care (ANC) clinics in Moshi, Tanzania.

METHODS: Participants included pregnant women (n=624) and male partners (n=295) who were attending a first ANC appointment between April and December 2019. Prior to HIV testing, participants completed a survey using audio computer assisted technology. Willingness to disclose a positive HIV status was measured using a four-item scale with questions about hypothetical disclosure to one's inner circle (partner and/or family member) and outer circle (friend and/or neighbor). Univariable and multivariable regression models were used to examine factors impacting willingness to disclose.

RESULTS: Willingness to disclose a positive HIV status was high, with 95% of participants willing to disclose to at least one person. Participants were more willing to disclose to a member of their inner circle (n= 868; 94%) than outer circle (n=468; 51%). Univariable analysis indicated that participants were more willing to disclose if they had higher education, higher socioeconomic status, and more perceived social support. Participants who were younger were more willing to disclose to their inner circle; those who were older and male were more willing to disclose to their outer circle. In the final multivariable model, having higher levels of education (OR=2.033; 95% CI:1.177, 3.513) and higher perceived social support (OR=1.071; 95% CI:1.017, 1.127) were significantly associated with willingness to disclose to one's inner circle. Being older (OR=1.031; 95% CI: 1.007, 1.056), male (B=1.804; 95% CI: 1.321, 2.462) and having higher levels of perceived social support (OR=1.050; 95% 1.022, 1.080) were significantly associated with willingness to disclose to one's outer circle.

CONCLUSIONS: Among participants preparing to take an HIV test, willingness to disclose a positive HIV status was high. Targeting individuals with lower education and less perceived social support can lead to improvements in disclosure. Pre-test counseling can be a period to develop commitment to HIV disclosure in the event of a positive test result.

PED1243

EVALUATION OF THE AWARENESS, KNOWLEDGE AND USE OF HIV SELF TESTING AMONG MEN WHO HAVE SEX WITH MEN IN SOUTHEAST NIGERIA

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BACKGROUND: Despite global actions to end AIDS, gaps in HIV testing persist among minority populations which negatively affect our ability to reach 90-90-90. HIV self testing (HIVST) is an innovation that is intended to reduce gaps in HIV testing and could serve men who have sex with men (MSM) who because of privacy concerns, stigma, discrimination, or other barriers do not use facility-based, standard HIV testing. This study purpose is to understand knowledge, availability and uptake of HIVST, in order to maximize testing and especially the use of self-testing among MSM in Southeastern Nigeria.

METHODS: The study was conducted between March and September 2019 among 400 MSM in the 5 states (Abia, Anambra, Ebonyi, Enugu and Imo State) that makeup Southeastern region of Nigeria. Participants were selected through respondent-driven sampling and were interviewed using a standard questionnaire about knowledge and use of HIVST. Data was analyzed using SPSS 23.0. Descriptive statistics were calculated and presented as frequencies and percentages.

RESULTS: Of 400 study participants, 90% had no idea what HIVST is. Only 10% knew what HIVST is all about. Among these, only 6% have actually seen and used the HIVST Kit while 94% had no idea what it looks like. Also, 30% and 23% got the information about HIVST from friends and local NGOs respectively, whereas the remaining 47% were informed through social media.

In terms of willingness to use HIVST kits, 86% were willing to use this innovation because it is simpler and easier. The remaining 14% wouldn't use it because the test might not show the actual result or they would not be able to manage the test result on their own and would need a counselor to support them during the test.

CONCLUSIONS: MSM communities in southeastern Nigeria are not well informed about HIVST and should therefore be the focus of increased awareness to the minority populations. During the study, participants expressed concerns on the need for support at the time of testing. It is important that HIVST interventions also find ways to provide support to participants who test for HIV given their concerns about learning their results alone.

PED1244

WHY EMERGENCY DEPARTMENT PATIENTS AGED 13 - 24 YEARS DECLINE AVAILABLE HIV TESTS, AND HOW CHANGES TO TESTING PROTOCOLS MAY INCREASE UPTAKE

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BACKGROUND: Youth in the United States face disproportionately high rates of HIV infection, and are far less likely to test for HIV compared to older populations. While federal and some state guidelines

mandate routine HIV testing of patients >= 13 years, many (in particular racial and sexual minority youth) are never offered testing, or are offered tests in ways they overwhelmingly decline. While evaluating a tablet-based intervention designed to increase youth HIV testing, our team interviewed participants about their HIV testing experience in a high-volume New York City emergency department (ED).

METHODS: Research assistants (RAs) enrolled ED patients aged 13 – 24 (N=240), who were randomized to receive HIV test offers via a tablet (n=120) or face-to-face (n=120). RAs conducted semi-structured interviews examining why participants did or did not accept HIV testing when offered. Interviews were audio recorded, then transcribed for later analysis. Two experienced qualitative researchers examined transcripts for themes emerging across interviews.

RESULTS: Approximately 75 percent of participants in both groups declined HIV testing. Interviews analyzed to date show participants declined testing because they: did not want to give blood samples; were ashamed when offered testing in front of other patients; did not want to accept in the company of a parent or guardian. Participants frequently said they would have tested if an oral swab test had been available, if they had been asked in a private space where other patients could not hear the offer or their response, or if they had visited the ED without a parent (in New York State minors can legally test without parental consent).

CONCLUSIONS: Participants expressed clear preferences for how tests are offered (privately as possible), and for particular modes of testing (oral swab rather than blood draw). It may emerge that even slight changes to the way tests are offered (e.g. individually rather than in the presence of others) can increase HIV test rates among highly vulnerable youth populations who frequently do not accept available testing. In settings where private face-to-face test offers are infeasible due to a lack of staff resources, tablet computers can potentially provide increased privacy while also offering HIV prevention education.

PED1245

CLOSING THE GENDER GAP: WHO ARE WE FINDING THROUGH INDEX TESTING IN KENYA?

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BACKGROUND: Identification of HIV-infected persons through HIV testing and counseling services and subsequent linkage to antiretroviral therapy remains a critical step towards achieving HIV epidemic control. While gains have been made, the progress has not been even across subpopulations, with men lagging in knowledge of their HIV status. Index case testing is an efficient case identification approach that follows the chain of HIV transmission to identify HIV-infected individuals across populations. We analyzed HIV testing data from PEPFAR DATIM for the period October 2016-September 2017 (FY 2017) to October 2018-September 2019 (FY 2019) and reviewed impact of index case testing in identifying people living with HIV in Kenya by sex.

METHODS: HIV testing facility-level aggregate data were analyzed, for those aged ≥15 years. We calculated HIV-positive yield from index-testing and other modalities as the number positive/number tested. To compare medians for number of HIV-positive tests and positive diagnoses across reporting period or by sex, we used the Kruskal-Wallis equality-of-populations rank test. To compare positivity by sex and across reporting periods, we used the extended Cochran-Mantel-Haenszel stratified test of association. We standardized identification rates per 100,000 tests.

RESULTS: Among those ≥15-years, the HIV-positive yield for index testing was 11,569 per 100,000 compared to 707 per 100,000 HIV-tests for other modalities. Between FY 2017 to FY 2019, there was an overall increase in the number of tests done through index testing from 119,700 to 215,404, p=0.027. The number of HIV-positive individuals identified through index testing increased significantly from 3,834 to 34,812 in the same period, p<0.001. Standardized HIV-positive yields for index testing were not significantly different by sex; 12,961 for females compared to 10,147 for males per 100,000 index-tests respectively (p=0.326). However, the contribution of index testing to overall positives identified was consistently higher among males than females, p<0.001 (figure).

CONCLUSIONS: We observed increased HIV-positive yield through index testing over time with no differences in proportions identified by sex. There was a higher contribution of index case testing to case identification among males compared to females. Continued scale-up of index-testing provides an opportunity to close the gender gap in case identification to support epidemic control.

PED1246

FACTORS ASSOCIATED WITH LATE PRESENTATION FOR HIV CARE IN UKRAINE, 2010-2018

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BACKGROUND: Late presentation for HIV care is a major issue everywhere across the World. In Europe, almost one-third of individuals infected with HIV do not enter health care until late in the course of their infection. In Ukraine, this proportion is even bigger. It's been increasing in the last 10 years and in 2018 40% of newly diagnosed with HIV had CD4 count <200 cells/mL. Late presentation for care is harmful to the infected person as it's associated with the higher morbidity, mortality and transmission. In this regard, it's critical to identify factors associated with late presentation for HIV care and to include susceptible, but neglected population in the focus of the HIV testing programs. In this study, we conducted an analysis of factors associated with late presentation with the goal to improve HIV screening strategy in Ukraine.

METHODS: For this study we conducted retrospective cohort analysis of 78,679 people registered in HIV care in 12 regions of Ukraine in the period of 2010-2018. Multiple logistic regression was used to identify the impact of the patients' characteristics on late presentation. Additionally, we conducted in-depth interviews with recently diagnosed HIV-positive patients who had CD4<200 cells/mL at the time of diagnosis.

RESULTS: Proportion of late presenters have increased from 31% in 2008 to 41% in 2018. Analysis conducted showed that late presentation was associated with the male gender AOR 1.2(95% CI 1.1-1.4), age 35+ AOR 4.7(95% CI 3.3-6.7), the history of unprotected sex AOR 3.2(95% CI 2.5-3.9) and presence of clinical symptoms of the advanced HIV-infection AOR 4.9(95% CI 3.9-6.1). According to the information obtained through in-depth interviews, late presenters often reported being offered HIV testing late, after already receiving various treatments for their health condition for some time.

CONCLUSIONS: Factors associated with late presentation were age 35+, male gender, unprotected sex. The HIV testing frequently offered late to the people who are likely to be diagnosed and already developed symptoms because they are not considered as key populations. This represents a missed opportunity for HIV diagnosis, highlighting the ongoing need for physician sensitization on HIV testing and education on clinical signs of the disease.

PED1247

IMPROVING UPTAKE OF HIV TESTING SERVICES AMONG SEXUAL PARTNERS OF INDEX CLIENTS THROUGH ASSISTED PARTNER NOTIFICATION: LESSONS FROM BAYLOR-UGANDA COE CLINIC

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BACKGROUND: Assisted Partner Notification (APN) is an effective approach in identification of new HIV positive individuals whose implementation by Baylor-Uganda commenced in May 2018. By August 2018, only 51% of 312 elicited sexual partners to index clients had received HIV Testing Services (HTS). We share lessons from a quality improvement (QI) project to increase the proportion of elicited sexual partners of index clients at the Baylor-Uganda COE clinic who receive HTS from 51% to 90% between September and November 2018.
DESCRIPTION: A Work Improvement Team (WIT) comprising clinic staff and volunteer expert clients was constituted to address the gap. Root cause analysis using brainstorming, affinity diagram and fishbone techniques revealed reliance on self-notification and counsellor workload as hindrances. Changes tested using the Plan-Do-Study-Act cycle included training and mentorship of lay-testers, involvement of all staff in eliciting sexual partners of index clients following a CME on APN, and mostly weekly visits to the community to notify and test partners compared to Facility based. Progress was monitored using a QI journal updated together with the APN register during weekly data review meetings. Any partner who had not received HTS was included in the denominator for the next month.
LESSONS LEARNED: Between May and August 2018 we elicited 312 sexual partners, 37% being female while between September and November 2018, we elicited 381 of sexual partners, 33% were female and median age was 29 years (IQR: 25-36). All Partner HTS services were 100% in the community. The proportion of sexual partners tested increased from 51% (158/312) between May and August to 90% (381/423) between September and November 2018 (difference=39% (95% CI: 32.8-45.2) p-value <0.001.
CONCLUSIONS/NEXT STEPS: Engaging trained lay-testers, active community-based APN with partner HTS and weekly APN data audits dramatically improved partner HTS. Challenges of access were met with partners outside the catchment area of the Clinic. There is need to explore ways of accessing elicited sexual partners outside the clinic catchment area.

PED1248

IMPROVING ACCESS TO HIV TESTING AND TREATMENT SERVICES FOR MEN IN SOUTH AFRICA: A QUALITATIVE EVALUATION

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BACKGROUND: Data indicate that men in South Africa are less likely than women to test for HIV, have an increased likelihood of delaying and interrupting treatment. To improve testing and treatment initiation in men, the Score4Life project was developed in Johannesburg, an urban South African district. The project clinics/stores offer HIV testing and treatment initiation services to men 21 years and older. These pop-up clinics/stores combine several features to increase service uptake: extended working hours, quick service, male-only waiting areas, convenient locations where men gather (malls, taxi ranks) and an appealing and welcoming store design. This qualitative evaluation aimed to explore men's perceptions of the services and understand how the features of the service impacted on their access to HIV testing and treatment.
METHODS: A qualitative design was adopted to gather rich and in-depth information on the facilitators and barriers affecting men's access to HIV testing and treatment services. We conveniently selected 30 first and repeat service users at four Score4Life clinics/stores spread across Johannesburg. In-depth interviews were conducted using a semi-structured interview guide. NVivo12 software was used to code and categorize data and identify themes. The Socio-Ecological Model and the McIntyre access to health care framework were used to guide data analysis.
RESULTS: Participants were similar demographically: majority were single, unemployed and had matriculated. Participants preferred Score4Life clinics/stores compared to public clinics. Flexible working hours, convenient locations, quick service and positive staff attitudes were found to be key facilitators in men accessing HIV testing and treatment services. Fear, mistrust of service providers and perceived personal risks were cited as key barriers. 'Significant others' (sexual partners, family and friends) had an influential role on men's health outcomes. Gender of the service provider was perceived to be inconsequential to service provision.
CONCLUSIONS: Male focused services should increase the flexibility and options for accessing health services: flexible working hours, "one-stop services", co-location with other services and offering services in non-typical settings (workplaces, sports settings, malls), positive staff attitudes, and providing quick service. The supportive role of significant others to men's health should be harnessed through scaling-up partner notification and testing services.

PED1249

MOTIVATORS AND BARRIERS TOWARD HIV SELF-TESTING AMONG MEN WHO HAVE SEX WITH MEN IN TWO INDIAN CITIES

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BACKGROUND: HIV self-testing (HIVST) is rapidly gaining prominence for facilitating HIV testing uptake among hard-to-reach communities. Despite recent decriminalization of consensual same-sex relations in India, stigma and lack of social acceptance invisibilizes men who have sex with men (MSM). As a step toward achieving 90-90-90, multiple strategies are needed to bolster HIV testing and linkage to treatment–care services, particularly among MSM, beyond the hotspot-based HIV interventions. This qualitative study thus explored motivators and barriers of HIVST among MSM in two cities (Mumbai and Vijaywada) in India.

METHODS: Eight focus group discussions (FGD), eight in-depth interviews (IDI) and eight key informant interviews (KIIs) were conducted in Hindi/English by trained interviewers, translated/transcribed, and thematically analyzed. FGDs and IDIs were conducted with kothi-, gay-, bisexual-, and versatile-identified MSM while KIIs were conducted with healthcare providers, HIV intervention agencies, and community leaders. All participants provided informed consent, and FGD/IDI participants were compensated INR 500. The study was approved by IRBs of all participating institutions.

RESULTS: The mean age of FGD participants (N=54) was 29.1 years; 41% had college education, with none reporting illiteracy, and 67% were single. In Mumbai, 43% (n=28) reported engagement in part-/full-time sex work. Mean age of IDIs participants (n=8) was 32.7. Two FGD and one IDI participants had prior HIVST awareness. Following motivators were reported: confidentiality; saving time; and convenience. Willingness for HIVST was influenced by several disadvantages of facility-based testing centers: travel costs, longer waiting time, inconvenient operating hours, fear of confidentiality breaches, and hesitation to provide address proof. Following barriers were reported: concerns about HIVST accuracy; lack of pre-/post-test counseling (expressed strongly by Vijaywada participants); and possible outing to family (kit disposal-related concerns). Participants from Mumbai were more willing to access HIVST from online platforms and to pay more (INR 100–200 vs. INR 20–150) for HIVST.

CONCLUSIONS: Overall, MSM reported HIVST as highly acceptable as participants perceived HIVST to offer greater convenience and confidentiality. HIVST can be recommended for Indian MSM with a focus on hard-to-reach MSM such as those on online spaces. Further research is recommended to examine service-delivery models for understanding HIVST uptake among these MSM.

PED1250

MEN'S PERSPECTIVES ON HIV SELF-TESTING STRATEGIES IN UGANDA: A QUALITATIVE STUDY

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BACKGROUND: Men in Africa are less likely than women to test for HIV. HIV self-testing (HIVST) is a convenient and discrete alternative to facility-based HIV testing services (HTS) and could increase testing uptake and knowledge of HIV status among men. The Uganda Ministry of Health is scaling-up delivery of HIVST kits, including secondary distribution from pregnant women to their male partners. Assessing male perspectives on HIVST delivery strategies is critical to designing interventions to optimize uptake.

METHODS: We conducted seven focus group discussions with 45 men whose pregnant female partners were attending antenatal clinics in Kampala, Uganda, to understand men's perspectives on HIVST. Transcripts were transcribed and translated from Luganda to English and analyzed thematically by two coders using NVIVO software.

RESULTS: Men discussed several benefits of HIVST, including increased self-efficacy, time-efficiency and privacy of HIVST compared to HTS, and appeal of oral tests over blood tests. Men reported that HIVST kits allow testing of their non-regular partners before sex. However, they had strong concerns about the absence of counseling ("If you test positive, alone, you will kill yourself") and mistrust about the test's accuracy.

Fears about the impact on their relationship posed barriers if they tested HIV-positive or learned they were in a HIV serodiscordant partnership, leading to blame, accusations of infidelity, or abandonment. Men felt strongly that it is the responsibility of healthcare workers (HCWs) to counsel them about use of HIVST and expressed lack of confidence in their partner's knowledge.

Discussions highlighted prominent gender roles, testing barriers unique to men in this context, and men's strong desire to have a male HCW provide phone counseling with HIVST use and clinic follow-up for confirmatory testing. Men stressed the importance of community sensitization to educate them about the benefits of HIVST, to counteract men's distrust of the test, and distrust of their female partners who deliver the test to them.

CONCLUSIONS: Men expressed high interest in HIVST. Interventions will need to address men's concerns about counseling and HIVST accuracy. Community sensitization and male HCWs can increase men's HIVST uptake and clinic linkage.

PED1251

REASONS FOR SUBOPTIMAL HIV TESTING AMONG YOUNG ADULTS IN THE UNITED STATES: NATIONAL SURVEY OF FAMILY GROWTH, 2015-2017

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BACKGROUND: About 50,900 young adults (15-24 years) are estimated to be living with HIV in the U.S. However, approximately 44% have not been diagnosed. In this study, we examined the main reasons why young adults do not test for HIV in the U.S, and the variation by sociodemographic characteristics and HIV-related risk behaviors.

METHODS: The study used the 2015-2017 National Survey of Family Growth (NSFG). In the nationally-representative survey, participants were asked if they had ever been tested for HIV, and those who had not were asked to identify the main reason why.

We categorized the main reasons into three groups:

(i) Health system-related (never been offered an HIV test and no health insurance coverage),

(ii) Low risk perception (unlikely to be exposed, partner tested negative, and never had sex), and;

(iii) Fear or others (worried about what other people will think, afraid of positive result, don't like needles, tested as part of blood donation, and other reasons).

We performed multivariate multinomial logistic regression with "fear or others" as the reference group. The independent factors included: sex, education, race/ethnicity, poverty level, place of residence, and HIV-related risk behavior. Data analyses were performed using the procedures for complex survey.

RESULTS: Approximately 71.5%(95%CI=68.4-74.7) had never been tested for HIV. Low risk perception accounted for 68.3%(95%CI=65.0-71.5) of the main reasons for never testing for HIV, while health system-related and social or other reasons constituted 26.9%(95%CI=23.6-30.3) and 4.9%(95%CI=3.4-6.1), respectively. Respondents with high school degree had lower odds of indicating low risk perception as the main reason for not testing for HIV (aOR=0.4,95%CI=0.2-0.9). Those with household income of 300% or more of the federal poverty level had higher odds of reporting low risk perception (aOR=3.3,95%CI=1.5-7.0) and access-related reasons (aOR=2.6,95%CI=1.1-5.8). Respondents with low risk behaviors had higher odds of indicating low risk perception (aOR=2.6,95%CI=1.2-6.0).

CONCLUSIONS: Low risk perception accounts for the majority of the reasons for suboptimal HIV testing among young adults in the U.S. Providing health education on the importance of HIV testing and offering HIV testing to young adults regardless of their sociodemographic characteristics and perceived risk may improve its coverage among them.

PED1252

HIV SELF-TESTING IN CAMBODIA INCREASES TESTING RATES AMONG KEY POPULATIONS

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BACKGROUND: In Cambodia by the end of 2018, 83% of the people living with HIV knew their status; 97% of those diagnosed were on antiretroviral therapy (ART); and 81% of those were virally suppressed. HIV prevalence among key populations (KPs), however, remains high and uptake of HIV testing is low. In 2019, the national program reported that 33% of men who have sex with men (MSM) and female entertainment workers (FEWs) had never tested, and more than 50% of trans women had not tested in the past 6 months. HIV self-testing (HIVST) was piloted in Cambodia December 2018 – September 2109 in an attempt to improve KP HIV testing rates

METHODS: MSM, FEW, and trans women who declined field-based testing at CBOs or clinic referrals for testing were offered HIVST either by face-to-face (FTF) or online outreach. Eligible clients, after risk assessment, chose assisted or unassisted oral fluid or blood-based testing. Kits were given to clients directly or delivered to or picked up by clients.

Test results were reported online. Clients with reactive results were referred for confirmatory testing and ART initiation. Data were collected from 17 December 2018 to 30 September 2019.

RESULTS: The pilot enrolled 1,235 participants (Figure 1). Most (1,208 or 98%) were enrolled FTF, and of these 1,191 (99%) chose assisted HIVST and 17 (1%) unassisted. Of the 27 participants enrolled online, 22 received an HIVST kit and 7 uploaded their results on the website. Seventy-two percent of participants said they had never previously tested for HIV. Seropositivity was 7.9% of MSM; 10.7% of trans women; and 2.5% of FEWs. Participants with reactive HIVST results had confirmatory testing and initiated ART. A young trans woman attempted suicide after a reactive result from unassisted self-testing but was unharmed. She received a positive confirmatory test and initiated ART.

CONCLUSIONS: HIVST empowers individuals to test even in FTF settings, can reach hidden high-risk populations who have never or infrequently tested, and can achieve high case finding. Online approaches should be simple yet provide complete information on post-test services including online counseling and free ART

PED1253

FROM A DEMONSTRATION STUDY TO NATIONAL ROLLOUT: HIV SELF-TESTING IN NEPAL

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BACKGROUND: An estimated one in four people living with HIV (PLHIV) globally—and nearly one in three in Nepal—are unaware of their HIV status despite the rapid expansion of standard community- and facility-based HIV testing services. In 2018 HIV case-detection rates

per individual tested were 0.63% nationally. More innovative and impactful HIV testing approaches are needed to close outstanding gaps in HIV diagnosis and treatment.

DESCRIPTION: The USAID- and PEPFAR-supported LINKAGES project collaborated with the Nepal national HIV program and the key population (KP) community to apply the findings of an HIV self-testing (HIVST) demonstration study to accelerate adoption of national policies supporting HIVST and national scale-up. The study, conducted from June to September 2018, enrolled men who have sex with men (MSM), male sex workers (MSWs), and transgender (TG) people—a total of 440 of whom (91%) accepted and participated in HIVST. Among participants, 12 (3%) received reactive results and subsequently received a confirmatory HIV diagnosis through testing in accordance with the national algorithm. Qualitative study findings supported the feasibility and acceptability of HIVST implementation. The study engaged KP community, relevant stakeholders throughout the process of study design, implementation, monitoring and dissemination.

HIVST is now included in national guidelines as an option for HIV screening. Training for lay providers started with three districts to initiate HIVST and will be rolled out in other districts. From August 27 to December 31, 2019, a total of 394 people accepted HIVST and tested as part of routine programming. Of those, 43 people (11%) had reactive results, received confirmatory HIV diagnosis, and were linked to treatment.

LESSONS LEARNED: Continuously seeking and engaging the guidance and participation of a wide range of community, clinical, and policy-level stakeholders may help to accelerate the adoption of evidence-based innovations necessary to fast-track an end to the HIV epidemic.

CONCLUSIONS/NEXT STEPS: The LINKAGES project will support the continued expansion of HIVST across all of the 15 high-HIV burden districts in Nepal, offering individuals a wider range of safe and attractive options to access HIV testing services, and assisting the national program in the achievement of its goals for HIV epidemic control.

PED1254

FAST TRACKING THE FIRST 95 THROUGH FOCUSED TESTING

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BACKGROUND: In India the access to HIV testing has greatly increased over the past decade due to the scale up of community based rapid testing programs. However, many people at-risk still do not test for HIV. There is now a growing awareness that innovative approaches are needed to increase the numbers of people testing for HIV, particularly in areas where HIV prevalence is high. Programs often test the people who are at risk and do thorough follow up with the HIV positive cases. However, the programs seldom follow-up on people who are in window period.

DESCRIPTION: AHF India Cares through its CSO partners implementing HIV Rapid testing programs populated a list people with contact numbers who are suspected being in the window period. As a result of the analysis of the program data for 2017 and 2018 it was found that this group had higher positivity rates (1.4%) than first time testers (0.8%). In 2019, a focussed intervention was planned to ensure all people in the window period were tested. For the same a refresher training was held for all partners stressing on quality counselling and reporting.

LESSONS LEARNED: In 2019, the second time testers who were in the window period were 13,186 and 348 people were identified with sero-positivity 2.64%. The sero-positivity is nearly 8 times the current national prevalence of 0.22%. They were then counselled to mobilise their partners for testing. Those who are found reactive were referred for a confirmatory test to the nearest HIV testing centre and were linked to the ART Centre for treatment.

This approach has helped in:

1) focussed testing delivering greater yield,

2) return on investment is greater,

3) focussed mobilisation of communities save time, energy and effort.

CONCLUSIONS/NEXT STEPS: Efforts to find the remaining undiagnosed people with HIV will require specific efforts and innovative strategies. This effort to track and follow up people in the window period and further mobilising their partners is an effective strategy. Programs that are fast tracking the last mile need to rely on comprehensive strategies where counselling plays a critical role in social and biomedical response to HIV.

PED1255

CHALLENGES OF HIV SELF-TESTS DISTRIBUTION FOR INDEX TESTING IN A CONTEXT WHERE HIV STATUS DISCLOSURE IS LOW: PRELIMINARY EXPERIENCE OF THE ATLAS PROJECT IN BAMAKO, MALI

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BACKGROUND: In Côte d'Ivoire, Mali and Senegal, ATLAS project has introduced HIV self-testing (HIVST) as an index testing strategy, distributing HIVST kits to people living with HIV (PLHIV) during consultations for secondary distribution to their partners. Here, we present preliminary results of an ethnographic survey conducted in one HIV clinic in Bamako, Mali, where most HIV patients have not disclosed their HIV status to their partner(s), notably for women for fear of jeopardizing their relationships. In such a context, how non-disclosure affect the distribution of HIVST kits?

METHODS: The study was conducted from September 25 to November 27, 2019, and included individual interviews with 8 health workers; 591 observations of medical consultations; and 7 observations of patient groups discussions led by peer educators.

RESULTS: Three principal barriers to HIVST distribution for index testing were identified. (1) Reluctance of PLHIV to offer HIVST to partners to whom they have not (yet) disclosed their status and desire to learn tactics for offering testing without disclosing their HIV status. (2) Near-universal hesitancy among health workers to offer HIVST to persons who, they believe, have not disclosed their HIV status to

their partner(s). (3) Absence of strategies, among health workers, to support discussion of status disclosure with PLHIV. In the rare cases where HIVST was offered to a PLHIV whose partner did not know their status, either the PLHIV declined the offer or the provider left it to the patient to find a way to deliver the HIVST without disclosing his/her status.

CONCLUSIONS: HIV self-testing distribution could serve as an opportunity for PLHIV to disclose their HIV status to partners. The continuing reluctance of PLHIV to heed advice to share their status and promote secondary HIV self-testing distribution highlights the structural factors (social inequalities and stigma) that limit awareness of HIV status and that favour the persistence of the epidemic.

PED1256

REACHING CHILDREN AND ADOLESCENTS THROUGH TARGETED COMMUNITY TESTING IN RURAL KWAZULU NATAL

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BACKGROUND: South Africa has made considerable progress in the implementation of HIV testing programmes, thereby making progress in reaching the case finding (HIV positive identification) target of the UNAIDS 95-95-95 targets. Nonetheless, there are still gaps in finding HIV positive children and adolescents. In order to reach more of this population efforts need to be made to improve the HIV testing approach ensuring that more children and adolescents who do not know their status are diagnosed and linked to care. This analysis seeks to explore the high yielding community testing strategies in reaching children and adolescents.

DESCRIPTION: Through the implementation of a community HIV testing programme targeted at children and adolescents between the ages of 2 and 19 years in a predominantly rural community of KwaZulu Natal, data was collected over a period of 12 months (Oct 2018 to Sep 2019). The HIV testing strategies employed were recorded for the different sites. The strategies used included index testing, mobile points testing, OVC and community hotspot testing.

LESSONS LEARNED: Reaching children and adolescents in rural communities required intensified efforts in the adoption of the testing strategies. Over the 12 month period, 3406 children and adolescents were tested and 251 tested HIV positive which gave an overall yield of 7.4%. A closer look on the testing strategies showed greater yields through mobile point testing with 208 new HIV positive children and adolescents identified out of the 2726 that were tested and this gave the highest testing yield of 7.6% compared to other strategies. Furthermore, this strategy represented 83% of all new HIV positive children and adolescents identified in this period. The remainder was identified through other modalities which included index testing, community hotspot testing and the testing of orphans and vulnerable children (OVC).

CONCLUSIONS/NEXT STEPS: The success of reaching children and adolescents in rural communities lies on increasing accessibility by taking services to the community. A number of rural communities do not have fixed health facilities which makes it even more difficult for people to access services. The mobile point testing strategy has the potential to improve case finding of children and adolescents in rural communities.

PED1257

ACCEPTABILITY AND PREFERENCE OF A BLOOD-BASED AND ORAL-FLUID HIV SELF-TEST IN GUATEMALA AND EL SALVADOR

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BACKGROUND: The HIV epidemic in Central America is concentrated in vulnerable populations, such as men who have sex with men (MSM) and transgender women (TGW). HIV self-testing (HIVST) has been proposed to increase the uptake of HIV testing but has yet to be incorporated to national policy or made available on the market. In 2019, PASMO assessed the acceptability of a blood-based (BB) (INSTI, Biolyticals) and an oral-fluid (OF) HIVST kit (OraQuick, OraSure), and identified preference for both tests among MSM, TGW and heterosexual men.

METHODS: A convenience sample of individuals in Guatemala and El Salvador who reported being HIV-negative or with unknown status was recruited through Facebook and asked to attend the local PASMO office. In the presence of an observer, each participant self-administered both tests consecutively (random order) following the manufacturer´s instructions. User errors, constructs of acceptability (e.g., perceived effectiveness, affective attitude, self-efficacy), willingness to pay, and testing preference were assessed through a structured observation questionnaire and a quantitative survey.

RESULTS: Forty-one individuals (63.4% MSM, 17.1% TGW, 19.5% men), ages 21-44, were enrolled. During the OF HIVST, most participants conducted all steps appropriately without assistance, except for swabbing along the gums (56.1% did it correctly). More than half (60.0%) considered this test capable of detecting HIV, 95.0% felt comfortable performing the test, 100.0% considered it easy to conduct, and 92.5% felt capable of conducting it again. Participants had greater difficulty during the BB HIVST, particularly with the use of the lancet and placement of the drop of blood in Bottle 1 (70.7% and 39.0% did it correctly, respectively). All respondents considered this test capable of detecting HIV, 92.5% felt comfortable using it, 82.5% considered it easy to conduct, and 100.0% felt capable of conducting it again. Most participants (87.5%) preferred the BB HIVST and were willing to pay more for it (13.84 USD) than the OF HIVST (10.13 USD).

CONCLUSIONS: Both BB and OF HIVST were considered acceptable. BB performance had more user errors; however, acceptability and preference were stronger. These findings can guide the development of instructional resources, introduction and scaling-up of HIVST in Guatemala and El Salvador.

PED1258

THE REALITY OF INDEX TESTING IN THE COMMUNITY: NAVIGATING INDEX TESTING CHALLENGES IN A RURAL COMMUNITY OF KWAZULU NATAL, SOUTH AFRICA

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BACKGROUND: With the shift towards targeted approaches of finding new HIV positive individuals in an attempt to reach the UNAIDS 95-95-95 targets of case finding, ART initiation and retention in care, index testing that prioritises offering HIV testing to the children and sexual partners of HIV positive individuals has increased, with few

guidelines on sensitivity or how to manage confidentiality. This approach has been proved to be effective in finding new HIV positive cases, however, beyond its success in improving case finding, index testing is associated with a range of challenges, such as increasing stigma when testing is offered to specific individuals considered to be at high risk, it is also criticised for undermining the confidentiality of the partners linked to the index cases as well as increasing incidences of intimate partner violence.

DESCRIPTION: An index testing programme was implemented in a predominantly rural community of KwaZulu Natal. HIV positive clients (referred to as cases) were requested to disclose the names of their sexual partners (referred to as contacts) in the past 12 months and home-visits were conducted to offer testing. The cases were not mentioned to the contacts, all contacts were offered HIV testing which was also extended to other individuals in the household and/or the neighbourhood.

LESSONS LEARNED: Maintaining the anonymity of the index cases during the home-visits ensured that they were protected from any form of violence that might arise as a consequence of disclosing the contacts' details. Further to this was avoiding disclosure of HIV status on behalf of a case. While indexing as prescribed requires finding the identified contact, in the community it was necessary to test others in the neighbourhood in order to diffuse stigma. Proper recording to separate the index contacts from other tested individuals was key to ensure accurate reporting.

CONCLUSIONS/NEXT STEPS: While index testing is evidently yielding great results in identifying new HIV positives, there is great need to manage the unintended consequences of this testing approach. Therefore great sensitivity is needed in managing the potential challenges that may arise from index testing protecting both the case and the contact.

PED1259

OPTIMIZING HIV CASE FINDING THROUGH INDEX TESTING

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BACKGROUND: Ukraine has adopted the UNAIDS 90-90-90 Fast-Track targets as part of the National Strategic Plan for reducing the HIV epidemic by 2020. However, almost half of the estimated number of people living with HIV are not aware of their status. In order to achieve the first 90, the HealthLink project piloted index testing (IT) approach in the 12 PEPFAR priority regions starting from March 2018.

DESCRIPTION: HIV-service providers, both medical staff and social workers were trained on the index testing approach, motivational interviewing, stigma and discrimination issues, and HIV testing. Facility- and community-based index testing strategy is focused on biological children, sexual and needle-sharing partners of newly detected HIV-positive person involvement in testing and treatment.

The project developed standard operating procedures for 460 project health care facilities, as well as the data-collection and partner notification tools for use by providers during counseling of HIV index clients and meeting their partners. 5599 HIV-infected clients, newly detected within the PITC and community-based testing model, were screened and out of them, 88% reported untested sexual or needle-sharing partners. Among the exposed contacts of HIV-positive persons, 12195 clients were tested, out of them – 1222 received positive results.

[Figure]

LESSONS LEARNED: Index testing model showed the highest testing yield (10%) in comparison with other project modalities (PITC – 2.2%, community – 3%). Since the sexual transmitting of HIV has been driving the epidemic in Ukraine, the IT model is the most effective HIV-case finding strategy.

CONCLUSIONS/NEXT STEPS:

- IT model needs to be further expanded to more facilities.
- Talking points and scripts for IT services are obligatory for usage by any provider within HIV testing and treatment.
- IT model should be optimized through the enhanced management of testing sites.
- For the IT model strengthening and index partners' involvement, targeted informational materials should be developed and disseminated to all testing points.

INTERVENTIONS TO REDUCE STIGMA AND DISCRIMINATION

PED1260

PSYCHOLOGICAL AND STIGMA PROFILES OF HIV PATIENTS IN A NORTH-CENTRAL CITY OF NIGERIA

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BACKGROUND: The World Health Organization defines health as a state of complete physical, mental, and social well-being and not merely the absence of infirmity and disease. Researchers and clinicians have focused on health outcomes that are physically or laboratory measured such as symptoms, viral load and efficacy of treatment. Biomedical measures, however, do not reflect how the affected individual feels and functions in daily life. This study therefore, assessed the psychological and stigma profiles of these patients which in essence defined the individual's self-evaluation of their well-being.

METHODS: The study was a descriptive cross sectional study of 384 HIV positive patients who were systematically recruited at 5 public service delivery sites in Ilorin- a North-central State, Nigeria. Data was analyzed using SPSS software version 23.0. Level of significance was pre-determined at p-value < 0.05 at a confidence level of 95%.

RESULTS: Female respondents constituted 222 (58.0%) while males were 162(42.0%). Respondents experienced varying proportions of psychological characteristics. As many as 228 (59.4%) reported being anxious about their condition, 98 (25.5%) feel depressed, 134 (34.5%) experienced rejection, 163 (41.4%) reported self-criticism/ poor sleep. Over two-thirds 258 (67.2%) of the respondents expressed strong concern regarding disclosure, about three-quarters 298 (77.6%) of them reported poor social relationship compared to 86 (22.4%) that reported good social relationship, while up to 155 (40.4%) reported poor self-acceptance of their health condition.

Variables	Frequency N=384	%
Anxiety	228	59.4
Depression	98	25.5
Feel rejected	134	34.9
Self-criticism/ poor sleep	163	41.4

[Table 1: Psychological characteristics of respondents.]

Multiple responses:

Domains	Poor (%)	Good (%)
Stereotype	101 (26.3)	283 (73.7)
Disclosure concern	126 (32.8)	258 (67.2)
Social relationship	298 (77.6)	86 (22.4)
Acceptance	155 (40.4)	229 (59.6)

[Table 2: Reported level of stigma experienced by respondents (N=384).]

CONCLUSIONS: Continued efforts should be sustained to further improve on the well-being of people living with HIV (PLHIV) such as campaign against stigmatization as well as enactment of laws against stigmatization.

PED1261

ASSESSING THE IMPACT OF SCHOOL-BASED INNOVATIVE INTERVENTION PROGRAM IN COMBATING HIV STIGMA AND DISCRIMINATION AMONG ADOLESCENT FEMALE STUDENTS

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BACKGROUND: HIV stigma and discrimination can pose complex barriers to prevention, testing, treatment and support for people living with or at risk of HIV, their resilience and reintegration. The study aims to assess the impact of innovative stigma-reduction intervention program on reducing HIV stigma and discrimination among adolescent female students.

METHODS: 1000 student girls were enrolled from randomly selected 20 secondary girl schools in Alexandria – 50 per school. Based on identified gaps, Misconceptions and barriers fuel HIV stigma from focus group discussion with a sample of enrolled students, an HIV-stigma-reduction program was developed and implemented using a combination of innovative interactive multi-approaches, including; school wall magazines, local cast, debates and funfairs. Anti-stigma team „AST" was established from among student cadres in each school. The program was assessed at the 20 schools among the enrolled students, using a comprehensive pretested self-administered questionnaire in a pre /post and post-post tests. Data entered into computer, processed and analyzed, using SPSS.

RESULTS: The mean age of enrolled students was 15.7 ± 0.60. Four-fifth (84.7%) ranked their knowledge as very little. half (52.6%) had misconception regarding modes of HIV transmission. Their base-line mean knowledge score was one-third of the high (11.0 ±5.7 of 30 – 35.5%). Three-quarter (77.5%) considered HIV a „shameful" disease, and (77.8%) had conservation to deal with persons living with HIV „PLWH". three quarter (71.7%) scared from being infected through daily activity with PLWH. Half (52.6%) had blame towards them and (50.9%) wanted to isolate them. The overall mean attitude score was (5.9± 2.1 of 18 - 32.9%). Post intervention, significant changes were observed in HIV transmission knowledge score (27.5±4.8 of 30 – 91.6%) with improvement in attitude score (14.8±2.1 of 18 – 79.4%). In testing for sustainability, both; knowledge and attitude scores declined (23.8±5.1 of 30 – 79.3%) and (10.7±2.4 of 18 – 59.4%) consecutively, but both remained above the base line.

CONCLUSIONS: Misconceptions about HIV continue to drive stigma and discrimination. Combination of innovative interactive multi-approaches proved to be effective in shifting adolescent female students' level of HIV stigma and alleviating attitudinal barriers. Boosters are recommended to sustain the gain in attitude.

PED1262

HIV/AIDS-RELATED STIGMA AND DISCRIMINATION IN GAZA-STRIP (OF PALESTINE): HEALTH STAFF ATTITUDES AND PERCEPTIONS CHANGE AFTER 3 YEARS OF ACTIVE INTERVENTION

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BACKGROUND: Substance Abuse Research Centre (SARC) in Palestine was the winner of the Red Ribbon Award 2010 (UNAIDS and UNDP),. The stigma of HIV/AIDS remains a major barrier to achieve active treatment and harm reduction. The stigma was also spreading among health professionals. We carried an active program to change their attitude and reduce their stigmatizing behavior towards HIV/AIDS patients. This paper reports our intervention and its results.

METHODS: The intervention with the medical professionals continued for 3 years with the participation of an HIV positive trainer member. A pre and post-test was carried, and after another two years, we carried this. a cross-sectional survey among doctors, nurses, and social workers, n = 615. Participants were interviewed using a questionnaire including questions on demographic characteristics, knowledge of HIV/AIDS infection, prevention and harm reduction, Stigma and discriminating behaviors. The results were analyzed by the SPSS statistical package.

RESULTS: The results compare this study and the pre-test. 95% compared to (82%) have knowledge of HIV/AIDS and of harm reduction. 42% (compared to 11%) agreed to shake-hand a positive HIV case. 34% (compared to 21%) agreed to work with HIV+ cases. 26% (compared to 18%) agreed to have a social relationship with HIV+ cases as visiting and have a company socially. 20% (compared ton18%) agreed to share swimming, using the same bathroom, and sporting together. 38% (compared to 23%) agreed to have a marriage with brothers or sisters of HIV+ cases.

CONCLUSIONS: The study revealed effective intervention and improved situation among the medical professionals, but still need more active intervention to fight the stigma and related behaviors among medical professionals to help for better control of HIV/AIDS. It is recommended to continue the intervention with the participation of active and/or HIV positive members

PED1263

COMMUNITY HEALTH WORKERS' EMPATHY AND NEGATIVE ATTITUDE TOWARD PEOPLE WHO USE DRUGS IN VIETNAM

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BACKGROUND: Community health workers (CHW) serve as a critical bridge between people who use drugs (PWUD) and their needed healthcare services in the community. This study aims to investigate CHW's negative attitude towards PWUD, empathy, and associated factors.

METHODS: We used data from a cross-sectional assessment of 300 CHW in 60 communities in Vietnam. The assessment was administered using the computer-assisted self-interview method. CHW's levels of negative attitude towards PWUD and empathy were measured by multi-item scales. Participant characteristics such as gender, age, job position, education, working experience, and perceived occupational risk were included. Multilevel regression analyses were performed to explore the relationship among CHW's negative attitude, empathy, and background characteristics.

RESULTS: Of all participants, 75.7% were female, and 16.7% were doctors. The average age was 39.3 (SD 10.3) years. More than half (55.7%) have worked in the medical field for more than 10 years. After controlling for other covariates, CHW's empathy was associated with their negative attitude towards PWUD (β = -0.078, 95% CL: -0.144; -0.011). Higher perceived occupational risk was associated with a lower level of empathy (β = -0.639, 95% CL: -0.850; -0.429) and a higher level of negative attitude (β = 0.223, 95% CL: 0.103; 0.350). Other characteristics, including gender, job position, monthly contact with PWUD, years of education and in the medical field, were not associated with either empathy or negative attitude towards PWUD.

CONCLUSIONS: Our findings suggest that training on medical safety in community health settings could be a useful strategy to improve the provider's empathy and reduce their negative attitude towards PWUD. Promoting occupational safety in healthcare settings should be included in future stigma reduction intervention programs.

PED1264

REDUCING HIV-RELATED STIGMA AND DISCRIMINATION IN HEALTHCARE SETTINGS IN VIETNAM

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BACKGROUND: HIV-related stigma and discrimination (S&D) are major barriers to achieving 90-90-90 in Vietnam. Decreasing S&D at healthcare settings is a critical component of the HIV response.

METHODS: We surveyed healthcare workers (HCWs) and patients living with HIV (PLHIV) before and after a 9-month intervention to reduce HIV-related S&D at 10 facilities across 3 provinces in Vietnam (from 8/2018 to 6/2019). Interventions included HCW training, policy development, facility collaboration with clients, communication materials, and targeted quality improvement projects. HCWs completed self-administered questionnaires covering 5 domains (fear of infection, use of unnecessary precautions, observed discrimination, attitude towards PLHIV, and attitude toward co-workers with HIV). PLHIV were interviewed by trained peers using a structured questionnaire covering 4 domains (experienced discrimination, self-stigma, disclosure of HIV status, reproductive health). McNemar's test was used to analyze differences in paired proportions among HCWs and Chi-square test was used to analyze differences in proportions among PLHIV before and after the intervention.

RESULTS: Of 672 HCWs who completed baseline and post-intervention questionnaires, 75% were female and mean age was 35. Participants were physicians (20%), nurses (57%), other staff (23%) and 66% reported caring for or interacting with PLHIV. 649 and 652 PLHIVs were interviewed at baseline and post-intervention respectively. Mean age was 40, 62% were male and 100% were on ART for a mean duration of 6.5 years. At baseline, reported S&D was high with 81.2% of HCW reporting fear of HIV infection, 69.2% reporting use of unnecessary precautions, and 43.6% reporting observation of discrimination toward PLHIV. Among PLHIV, 21% reported experiencing discrimination in healthcare settings. Following the intervention, S&D was significantly reduced in all domains (table).

Healthcare staff survey	Before	After	P-value*	PLHIV survey	Before N=649	After N=652	P-value**
1. Fear of infection, n=626	508 (81.2%)	324 (51.8%)	<0.001	1. Experienced discrimination in the last 12/9*** months	139 (21.4%)	100 (15.4%)	0.005
2. Report of using unnecessary precautions, n=569	394 (69.2%)	196 (34.4%)	<0.001	2. Self-stigma	106 (16.4%)	80 (11.3%)	0.008
3. Observed discriminatory practices made by hospital staff, n=672	293 (43.6%)	214 (31.8%)	<0.001	3. Disclosure of HIV status by HCW	91 (14.0%)	48 (7.4%)	<0.001
4. Negative attitude and opinion of hospital staff towards PLHIV, n=672	364 (54.2%)	238 (35.4%)	<0.001	4. Experienced discrimination around reproductive health^	44 (6.8%)	23 (3.5%)	0.008
5. Negative attitude of hospital staff towards co-workers living with HIV, n=670	273 (40.7%)	158 (23.6%)	<0.001	***PLHIV were asked about their experience during previous 12 months on baseline survey and previous 9 months on post-intervention survey			
*McNemar's test **Chi-square test							

[Table. Prevalence of stigma and discrimination among healthcare staff and PLHIV before and after interventions to reduce HIV-related S&D, % (95% CI)]

CONCLUSIONS: HIV-related S&D is common in healthcare settings in Vietnam. Our results demonstrated the effectiveness of a multi-pronged intervention. Nonetheless, S&D remained high post-intervention. Additional effort is needed to achieve the goal of zero discrimination.

PED1265

TRAINING IN HEALTHCARE SETTINGS TO REDUCE STIGMA AND DISCRIMINATION TOWARDS KEY POPULATIONS: COVERAGE AND OPPORTUNITIES FOR IMPROVEMENT

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BACKGROUND: Key population (KP) groups often experience substantial stigma, which can be a barrier to accessing HIV-related services. Globally, HIV disproportionately affects KP, even in generalized epidemic settings, making access to HIV services for this population critical for epidemic control. While KP-competency training among healthcare staff is a key intervention to reduce stigma and discrimination (SD) in healthcare settings, and improve KP engagement in HIV services, there is limited knowledge as to how widely it is implemented.

METHODS: From December 2018-March 2019, key informants from 403 PEPFAR-funded implementers, across five U.S. Government agencies, were asked to complete an online reporting tool. Questions assessed HIV-related SD reduction activities that implementers directly supported, as well as general practices at facilities or community-based sites supported by implementing partners (IP). We present findings on KP-competency training and compare responses to general anti-HIV SD training.

RESULTS: Overall, 244 implementers from 50 countries responded. Fewer implementers reported direct support for KP-competency training (156/244, 64%) than anti-HIV SD training (186/244, 76%). Of those supporting KP-competency training, lay workers (136/156, 87%) and clinical professionals (133/156, 85%) were most commonly trained; least common were administrative support staff (93/156, 60%) and clinical support workers (91/156, 58%). Among IP reporting KP-competency training at supported sites, it was more common in primary health facilities (84/115, 73%) and community-based settings (83/115, 72%), than secondary (66/115, 57%) or tertiary (54/115, 47%) facilities. Onsite training was the most common modality (124/156, 79%), and 87% (136/156) provided repeated training using varying modalities for at least one cadre. KP-competency training was more common, with less of a difference compared to anti-HIV SD training, in regions with KP-centered epidemics than in regions with generalized epidemics (Table 1).

	KP-centered epidemics: Central America, Caribbean, and Asia/Pacific N=59 (%)	Generalized epidemics: West, East and Southern Africa N=165 (%)	Total N=224 (%)
Number of IP reporting anti-HIV SD training at supported sites	46 (78%)	110 (67%)	156 (70%)
Number of IP reporting KP-competency training at supported sites	41 (69%)	74 (45%)	115 (51%)

[Table 1. Training activities at IP-supported sites by regional HIV epidemic characteristics (based on UNAIDS 2019 epidemic data)]

CONCLUSIONS: While most PEPFAR-implementers supported KP-competency training, it was less common than general anti-HIV SD training and there were variations by cadre, healthcare setting, and HIV epidemic characteristics. Opportunities exist to improve coverage across all cadres and settings, especially in regions with generalized epidemics, where reaching KP for HIV-related services is crucial for epidemic control.

PED1266

A CAMPAIGN FOR TO SUPPORT RE-ENGAGEMENT IN HIV CARE AND RE-INITIATION OF ANTIRETROVIRAL THERAPY IN AN URBAN SOUTH AFRICAN DISTRICT: PERSPECTIVES OF HEALTHCARE WORKERS

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BACKGROUND: People who interrupt their antiretroviral therapy (ART) experience poor health outcomes and on a population level their HIV transmission risk increases.

Anova Health Institute and the Johannesburg Health District Departments of Health developed a two-part campaign to encourage clients to return to ART care. Part 1 involved health care worker (HCW) training on how to manage patients restarting ART and Part 2 comprised mass media messaging about the importance of returning to care. The study objective was to assess campaign implementation and analyse fidelity of campaign components from the HCW's perspective.

METHODS: Six months after implementation (June-August 2019), semi-structured interviews were conducted with HCWs in six healthcare facilities located in Johannesburg. The interview covered staff attitudes as well as facility management of clients reinitiating ART. HCWs also completed a questionnaire about their own and their facility management of clients reinitiating ART. Interview data was analysed using a content analysis approach and questionnaire data using descriptive statistics.

RESULTS: After campaign implementation, the facilities had a 92% increase in people returning to care. A total of 36 nurses and counsellors were interviewed. Most participants answered positively regarding how clients returning to care were managed citing differentiated care, plans for treatment, and adherence support. Staff highlighted the importance of clients voicing their adherence challenges to enable better understanding about how to help clients overcome adherence barriers. Many (28, 85%) believed that the campaign helped improve client-provider relationships.

However, staff didn't successfully implement all campaign components, 25% (from 3 different facilities) responded that patients are sent to the back of the queue and that staff insist on transfer letters, and 69% (25) responded that they have seen/heard other staff act negatively toward returning clients. Many participants expressed that these negative behaviours result from working within highly demanding and rigid work environments.

CONCLUSIONS: The campaign improved HCWs approach to clients restarting ART. However, negative attitudes and flawed clinic management remain. A more comprehensive approach to consistently improving behaviours and attitudes at facility level is needed to support HCWs to provide better care.

PED1267

THEIR STORY, YOUR CHOICE – A SERIES OF INTERACTIVE FILMS AIMED AT TARGETING HIV STIGMA IN BLACK AFRICAN COMMUNITIES IN THE UK. FUNDED BY COMIC RELIEF AND THE MAC AIDS FUND

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BACKGROUND: Black Africans (BA) are disproportionately affected by HIV in England, making up 41% of heterosexuals diagnosed in 2018, 54% of whom were diagnosed late.

This project aimed to reduce HIV stigma among black African communities in the UK through storytelling, a strong tradition in many BA cultures.

Stigma significantly limits uptake of HIV prevention and testing tools and services (NICE, 2017). Research shows that effective stigma interventions "allow the exploration of the personal experience through a story" (NAT, 2016).

DESCRIPTION: Terrence Higgins Trust (THT) and Brown Boys Productions held interviews and focus groups with BA PLWHIV about their experiences of stigma and how it affected their life and relationships.

Based on these experiences, we produced three interactive films where viewers choose the characters' actions which influences the outcomes of each story, Themes covered include disclosure in relationships, late diagnosis, dating, and abuse.

To ensure they were realistic, culturally appropriate, appealing, and medically accurate we:

- User tested during production with BA PLWHIV and other BA
- Engaged a BA writer living with HIV as a consultant
- Conducted medical peer reviews.

Films were hosted on the THT website and YouTube, with additional information on HIV and referral to testing services.

Targeted social media advertising was used to promote the videos.

LESSONS LEARNED: The films were effective at reaching BAs and started conversations on themes explored in the films. 87,661 people landed on the first scene of a film with about 27% watching to the end of a story. There were 3,565 social media reactions, comments and shares.

Providing additional information alongside the videos was effective as it resulted in;

- 101 HIV self tests kits ordered – (59-BA)
- 6,971 looking at other information website pages

CONCLUSIONS/NEXT STEPS: Using interactive videos storytelling and drama can be effective to reach and engage people disproportionately affected by HIV stigma.

Advertising is essential to maximise reach and engagement.

People reflected that the interactive nature of the films made them reflect more on the themes than if the films had not been interactive. While storytelling approaches can be useful, practitioners need to think of ways to engage viewers more than just passively.

PED1268

STIGMA AND MENTAL HEALTH AMONG PEOPLE LIVING WITH HIV IN UGANDA

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BACKGROUND: People living with HIV are greatly impacted by mental health challenges which may become a structural barrier and drive the epidemic underground due to non disclosure arising from stigma. Mental health conditions explored include feeling nervous, anxious or on the edge, not being able to stop or control worrying, little interest or pleasure in doing things and feeling depressed or hopeless.

METHODS: With support from the Embassy of Ireland, the National Forum of PLHIV Networks in Uganda (NAFOPHANU) conducted the 2nd national PLHIV stigma index survey in 2019 targeting 1,400 PLHIV from 21 districts of Uganda. The PLHIV stigma index survey adopted a one-group post only cross-sectional design. The design was based on PLHIV empowerment principles and therefore conceptualized as a project. The study largely used quantitative research methods for data collection and analysis while the qualitative picked on stories/scenarios of PLHIV lived experiences.

RESULTS:

- Approximately 540 (39%) out of 1398 respondents reported forms of feeling nervous, anxious or on the edge over the last two weeks before the survey.
- 538 respondents (39%) reported not being able to stop or control worrying.
- 432 (31%) reported having little interest or pleasure in doing things
- 453 (33%) reported feelings of depression or hopelessness.
- Only 301 (39.71%) had received any type of support such as counseling or other types.

CONCLUSIONS: Focus on mental health conditions among PLHIV remains very pivotal in addressing issues of stigma to ensure that all PLHIV get the necessary support like counseling. Therefore, there is need to design programs that specifically address mental health as a mechanism to fight stigma and discrimination.

PED1269

WHAT MATTERS MOST ENABLES RESISTANCE OF HIV STIGMA: SUSTAINED EFFECTS OF A NOVEL, CULTURALLY-TAILORED PRENATAL HIV STIGMA-REDUCTION INTERVENTION ON STIGMA AND DEPRESSION IN BOTSWANA

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BACKGROUND: Botswana has among the highest HIV prevalence rates worldwide (24% infected). Despite a strong national HIV treatment program that includes initiation of life-long antiretroviral therapy (ART) for women diagnosed during prenatal care, severe stigma persists, impeding adherence to ART in the postpartum (PP) period. To date, only a few studies conducted in sub-Saharan Africa have shown prenatal interventions can reduce stigma in the PP period.
METHODS: We tested Mothers Moving towards Empowerment (MME), a novel, culturally-tailored intervention developed using the What Matters Most (WMM) framework. Contact with peer-co-leaders (i.e., mothers with HIV) was part of this intervention. Pregnant women with HIV enrolled at 28 weeks pregnancy were assigned to receive MME or treatment as usual (control). We used median score (M) to assess severity of stigma (Berger Stigma Scale) and depressive symptoms (CES-D) at baseline, after the intervention (MME only), and at four months PP (4mPP). Qualitative data, as monitored via fidelity assessments, captured participant perceptions throughout the intervention.
RESULTS: Interim analyses (n=34) show a monotonic decrease in stigma from pre-intervention (M=88.0) to post-intervention (M=78.0), and to 4-month PP (M=72.0): a 20% decline from baseline. Depressive symptoms (CES-D) reflected an even more substantial decrease from pre-intervention (M=30.0) to post-intervention (M=19.0), and to 4-month PP (M=12.0): a 60% decline from baseline. In contrast, we observed increases in the severity of stigma and depressive symptoms from baseline to 4mPP (+25.0 change or 39.4% increase in stigma; +7.5 change or 48.4% increase in depression) among the control group (n=12). These results are consistent with qualitative findings via fidelity assessments that suggested dramatic changes in some participants' disclosed attitudes and behaviors at onset (e.g., fearing familial rejection if HIV status were disclosed, thus jeopardizing ART adherence), compared with after the intervention (e.g., successful disclosure of HIV status to family, eliciting greater social support).
CONCLUSIONS: While ongoing, these initial results suggest that the WMM framework-based, prenatal HIV stigma intervention holds promise in improving stigma and related adverse psychosocial outcomes for HIV-positive mothers in the PP period. Further development for implementation scale up and testing for viral suppression is recommended.

PED1270

IDENTIFYING RISKS, REMOVING BARRIERS TO ACCESS TO CARE: MAPPING OF VIOLENCE BASED ON GENDER AND SEXUAL ORIENTATION IN THE CITY OF DOUALA, CAMEROON

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BACKGROUND: Violence based on gender and sexual orientation is on the increase in the city of Douala. A community study conducted by Alternatives-Cameroon in 2017 revealed that 12% of MSM and 19% of WSW had already been raped. The 2016 IBBS study found that 13% of MSM had already been discriminated against by their families. The same study found that key victims of violence are twice as infected with HIV as people who have not experienced any violence. Alternatives therefore thought of identifying risk areas in order to prevent violence against LGBTI people, help reduce their vulnerability, and increase their access to care.
DESCRIPTION: We listed all the violence events we documented since 2014. There were 293 events of violence which have been classified by type and place of occurrence. A map of the city of Douala has been printed in very large format. Each event of violence was then marked on the card with a sticker, in the place where it took place. The violence was classified into 6 types, and each type had a label color. We then used this card to educate our beneficiaries about their personal safety. It was also used for our sensitizations with certain social actors such as traditional chiefs or nursing staff.
LESSONS LEARNED: The map which is now pasted in the waiting room of our Community Center, quickly proved to be a powerful communication tool on security and advocacy for LGBTI people in Douala. It is a very practical way to visualize the situation and draw the consequences. This mapping is used, for example, as a compass for LGBTI people in the neighborhood of residence. Visitors to the Center quickly realize the evidence and risky locations in the city, and feel encouraged to use the Center more to receive more information and services.
CONCLUSIONS/NEXT STEPS: We plan to exhibit this mapping at advocacy workshops with social actors. We plan to expand the mapping nationwide. To this end, the documentation of the violence will now cover the entire national territory, with the focal points that we have recruited in all regions of Cameroon.

OTHER BEHAVIOURAL APPROACHES

PED1271

IMPACT OF THE TOBACCO USE REDUCTION PROGRAM IN PEOPLE LIVING WITH HIV ON THEIR SMOKING BEHAVIOR: A PRE AND POST COMPARISON STUDY IN MICHIGAN, 2018

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BACKGROUND: Cigarette smoking is the leading preventable cause of death in the United States. Advances in treatment and control of the HIV disease, as a chronic disease, is extending the life span of

people who are HIV positive. However, people living with HIV (PLWH) are dying 12 years sooner from tobacco related illness than from complications of HIV. In order to address tobacco health disparities among PLWH, the Michigan Tobacco Control Program (TCP) partnered with the HIV Care and Prevention section to fund the Tobacco Use Reduction Program for PLWH.

METHODS: Major components of the project include, gaining better information of tobacco use behaviors through an ASO staff survey, a comprehensive HIV client survey, and HIV client focus groups. Two surveys provided detailed information regarding tobacco use and current staff and client tobacco knowledge. Following the completion of the surveys and focus groups, the project continued with 15 contractors being trained and certified as Tobacco Treatment Specialists. Within second and third fiscal years, contractors were funded to implement the 5As intervention (Ask, Advise, Assess, Assist, Arrange), provide tobacco dependence treatment counseling, implemented peer to peer specialist, and other resources to reduce tobacco use among PLWH.

RESULTS: According to our first study in 2015, the smoking rate among PLWH was 49.5%. Concentrated training that focused on tobacco treatment and motivational interviewing was provided to staff of the ASOs to build internal agency capacity to treat their PLWH who smoke. A second HIV client survey was conducted to assess the impact of the implementation of almost 3 years of the project on the smoking and quitting behavior, knowledge, and attitude of the clients, data was collected at the end of 2017. Findings from the 2017 client surveys showed a great reduction in the cigarette smoking prevalence in 2017 study (41%) compared to (49.5%) in 2015, this reduction is highly significant (P < 0.05).

CONCLUSIONS: Due to the compelling data, the Tobacco Use Reduction Project for People Living with HIV moved from a demonstration project to a sustainable program funding 18 contractors throughout the state of Michigan to offer tobacco cessation services.

PED1272

BREASTFEEDING DURATION AND CORRELATES OF BREASTFEEDING CESSATION IN ESWATINI

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BACKGROUND: Eswatini began transition to lifelong antiretroviral therapy(ART) for pregnant and breastfeeding women living with HIV(WLHIV) in 2013. National guidelines recommended that WLHIV breastfeed for 6-12 months while taking ART (in-line with 2013 World Health Organization guidelines). Among HIV-negative women, breastfeeding can continue up to 24 months and beyond. We assessed breastfeeding practices among women 15+ years in Eswatini during this transition period.

METHODS: We conducted a secondary analysis of the second Swaziland/Eswatini HIV Incidence Measurement Survey(SHIMS2) dataset. SHIMS2, conducted in 2016-2017, collected self-reported data on HIV status, ART use and breastfeeding in the three years prior to the survey (approximately 2013-2015). We analyzed time to stopping breastfeeding, censored at date of survey (for women still breastfeeding during the survey). We used Kaplan-Meier methods to compare time to breastfeeding cessation between WLHIV and HIV-negative women, and multivariate Cox regression analysis to examine the correlates of time to breastfeeding cessation.

RESULTS: Of 1258 women reporting a live birth, nearly one third (32%; n=404) reported living with HIV, of whom 32%(n=132) reported ART use during breastfeeding. Median duration of breastfeeding was 7 months (interquartile range [IQR]=4-12 months) among WLHIV, and 12 months (IQR 6-17) among HIV-negative women. At 6 months, breastfeeding survival using Kaplan-Meier analysis was 60%(n=280) among WLHIV and 82%(n=672) among HIV-negative women. At 12 months it was 22%(n=149) among WLHIV and 55%(n=460) among HIV-negative women.

In adjusted analyses, earlier breastfeeding cessation was associated with HIV-positive status: (adjusted hazard ratio [AHR]=2.03, 95% confidence interval [95% CI]: 1.69-2.43). Compared to 2013, women who gave birth in 2014 (AHR=1.19, 95% CI 1.02-1.37), and 2016 (AHR=1.74, 95% CI: 1.32-2.30) were more likely to stop breastfeeding earlier, but not 2015 (AHR=1.01, 95% CI 0.86-1.17). Other factors significantly associated with breastfeeding cessation were tertiary education (reference: no education, AHR=1.30, 95% CI 1.07-1.58), and employment (reference: unemployed, AHR=1.14, 95% CI 1.02-1.27).

CONCLUSIONS: Earlier breastfeeding cessation was more likely among WLHIV, and two-thirds of breastfeeding WHLIV were not on ART. Our analysis suggests low rates of breastfeeding which could impact infant morbidity and mortality. Targeted interventions to support ART use and breastfeeding continuation among lactating WLHIV are needed.

PED1273

A SOCIAL NETWORK ANALYSIS OF PEOPLE LIVING WITH HIV AND THEIR TREATMENT PARTNERS IN BOTSWANA: SUPPORT RECIPROCITY AND HIV VIRAL SUPPRESSION

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BACKGROUND: To examine whether social support, including reciprocity of support between people living with HIV (PLWH) and their treatment partners (social network members selected by PLWH when starting antiretroviral therapy, to support adherence), is associated with viral suppression. Support reciprocity (extent to which people exchange mutual support) is an indication of relationship quality and associated with long-term physical and mental health.

METHODS: A total of 131 patients and their treatment partners were recruited from one HIV clinic in Gaborone, Botswana. Participants completed surveys assessing socio-demographic, social network, and psychosocial characteristics. They listed 20 social network members with whom they interacted frequently (including the treatment partner) and reported on network members' characteristics. Participants were asked how close they were emotionally to each social network member, including their treatment partner (not at all close=0, somewhat close=1, very close=2), and rated how likely each social network member would be to show them love and support (not likely=1, somewhat likely=2, very likely=3).

RESULTS: Multivariate logistic regressions indicated a higher likelihood of viral suppression among patients who reported greater average emotional closeness to their network members [OR (95% CI)=3.8 (1.3-11.5), p=.02]. Lower relationship reciprocity (an asymmetric relationship) was associated with lack of viral suppression: viral suppression was less likely when patients felt closer to their treatment partner than their treatment partner felt to them [OR=0.55, p=.01] and when the patient's estimation of their treatment partner's likelihood to show love and support to him/her was greater than their treatment partner's estimation of the likelihood that the patient would show love and support to him/her [OR=0.53, p=.05].

CONCLUSIONS: Treatment partners' reciprocity matters as much as overall closeness in relationships between PLWH and their treatment partners. Interventions to improve the support of informal caregivers could help to increase relationship quality, quality of life, and health outcomes among PLWH.

PED1274

TOBACCO USE BEHAVIORS AMONG PEOPLE LIVING WITH HIV (PLWH) IN NAIROBI, KENYA

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BACKGROUND: Tobacco use remains the most important preventable cause of mortality worldwide, with >1 billion projected deaths in the 21st century, and the largest predicted regional increases occurring in Africa. There are 1.6 million persons living with HIV (PLWH) in Kenya, and reported smoking prevalences among them vary from 16% to 100% depending on the population surveyed, with particularly high rates in past/present substance users. Few details are known about tobacco use behaviors in Kenyan PLWH.

METHODS: With the goal of culturally tailoring a tobacco treatment intervention for Kenyan PLWH in an upcoming trial, in fall 2019 trained staff administered structured interviews about tobacco use to PLWH smokers recruited from 4 HIV Care clinics and 2 methadone maintenance facilities in Nairobi.

RESULTS: 50 PLWH completed interviews. LANGUAGE: 72% Swahili, 14% English, 14% Swahili+English. DEMOGRAPHICS: Mean age=38.5±9.6 (range: 20-57); 68% M/32% F; 18% single, 48% married, 34% separated/divorced/widowed. EDUCATION: 32% some primary, 20% completed primary, 22% some secondary, 18% completed secondary, 8% post-secondary. EMPLOYMENT: 62% fulltime, 24% parttime, 14% unemployed. HOUSING: 94% stable, 6% transitional. HIV: A mean of 6.5±4.4 years had elapsed since HIV diagnosis, and 100% were on ART. SUBSTANCE USE (in past 30 days): 34% alcohol, 44% marijuana, 0% cocaine, 8% heroin, 72% methadone. TOBACCO USE: 100% cigarette smokers, 4% chewing tobacco, 4% nasal snuff. 74% started smoking at age≤20. Mean cigs/day=14.9±12.4. 92% regular cigarettes, 6% menthol, 18% non-daily smokers. 100% purchased cigarettes as individual "sticks," none purchased full packs. 40% lived with another smoker. NICOTINE DEPENDENCE (FTND), 20.9% low, 25.6% medium, 53.6% high. READINESS TO QUIT (Abrams-Biener ladder), 44% precontemplation, 2% contemplation, 46% preparation, 8% action. QUIT HISTORY: 69.4% had made ≥1 quit attempt in the past. Of these 90% were unassisted ("cold turkey"), 8% with nicotine replacement, 2% with counseling, and none had ever tried bupropion or varenicline.

CONCLUSIONS: In this sample of Kenyan PLWH smokers, cigarettes were always purchased individually, never in packs, there were high levels of nicotine dependence but also high motivation to quit. Almost all prior quit attempts were unassisted with virtually no usage of counseling or pharmacotherapy.

PED1275

EFFECTS OF A NURSE-DELIVERED COGNITIVE BEHAVIORAL THERAPY ON ADHERENCE AND DEPRESSIVE SYMPTOMS OF PEOPLE LIVING WITH HIV IN SOUTH KOREA

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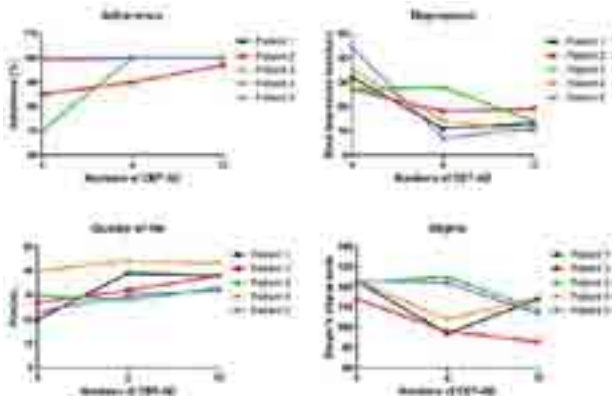
BACKGROUND: Cognitive behavioral therapy focusing on adherence and depression (CBT-AD) performed by clinical psychologists has been found to be an effective treatment for improving depressive symptoms and ART adherence of people living with HIV (PLWH). However, because access to clinical psychologists is limited in most clinics, CBT-AD is rarely performed for PLWH. This study evaluates whether CBT-AD can be effectively performed by a nurse trained and supervised by a clinical psychologist, with a view to wider provision of CBT-AD.

DESCRIPTION: For conducting nurse-delivered CBT-AD, a clinical psychologist developed manuals, educated and supervised a nurse. PLWH with depressive symptoms or adherence <90% were enrolled, and CBT-AD was conducted once weekly for 12 sessions. PLWH were assessed with an adherence by visual analog scale (ranges 0-100%), Beck depression inventory for depressive symptoms (ranges 0-63, higher score means more depressed), PozQoL for quality of life (ranges 13-65, higher score means higher quality of life), and Berger's 40-item stigma scale for stigma (ranges 40-160, the higher the score, the worse the stigma) at baseline, and after the 6th and 12th sessions. In addition, acceptability and feasibility were evaluated by PLWH and providers through surveys.



[Figure]

LESSONS LEARNED: Five male PLWH have completed 12 sessions of CBT-AD. Two of them had <90% adherence before CBT-AD, but nearly 100% adherence after CBT-AD. All study participants showed im-

proved depressive symptoms and quality of life after CBT-AD. As for stigma, overall stigma of participants also showed improving trends. In a survey regarding acceptability, all study participants received great help from CBT-AD and expressed their desire to continue.

CONCLUSIONS/NEXT STEPS: Our findings suggest that a nurse-delivered CBT-AD was effective and acceptable for improving depressive symptoms, quality of life, stigma and ART adherence of PLWH. The implementation of this nurse-delivered intervention should be applied more widely in clinical practice to understand its value.

PED1276

FACTORS MITIGATING RETENTION IN ANTIRETROVIRAL TREATMENT SERVICES IN NIGERIA: NEED FOR EFFECTIVE COMMUNICATION CAMPAIGNS

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BACKGROUND: The study seeks to evaluate factors mitigating retention in care services among patients on ART. Lost to follow up (LTFU) arising from poor retention has become a challenge to ART program implementation in most developing countries with rates of 16% to 40% within the first year of treatment.

The study was anchored on Health Belief Model (HBM) for sustained virologic control of HIV by providing a forum of discussion and communication on ART, creating supportive environment for positive behavior change, increasing knowledge about the services, and putting follow up of patients on ART on the news agenda. High levels of awareness campaigns are required towards enhancing retention in care services.

METHODS: A total of 4133 participants were used for the study. Key Informant Interviews (KII) using in depth interviews were conducted among Health Care Workers and PLHIV currently on ART. The study was conducted in 6 health facilities in five states and F.C.T. Participants were randomly selected using computer generated random numbers. Quantitative data obtained were analysed using STATA while the qualitative data was by thematic analysis. The study process and tools were tested for reliability and replicability.

RESULTS: Findings revealed that effective communication campaigns plays significant roles in enhancing retention in care. Out of 1818 (44%) PLHIVs who stopped ART for reasons ranging from drug side effect, preference for herbal medications, health workers poor attitude, non-disclosure of status to family members, poverty, fear of stigma, religious belief, cultural belief etc said they had little or no exposure to health communication messages. It also showed that majority of the clients 2314 (56%) who were regular on ART were exposed to different kinds of communication messages.

CONCLUSIONS: Recommendations includes: Integrating communication through various means like adherence to individual and group counselling, within and outside clinical settings to enhance continued engagement in treatment/care. Provision of incentives to PLHIVs on ART and attitudinal change training for HCWs. There should be a network of trained community accompagnateurs who provide education, counseling, psychosocial support, supervision across the treatment/care and retention continuum. Mobile technologies should be deployed to track and encourage patients in homes and communities.

PED1277

MODIFYING POLICE BEHAVIOR TO PREVENT NEEDLE STICK INJURIES AND REDUCE COMMUNITY HIV RISK: DUAL PUBLIC HEALTH BENEFITS OF SHIELD POLICE TRAINING IN TIJUANA, MEXICO

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BACKGROUND: Drug law enforcement elevates risk of accidental needlestick injury (NSI) among police, especially as injection drug use spreads globally. Syringe-related policing practices (e.g. confiscation) also drive HIV risk among people who inject drugs (PWID) via syringe sharing. Police training seldom addresses police NSI or HIV risk among PWID, resulting in avoidable harm to officers and PWID. We assessed the longitudinal impact of a SHIELD-based police training intervention to reduce syringe-related occupational risk and deleterious behaviors related to PWID health among Mexican officers.

METHODS: Tijuana police (N=1,788) received instruction linking NSI prevention with HIV and health among PWID (2015-2017). A randomly selected follow-up cohort (n=771) was followed for 24 months. We conducted longitudinal analysis with Generalized Linear Mixed Models to evaluate training impact on occupational NSI risk, measured by the previously validated STIC (Syringe Threat and Injury Correlates) score, and HIV risk to PWID using a composite score of police behaviors negatively impacting PWID health (PWIDH score). [BP1] Both composite scores integrate self-reported syringe-related police practices (e.g. syringe confiscation, breaking) with the PWIDH indicator also accounting for PWID arrest.

RESULTS: We observed significant immediate reductions in police NSI risk (16.2% drop in STIC score) at three months, with sustained decrease of 17.8% through 24mo, compared to pre-training. Police assignment (patrol vs. admin) moderated the training effect on NSI risk (p=0.012). Younger age, male gender, lower rank, and previous NSI were independently associated with higher NSI risk overtime, although all groups demonstrated significant reductions post-training. Regarding behaviors related to HIV risk among PWID, the total effect of the intervention significantly (p<0.0001) reduced the mean PWIDH score by 0.35. This accounts for the indirect effects of mediating police factors such as intent to prevent NSIs (accounted for 13.0% of indirect effects), stigma towards PWID (9.6%), and negative opinions regarding SEPs (8.6%), decriminalization of drugs (5.7%) and the perceived role of police in PWID health (8.5%).

CONCLUSIONS: Police training utilizing the SHIELD model holds promise for sustained improvement in occupational NSI risk and HIV risk among PWID. This warrants scale-up and tailoring to other settings, especially in view of potential simultaneous public health benefits.

PRE-EXPOSURE PROPHYLAXIS

PED1278

HIGH PREP DEMAND AMONG MSM AND TRANSGENDER ADOLESCENTS IN THAILAND AMIDST SYSTEMIC MULTISECTORAL BARRIERS TO IMPLEMENTATION

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BACKGROUND: Young men who have sex with men (MSM) and transgender people in Thailand continue to face a high burden of HIV infection. With median age of sexual debut at 17-years-old and higher HIV incidence among adolescent versus young adult MSM, adolescent-specific interventions are needed. Thai-government guidelines support provision of federally subsidized pre-exposure prophylaxis (PrEP) for MSM and transgender persons at high risk of HIV acquisition; but with existing interventions targeting urban, adult gay entertainment venues, PrEP has largely failed to reach adolescents and uptake remains low. We explored PrEP awareness, demand, and implementation challenges among MSM and transgender adolescents in semi-urban communities to inform targeted preventive interventions.

METHODS: Focus group discussions (FGDs) were conducted using a semi-structured Thai-language topic guide with 16–20-year-old MSM and transgender persons recruited from high-schools, vocational schools, and universities in three Thai provinces. Youth <18-years-old provided parental consent. Key informant (KI) interviews were conducted in Thai or English with healthcare providers (HCP), nongovernmental organization (NGO) leaders, and youth advocates. FGDs and interviews were transcribed verbatim (in Thai or English) and reviewed using thematic analysis in Atlas.ti by a bilingual team, with coding discrepancies resolved by consensus.

RESULTS: From May-July 2018 we conducted four FGDs (n=20 MSM, 5 transgender adolescents; mean age=18.0 years, SD=1.3) and 17 KI interviews (7 HCPs, 5 NGO-leaders, 5 youth-advocates). A minority of adolescents reported experimenting with anal sex; most didn't use condoms. Most reported no school-based HIV/sexual health education inclusive of young MSM and transgender persons, and very limited PrEP awareness and knowledge; a few heard about PrEP through Facebook/other social media. Once explained, most adolescents expressed high interest if PrEP were provided for free. KIs corroborated adolescents' sexual risk, lack of adolescent MSM/transgender-specific HIV/sexual health education, and articulated barriers in PrEP implementation due to adolescents' low awareness and access, and HCP resistance amidst reported concerns about negative parental reactions, lower condom use, and high public health costs.

CONCLUSIONS: Despite low PrEP awareness, most MSM and transgender adolescents indicated interest in PrEP once explained. However, pervasive barriers across school, parental, and healthcare system domains impede implementation despite enabling government policies and individual demand.

PED1279

SEXUAL BEHAVIOR CHANGE IN PEOPLE USING HIV PRE-EXPOSURE PROHYLAXIS

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BACKGROUND: Use of HIV pre-exposure prophylaxis (PrEP) might be accompanied by changed sexual behavior. We investigated self-reported sexual behavior change in a large sample of German PrEP users.

METHODS: From April to June 2019 we recruited PrEP users in Germany on MSM dating apps, community-based HIV testing sites, and a community website for an anonymous online survey. We defined increased sexual activity as reporting more partners and/or more sexual contacts since starting PrEP. Risk factors for increased sexual activity were assessed with logistic regression models adjusting for age, gender identity, and duration of PrEP use.

RESULTS: We recruited 3,071 PrEP users with a median age of 37 (IQR 30-45) and with 94.7% identifying as cisgender male (missing: 3.5%). More than 3 partners for anal/vaginal sex within the last 6 months were reported by 83.3% (Table 1) and 77.7% of the participants indicated they reduced or stopped condom use.

Of 2,564 participants providing information on the development of sexual behavior since starting PrEP, 43.6% indicated having more partners and/or more contacts (Table 1). Participants with more partners and/or more contacts were more likely to report >20 partners within the last 6 months than participants with stable partner/contact numbers (OR = 2.1, 95% CI 1.7 – 2.4). In addition, participants indicating increased partner/contact numbers since starting PrEP were more likely to use condoms less often as before (OR = 2.7, 95%CI 2.1 – 3.4) or stopped using condoms altogether (OR = 4.8, 95% CI 3.6 – 6.3).

Partner numbers within the last 6 months	No change in partner/contact numbers after start of PrEP (n = 1,447)	Increase in partner/contact numbers after start of PrEP (n = 1,117)	Overall (n = 2,564)
0-3	273 (18.9%)	103 (9.2%)	376 (14.7%)
4-5	239 (16.5%)	137 (12.3%)	376 (14.7%)
6-10	312 (21.6%)	178 (15.9%)	490 (19.1%)
11-20	238 (16.4%)	215 (19.2%)	453 (17.7%)
>20	363 (25.1%)	455 (40.7%)	818 (31.9%)
Missing	22 (1.5%)	29 (2.6%)	51 (2.0%)

[Table 1: Partner numbers within the last 6 months in PrEP users]

CONCLUSIONS: PrEP users in Germany had high partner numbers and were using condoms less often regardless of their sexual behavior change during PrEP use. PrEP is important for HIV prevention in this group. Because of lower condom use, PrEP users have a higher probability of acquiring and passing on sexually transmitted infections (STI) which should be considered when providing PrEP.

PED1280

CHALLENGES AND UNMET NEEDS AFFECTING PREP ACCESS AND UPTAKE AMONG BLACK AND LATINX MSM AND TRANSGENDER WOMEN

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BACKGROUND: Oral pre-exposure prophylaxis (PrEP) has been shown to significantly reduce the acquisition of HIV infection. Despite the availability of PrEP in the U.S., Black and Latinx men who have sex with men (MSM) and transgender women experience the greatest disparities in PrEP uptake. Consequently, there is an urgent need to better understand factors related to PrEP awareness, access, and uptake in communities most disproportionately affected by the epidemic. San Francisco provides an opportunity to examine challenges and unmet needs in these groups given the abundance of resources and availability of PrEP.

METHODS: A qualitative case study funded by the San Francisco Department of Public Health solicited input from a diverse group of healthcare providers and Black and Latinx MSM and transgender women in San Francisco. Fourteen individual in-person interviews were conducted with six healthcare providers and eight Black and Latinx MSM and transgender women, aged 18-25 years, who were recruited through snowball sampling strategies.

RESULTS: Results of content analysis identified challenges and unmet needs due to: resource distribution (where services are located and concentrated), stigma within and outside of health care settings (medical mistrust, fear of being seen in particular clinics), lack of linguistically-sensitive services, an over-emphasis on sexual risk in healthcare settings, and non-inclusive PrEP awareness campaigns. Given the multi-level barriers impeding PrEP access, participants provided recommendations across different levels of the socioecological system, including alternative venues for HIV screening (pop-up clinics, mobile vans) and other methods to reduce stigma and medical mistrust, providing bilingual Spanish-speaking services, using terminologies that focus on “wellness” instead of “risk”, and incorporating trauma and violence history to assess comprehensive health needs, not just sexual health. Participants also underscored the need for simplified and inclusive PrEP awareness campaigns to showcase strength-based images of people of color that also target women and heterosexual community members.

CONCLUSIONS: The findings describe challenges and unmet needs affecting PrEP access and uptake among Black and Latinx MSM and transgender women in San Francisco, which underscore the need for multi-level contextual considerations for development of culturally congruent outreach campaigns and healthcare services to enhance PrEP awareness and uptake.

PED1281

PREPARED FOR HIV PREVENTION? PREFERENCES AND INTEREST PATTERNS IN NON-ORAL PRE-EXPOSURE PROPHYLAXIS MODALITIES AMONG STREET-BASED CISGENDER AND TRANSGENDER FEMALE SEX WORKERS IN BALTIMORE, MARYLAND

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BACKGROUND: Non-oral pre-exposure prophylaxis (PrEP) delivery modalities are viable HIV prevention tools for female sex workers experiencing adherence challenges to widely available daily oral PrEP. We compare acceptability of various PrEP delivery modalities/schedules and correlates in a prospective cohort of street-based cisgender (CFSW) and transgender female sex workers (TFSW) in the United States.

METHODS: Women aged 15 and older who recently (past 3 months) sold/traded sex to clients picked up in public places 3+ times were recruited via targeted sampling in Baltimore, Maryland. During five study visits over 12 months, participants completed interviewer-administered surveys assessing sex work history and police encounters, proceeded by HIV/STI testing. Among HIV-negative CFSW (n=236) and TFSW (n=36) at baseline, multivariable Poisson regression with robust variance estimation cross-sectionally identified factors associated with interest in two non-daily, non-oral PrEP modalities: quarterly arm injections and microbicidal topical gels (applied vaginally or rectally before sex). Due to the small sample of TFSW, regression models only converged for CFSW.

RESULTS: Compared to interest in daily oral PrEP among CFSW (73%) and TFSW (66%), over half (CFSW: 56%, TFSW: 61%) and one-fourth (CFSW: 25%, TFSW: 22%) of participants expressed interest in injectable PrEP and topical gels, respectively. Among CFSW, condom coercion by clients (Adjusted Prevalence Ratio [APR] = 1.23, 95% Confidence Interval [CI]: 1.00–1.52), not carrying condoms to avert police encounters (APR=1.35, CI: 1.07–1.71), and injection drug use with (APR=1.59, CI: 1.13–2.25) and without (APR=1.63, CI: 1.18–2.26) syringe sharing, respectively, were significantly associated with interest in injectable PrEP. By comparison, syringe sharing during injection drug use was inversely associated with interest in topical gels (APR=0.41, CI: 0.21–0.81). CFSW reporting condomless vaginal sex with clients (APR=1.61, CI: 1.04–2.49) and physical violence perpetration by non-paying partners (APR=2.20, CI: 1.32–3.67) exhibited higher interest in topical gels.

CONCLUSIONS: Acceptability of non-oral PrEP modalities varied, with over half of both CFSW and TFSW expressing interest in injectable PrEP and one quarter in topical gels. Our findings identify unique interpersonal, behavioral, and structural profiles of at-risk women whose HIV prevention preferences and needs warrant highly differentiated alternatives to daily oral PrEP.

PED1282

UNDERSTANDING PREP INTEREST AMONG SOUTH AFRICAN ADOLESCENTS: THE IMPACT OF PERCEIVED PARENTAL SUPPORT AND PREP-RELATED STIGMA

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BACKGROUND: As PrEP rollout expands to include adolescents in high-prevalence settings, parental support and perceived stigma have emerged as barriers to PrEP use in qualitative research. The parent-child interaction around PrEP, however, remains largely unexplored. We examined perceptions of PrEP-related stigma among adolescent-parent dyads to determine if PrEP-related stigma is associated with interest in and support for adolescent PrEP uptake.

METHODS: This cross-sectional data was collected in a peri-urban settlement near Cape Town, South Africa during baseline procedures of the Our Family Our Future intervention efficacy trial (R01MH114843). Adolescents (14-16 years) at disproportionate risk for acquiring HIV and their parents were recruited via systematic door-to-door sampling in 2018-2019. Eligible dyad members were invited to complete an ACASI-administered survey evaluating oral PrEP awareness, interest in/support for adolescent oral PrEP use, and perceptions of PrEP-related stigma. Stigma was assessed using 7-items with average scores dichotomized at the median. Prevalence ratios (PRs) were computed using log-binomial regression.

RESULTS: Adolescents (n=305) were 56% female. Over half (54%) had engaged in vaginal or anal intercourse, of whom 24% reported never having used a condom. Parents were 88% female. Among adolescents, 36% had heard about PrEP and 69% reported they would "definitely" or "probably" want to use PrEP. Further, 62% thought their parent would support their PrEP use. Among parents, 29% had heard about PrEP and 84% reported they would support their adolescent using PrEP. Adolescents who thought their parents would support their PrEP use were 1.72 times as likely to be interested in PrEP (95%CI:1.38-2.15, p<.001). Adolescents reported higher PrEP-related stigma scores (mean=2.41) than parents (mean=2.08), p<.001. Adolescents reporting lower stigma were more likely to be interested in PrEP than adolescents reporting higher stigma (adjusted-PR=1.24, 95%CI:1.04-1.47, p=.014). The same association was observed for parents (adjusted-PR=1.21, 95%CI:1.05-1.36, p=.007).

CONCLUSIONS: Overall PrEP awareness was low, but interest among adolescents and support among parents were high. Parents were more supportive of their adolescents using PrEP than adolescents perceived, and low perceptions of parental support and PrEP-related stigma were associated with reduced PrEP interest among adolescents. Future PrEP implementation efforts should consider parents as important allies in supporting adolescent PrEP uptake and use.

PED1283

PERCEPTIONS OF PRE-EXPOSURE PROPHYLAXIS FOR HIV PREVENTION IN A HIGH-BURDEN SETTING IN KWAZULU-NATAL, SOUTH AFRICA

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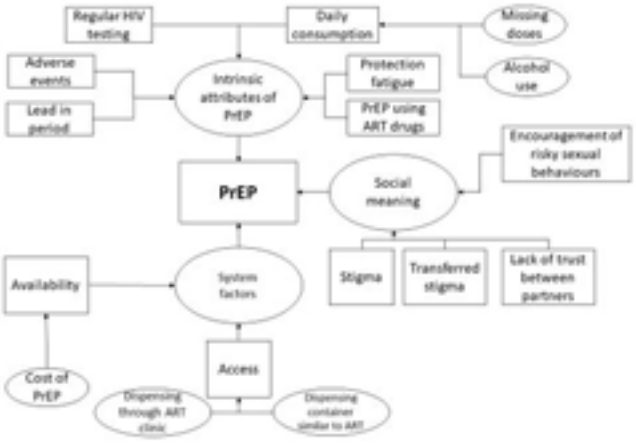
BACKGROUND: Pre-exposure prophylaxis (PrEP) is a reliable HIV prevention option for young adults in countries with high HIV prevalence. However, little is known about the perceptions of young adults about benefits and challenges of taking PrEP. This study was conducted to understand the perceived barriers and facilitators of PrEP among young men and women (18-35 years) in KwaZulu-Natal, South Africa.

METHODS: This qualitative study using in-depth interviews and focus group discussions (FGD) was conducted between February and April 2018. Young adults testing HIV negative at MSF supported community testing sites were invited to participate in the study. Key informant interviews were conducted with community leaders, religious leaders, traditional chiefs and community health promoters.

RESULTS: Sixteen FGDs (6 with females, 10 with males and 6-10 persons per group), 22 in-depth interviews (9 with males and 13 with females) and 6 key informant interviews were conducted. Thematic network of reported barriers have been described in the figure. Themes affecting the acceptability of PrEP were categorised as the intrinsic attributes of PrEP, system factors and the social meaning attached to PrEP.

Important intrinsic factor affecting PrEP acceptability was having to use multiple prevention methods leading to 'protection fatigue'. Accessing PrEP through ART clinics was an important system factor affecting acceptability. The perception that the partner of the PrEP recipient is HIV-positive, termed 'transferred stigma' was an interesting social meaning.

Facilitators for taking PrEP included, stressing the "value of life" and participation of community leaders in awareness campaigns. Peer support groups and decentralised delivery of PrEP outside ART clinics were mentioned as motivators.



[Figure]

CONCLUSIONS: This study shows that PrEP is an acceptable method of HIV prevention for the youth. Perceived barriers were mainly related to PrEP delivery methods and the meaning assigned to taking PrEP by the community. Provision of adequate support is essential.

PED1284

END-USER PERSPECTIVES ON THEIR ABILITY, MOTIVATION AND OPPORTUNITY TO USE THE DAPIVIRINE VAGINAL RING

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BACKGROUND: In preparation for the potential launch of the dapivirine ring in Africa, the OPTIONS Consortium, in collaboration with the International Partnership for Microbicides, consolidated evidence representing end-user insights from relevant dapivirine ring research. The objective was to create a comprehensive compendium of insights to inform demand creation efforts post-approval and identify areas for further exploration needed to support ring introduction.

METHODS: From September-November 2019, we reviewed published and grey literature to identify insights that may influence women's uptake and continued use of the dapivirine ring. Thirty-seven resources across 21 studies were reviewed, including results from clinical trials, qualitative or market research, discrete choice experiments and human centered design studies published between January 1, 2014 and November 30, 2019 focused on women of any age. Sub-Saharan Africa was the primary geographic focus.

Key insights across the resources were summarized thematically and categorized according to the ability, motivation, and opportunity (A-M-O) framework1. Specific factors contributing toward product uptake and continued use included: knowledge, self-efficacy, social support (categorized as Ability); risk perception, willingness, norms (Motivation); and availability, accessibility, and affordability (Opportunity).

RESULTS: Twenty-nine end-user insights were identified from the literature. There was high coverage in the Ability category, with 45% of insights falling into this area. Eleven insights (38%) had moderate coverage - risk perception, willingness, and accessibility. Only five insights (17%) were related to norms, availability, and affordability. Examples of insights garnered from this analysis include:

- Effective use and replacement of the ring improves with experience (self-efficacy)
- Young women may consider their personal HIV risk low, even while recognizing high levels of general risk (risk perception)
- Stigma against sexual activity, especially for young people, has significant influence on product choice (norms)
- Women largely seek to access the ring in clinical settings at the outset (accessibility)

CONCLUSIONS: The A-M-O Framework provides a helpful structure for organizing end-user research in a way that contributes to demand creation efforts for HIV prevention products. This analysis shows a paucity of known end-user perspectives on norms, availability, and affordability. Using this compendium, program managers, researchers, and communications/marketing teams can determine what information exists and what areas need further exploration.

PED1285

ADHERENCE TO DAILY, ORAL TDF/FTC PREP DURING PERICONCEPTION AMONG HIV-EXPOSED SOUTH AFRICAN WOMEN

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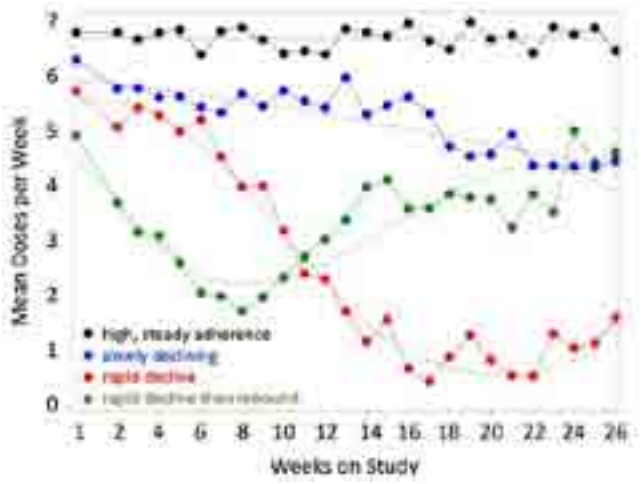
BACKGROUND: Women who conceive while exposed to HIV need strategies to mitigate HIV acquisition risks. We are conducting a longitudinal study in Durban, South Africa to evaluate use of TDF/FTC as PrEP among HIV-exposed women planning for pregnancy.

METHODS: We enroll HIV-uninfected, 18-35 year old women with plans for pregnancy with a stable partner living with HIV or of unknown-serostatus. Safer conception counseling including PrEP is offered at each study visit. PrEP is supplied with an electronic pill cap and quarterly adherence counseling. Plasma tenofovir is collected quarterly. We follow women for one year; those who become pregnant are followed through pregnancy outcome. Adherence is defined as the number of electronic pill cap openings divided by number of days of expected PrEP use. We present data for the first 307 participants. Group-based trajectory models were used to identify 26-week adherence patterns for 156 periconception participants.

RESULTS:



[Figure. Periconception PrEP adherence trajectories for 156 participants.]

Between October 2017 and December 2019 we enrolled 307 women with median age 24 (range 18-35) years. Partner HIV-serostatus was unknown by 293 (96%). Among 296 women completing safer conception counseling, 62% (N=183) chose to initiate PrEP. During periconception follow-up overall median (IQR) adherence was 73% (51%-86%). In trajectory analyses, four adherence patterns emerged: high steady adherence (19% of women), slowly declining (39%), rapid decline (19%), and rapid decline then recovery (24%) (Figure). Women aged 18-24 years were more likely to follow either of the rapidly declining adherence patterns compared to older women (p=0.03). Detectable tenofovir was significantly associated with pill cap openings (p<0.0001).

CONCLUSIONS: Among women at-risk for HIV acquisition and planning pregnancy, most choose PrEP as a safer conception strategy. These data indicate high demand for and acceptability of periconception PrEP in South Africa. Trajectories identify groups who may require different types of support to optimize adherence behavior.

PED1286

FEASIBILITY AND ACCEPTABILITY OF JUST4US, A WOMAN-FOCUSED INTERVENTION TO INCREASE PREP UPTAKE AND ADHERENCE AMONG PREP-ELIGIBLE WOMEN IN NYC AND PHILADELPHIA

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BACKGROUND: Women comprise 21% of new HIV infections in the US. Many women vulnerable to HIV acquisition are not aware of and thus cannot access oral PrEP. We conducted a pilot randomized controlled trial to assess acceptability and feasibility of a theory-based, contextually relevant, technology-enhanced behavioral intervention, Just4Us, to promote PrEP initiation and adherence among women in NYC and Philadelphia.

METHODS: Eligibility criteria included: cisgender women, aged 18-55 years, HIV-negative, not currently taking PrEP, and meeting US guidelines for PrEP eligibility. Participants were recruited from venues (e.g., homeless shelters, drug treatment), online, and via referrals. They were randomized 3:1 to intervention (education and activities) or control (information only) arms.

All participants were provided with PrEP information and list of local PrEP clinics. Intervention arm participants also received a 1-1.5 hour individually-delivered baseline session with a counselor/navigator; the session involved 12 mini-modules related to providing information (video), motivation enhancement, skills-building, problem-solving, and referrals. Between baseline and 3-month follow-up, they received post-visit phone calls to support linkage to care and text-messaging program to promote adherence. All participants completed baseline, immediate post-intervention and 3-month online follow-up surveys.

Feasibility was assessed by: number of women eligible relative to number screened, number enrolled relative to number eligible, and number enrolled relative to target sample size. Acceptability was assessed by: intervention completion rate, 3-month visit retention rate, and satisfaction level based on survey responses.

RESULTS: Eighty-three women were enrolled (61 intervention; 22 control), exceeding target enrollment. Mean age was 37 years; 79% were Black, 26% Latina. Of 255 screened, 104 (41%) were eligible and 83 (80%) enrolled. Nearly 100% of the intervention mini-modules were completed. Retention rate was high at 90%. Intervention arm participants reported the following "very satisfied/satisfied" levels: overall session, 95%; discussion with counselor/navigator, 97%; tablet activities, 95%; text-messaging set-up, 93%; and video, 90%. Among control and intervention arms, 78% felt the session length was just right.

CONCLUSIONS: The pilot study demonstrated feasibility and acceptability of the Just4Us intervention, a promising woman-focused intervention to increase uptake of daily oral PrEP among women. These findings will be used to refine and test the adapted intervention in a larger trial.

PED1287

"I HAVE NO REASON TO TAKE IT, I KEEP MYSELF SAFE": ACCEPTABILITY AND PERSPECTIVES ON HIV PRE-EXPOSURE PROPHYLAXIS AMONG PEOPLE WHO INJECT DRUGS IN VANCOUVER, CANADA

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BACKGROUND: Despite Pre-Exposure Prophylaxis (PrEP) being highly efficacious for HIV prevention among marginalized populations, levels of PrEP awareness and uptake remain low among people who inject drugs (PWID). The objective of this study is to identify the individual, social, and structural factors that influence the acceptability of PrEP among PWID.

METHODS: From February to September 2017, we conducted in-depth, semi-structured interviews with 30 HIV-negative PWID (ages 33-73, 13 women, 17 men) from a prospective cohort in Vancouver, Canada. Interviews were coded and analyzed in NVIVO using thematic analysis which focused on examining PrEP acceptability and perceived barriers to use.

RESULTS: Three primary themes emerged from the interviews.

First, individual-level knowledge and awareness about PrEP was generally low and shaped by very low levels of HIV risk perception and concerns about PrEP (e.g. effectiveness, mistrust, side effects). While many felt PrEP would be suitable for others, only a small number considered themselves to be appropriate candidates for the intervention. Some participants also expressed unwillingness to use PrEP in the future, while others did not rule it out completely.

Second, participants described a set of social barriers to PrEP uptake. For example, a few discussed how HIV-related stigma (e.g. having to disclose being in a relationship with someone living with HIV) represents a significant barrier to PrEP use.

Third, a sub-set emphasized social and structural determinants with regards to PrEP access. Their discussions suggested the need to develop PrEP interventions through free, nonjudgmental, non-stigmatizing, and easy access to PrEP. They described that people who experience HIV-related anxiety, those who inject drugs, sex workers, and serodiscordant couples should be priority populations for future PrEP interventions.

CONCLUSIONS: Our findings suggest that HIV prevention messages related to PrEP have yet to reach PWID. Future HIV interventions and research should focus on health promotion strategies to ensure PWID who will benefit from PrEP both know about and have easy and free access to PrEP.

PED1288

#IYKWIM... WHAT AGYW REALLY THINK ABOUT PREP, HIV SERVICES AND HOW WE TALK TO THEM (#IYKWIM - IF YOU KNOW WHAT I MEAN)

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BACKGROUND: Adolescent girls and young women (AGYW) are a priority group for oral pre-exposure prophylaxis (PrEP) in South Africa (SA). Limited insights exist regarding their decision-making to use PrEP, and what role information, education and communication (IEC) materials play in this process.

DESCRIPTION: Between August 2018-August 2019, the WitsRHI OPTIONS team conducted six youth dialogues facilitated by a communications expert. Participants were selected through peer educators, age 18 or older, and categorized as PrEP current, past or never users. Dialogues, conducted in a semi-structured discussion, explored PrEP knowledge, barriers to testing, intent to access services, social mobilization and the National Department of Health IEC materials.

LESSONS LEARNED: Sixty-one youth participated, 50 AGYW, 10 young men and one transgender woman. Youth showed excellent knowledge on PrEP and HIV but did not endorse good health as a primary motivator for uptake, "It's so difficult because I don't like taking pills, knowing well that this is something that will keep me negative." However, feeling part of a movement, like We Are The Generation That Will End HIV (which features on all SA IEC materials), encouraged feelings of ownership and stimulated interest in PrEP. Materials were reported as an asset for navigating issues like PrEP side-effects, continuation, stigma and misinformation. Peer-led social mobilization was highly ranked but should include a digital approach: "Capitalise on Twitter, Instagram, Facebook and YouTube! On all these things that we're forever on." Youth showed resilience using innovative strategies to facilitate continuation and manage side-effects. HIV testing is a barrier to accessing PrEP due to fear and stigma associated with a positive result. The benefit of self-screening was noted but youth had concerns about receiving a positive result in the absence of support. Convenient services were a consistent theme, highlighting desire for mobile and youth-friendly clinics, and PrEP courier delivery.

CONCLUSIONS/NEXT STEPS: The biomedical benefit of PrEP isn't a motivator for uptake, rather positive emotional communication paired with convenient/supportive services and the reward of "being part of something bigger than myself" resonates with youth. Communication across digital platforms is valued; in response, these platforms have been established: www.myprep.co.za and @myPrEP_SouthAfrica on social media.

PED1289

U.S. PHYSICIAN INTENTIONS TO RECOMMEND AND PRESCRIBE HIV PRE-EXPOSURE TO ADOLESCENTS AND YOUNG ADULTS

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BACKGROUND: In the U.S., 21% of new HIV infections occurred in 13-24-year-olds; thus, pre-exposure prophylaxis (PrEP) is a promising intervention to prevent HIV in youth. However, PrEP's effectiveness depends upon clinicians' willingness to recommend and prescribe it. We examined physician intentions to recommend and prescribe PrEP, factors associated with these intentions, and experiences providing PrEP to youth.

METHODS: Surveys (n=2556) were physically mailed (May-December, 2018) to a random sample of physicians stratified by geographic region and specialty, drawn from the American Medical Association Physician Database (family practice, internal medicine, obstetrics/gynecology, pediatrics, adolescent medicine). Respondents caring for youth under age 18 were included. Surveys, informed by the Theory of Planned Behavior, Diffusion of Innovations, and a prior qualitative study, assessed demographics, knowledge, attitudes, benefits of, and barriers to, providing PrEP to youth, characteristics of PrEP impacting uptake, and experiences with PrEP. Outcomes - intention to recommend PrEP and intention to prescribe PrEP to 13-21-year-olds - were measured on 5-point Likert-type scales and dichotomized into high intention vs. other responses. Separate logistic regression models were generated for each outcome. Predictors associated with outcomes at p< 0.10 in unadjusted models were included in multivariable stepwise logistic regression models.

RESULTS: Of 414 responses, 375 were from physicians caring for youth and included in analyses. Most respondents were white (77.3%) and female (71%). Mean age was 48.3 years (SD10.7). Practice type was primarily private practice (38.4%) and academic (31.2%); 55% (SD38.6) of patients in the physician's practice were under age 18 years. Among respondents, 41% had discussed PrEP and 20% had prescribed PrEP to youth ages 13-21. Results of multivariable regression models are shown in the Table.

	Predictor	Adjusted Odds Ratio (95% Confidence Interval)
Intention to Recommend PrEP to Youth Ages 13-21 Years	U.S. region in which residency training was completed	
	Northeast vs. West	2.32 (1.08-4.98)
	Midwest vs. West	1.16 (0.55-2.47)
	South vs. West	1.45 (0.66-3.19)
	Physician specialty	
	Obstetrics/gynecology vs. Pediatrics	0.15 (0.05-0.41)
	Internal medicine/family practice vs. Pediatrics	2.15 (1.03-4.47)
	Adolescent medicine vs. Pediatrics	1.47 (0.74-2.90)
	Confidence in providing current HIV prevention methods	0.64 (0.41-1.01)
	Perceived ease of incorporating PrEP into practice	1.57 (1.24-1.99)
Intention to Prescribe PrEP to Youth Ages 13-21 Years	Physician specialty	
	Obstetrics/gynecology vs. Pediatrics	0.07 (0.02-0.21)
	Internal medicine/family practice vs. Pediatrics	2.74 (1.26-5.97)
	Adolescent medicine vs. Pediatrics	1.96 (0.91-4.21)
	Familiarity with PrEP	0.43 (0.28-0.65)
	Comfort with prescribing PrEP to patients under age 18 years	1.55 (1.18-2.04)
	Perceived ease of incorporating PrEP into practice	2.05 (1.54-2.72)

[Table: Factors Associated with Intention to Recommend and Prescribe PrEP to Youth Ages 13-21 Years]

CONCLUSIONS: Strategies to improve physician comfort with prescribing PrEP and ease of incorporating PrEP into practice may improve clinician intentions to prescribe and actual prescription of PrEP to at-risk youth.

PED1290

INDIVIDUAL AND CONTEXTUAL FACTORS ASSOCIATED WITH PREP ADHERENCE AMONG KENYAN ADOLESCENT GIRLS AND YOUNG WOMEN

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BACKGROUND: Adolescent girls and young women (AGYW) bear a disproportionate burden of new HIV infections in Kenya. Since March 2017, AGYW enrolled in DREAMS are offered PrEP for HIV prevention. Our objectives were to measure biomarker and self-reported levels of PrEP adherence and identify factors associated with poor adherence.

METHODS: We enrolled 343 randomly-selected AGYW ages 18-24 years from Kisumu and Homabay counties in Kenya who were taking PrEP for 2-9 months. Participants engaged in interviews and provided a dried blood spot (DBS) biomarker sample for testing of tenofovir-diphosphate drug levels. Interviews were repeated three months later, and if the participant continued PrEP, a second DBS sample was collected. First round interviews and DBS collection took place from June to September, 2019, with follow up from September 2019 to January 2020. AGYW are PrEP adherent if their tenofovir-diphosphate drug levels exceed 30f/molx106.

We used bivariate and multivariate regression analyses to identify associations with PrEP adherence. Because the study is currently underway, results shown are descriptive and derived from the first round of interviews; full results, including for biomarker testing, will be presented at the conference.

RESULTS: For self-reported adherence, 85% of participants reported taking PrEP most or all of the time; 82% reported taking PrEP is very or somewhat easy. In the week prior, 89% reported taking PrEP 4 or more days. The most common explanations for missed pills were not having pills when needed (41%) and privacy concerns (33%). Participants reported high levels of social support among friends, moderate support from family and low support from partners. Among those whose partner was unaware of her PrEP use, more than half indicated intimate partner violence was somewhat or very likely if he were to learn of it. One-quarter never use condoms, and half indicate their condom use has declined since initiating PrEP. Married AGYW report lower condom self-efficacy than unmarried AGYW.

CONCLUSIONS: In this cohort of AGYW, self-reported adherence was high, social support was strongest among peers, and condom use has declined. Our results will help determine patterns of PrEP adherence among AGYW, informing the structure of HIV prevention programs in resource-limited settings.

PED1291

AWARENESS, WILLINGNESS TO USE, AND WILLINGNESS TO PAY FOR DIFFERENT PREP SCHEMES AMONG MSM IN MEXICO

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BACKGROUND: PrEP roll-out has been slow, especially in low-and-middle-income countries, partly because of its high costs. Since PrEP programs are currently being designed, alternatives to make it available to as much people at risk as possible need to be considered: understanding willingness to use (WTU) and to pay (WTP) for different PrEP schemes among eligible individuals is essential.

METHODS: Between November and December 2019, a survey was conducted among men who have sex with men (MSM) and transgender women (TGW) in venues for meeting sexual partners. Information was collected on sociodemographics, sexual behavior, PrEP awareness, as well as WTU and WTP for different PrEP schemes: daily and event-driven PrEP, implants, and injections. We explored the demand curves for all PrEP schemes. To assess the predictors of awareness, WTU, and WTP, multivariate regression models were used.

RESULTS: We collected data from 166 MSM and 34 TGW. On average participants were 31 years old and 60% reported having a university degree or higher. 70% of the participants had heard of PrEP. The WTU was 88%, 66%, 72%, and 77% and the average monthly WTP was 66, 71, 84, and 173 USD for daily PrEP, event-driven, injections, and implant, respectively. Among TGW, the average WTP for daily PrEP was 67 USD. Participants with high school and university or higher degree were more likely to be aware of PrEP (OR 8.5 95%CI 2.1-34.7; OR 13.8 95% CI 3.7-50.9 respectively) than those with no education. Riskier sexual behaviors were significantly associated with lower PrEP awareness. WTP was predicted by income: being in the higher income tercile increases in 7.3% the WTP compared to the lower tercile. Those with university or higher degree had a higher WTP for long-active PrEP types versus those with lower education.

CONCLUSIONS: In this study we documented the awareness, WTU, and WTP for PrEP in Mexico. Our results highlight the need to roll out national PrEP programs among MSM and TGW. We also identified individual characteristics associated with higher WTP. These findings should be taken into account when planning and estimating the costs for PrEP scale-up at a national level.

PREVENTION OF VERTICAL TRANSMISSION

PED1292

QUALITY MATTERS: ACTIVE CASE MONITORING RESULTED IN IMPROVEMENT OF CARE CASCADE FOR HIV POSITIVE MOTHERS AND EXPOSED INFANTS: INTERVENTION FROM PLAN INDIA'S GLOBAL FUND SUPPORTED AHANA PROJECT IN INDIA

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BACKGROUND: The global community has committed itself to accelerating progress for prevention of vertical HIV transmission with the goal of eliminating new HIV infections in infants by 2020. Plan India implements Global Fund-supported PPTCT program (AHANA) in 357 priority districts of 14 States in India to achieve the goal of EMTCT through providing quality home based care and support services. To understand the effectiveness of the programme intervention, Plan India carried out an assessment in the intervention states.

METHODS: The study involved a mixed research method where both qualitative and quantitative methods of data collection and analysis were used. In-depth direct interviews (IDI) were carried out with 102 positive pregnant women, state and district level officials and Focused Group Discussions (FGDs) were carried out with ASHAs and ANMs . Altogether 232 In-depth interviews were carried out in 14 States of India. Data from a prospective cohort of positive pregnant women & exposed babies was triangulated to corroborate the findings.

RESULTS: Regular outreach activities and concurrent follow up 78% pregnant women found positive initiated on ART during 2017-18 has increased to 96% in Sept.19.Out of 5081 live birth, 94% babies initiated on ARV prophylaxis. DBS collection at 6 weeks was increased from 48% to 94% due to active monitoring. Out of PPW interaction (IDI) 82% were aware about the transmission of HIV, 96% PPWs were regularly taking ART. 75% PPWs faced side effect while taking ART. All spouse and 45% family members were aware about HIV Status of PPW. All PPWs were orientated on breastfeeding and out of 96% following breast feeding protocol. Primary health care providers were oriented on PPTCT towards greater convergence. Study suggests that the active case follow-up has resulted a positive improvement in the care cascade.

CONCLUSIONS: Multipronged programme strategy resulted in improved CD4 count of PPWs, positivity rate of infant and Stigma & Discrimination has reduced considerably through the efforts of Ahana. 87% PPW confirmed that their quality of life,as their position in the family and in the neighbourhood, has improved considerably. Managing care-cascade and timed intervention has catalysed reduced infant morbidity and mortality due to HIV infection.

PED1293

MULTIPLE HEALTH FACILITY ATTENDANCE FOR ANTENATAL AND POSTNATAL CARE AMONG WOMEN IN ZIMBABWE AND THE ASSOCIATION WITH MTCT

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BACKGROUND: Multiple facility attendance may impact prevention of mother-to-child HIV transmission (PMTCT) and the continuity of antenatal (ANC), postnatal (PNC), and HIV care, but its prevalence and associated factors are not well understood. Among women with a recent birth in Zimbabwe, we evaluated the prevalence of multiple facility attendance and its association with various dimensions of healthcare access, utilization of services in the PMTCT cascade, and mother-to-child HIV transmission (MTCT).

METHODS: We analyzed 2018 cross-sectional serosurvey data from randomly sampled mother-infant pairs from five provinces in Zimbabwe. Eligible women were ≥16 years and biological mothers of infants born 9-18 months prior to the survey. We assessed the prevalence of reported multiple facility attendance and utilized robust Poisson regression to determine the association between multiple facility attendance and: 1) characteristics related to ANC and PNC access, affordability, and the mother's personal characteristics, and 2) the initiation of infant antiretroviral (ARV) prophylaxis, early infant HIV testing, and MTCT among HIV-exposed infants.

RESULTS: Overall, 2,979 (43.1%) of 6,937 women visited multiple facilities for ANC, delivery, or PNC. Women who reported that they were the dominant decision maker in the household/family (adjusted PR: 1.31, 95% CI: 1.31, 1.31) and those in the highest wealth quartile (adjusted PR: 1.84, 95% CI: 1.83, 1.84) were more likely to report multiple facility attendance. Multiple facility attendance was associated with a lower prevalence of HIV-exposed infants initiating infant ARV prophylaxis (58.68% vs. 69.9%, adjusted PR: 0.92, 95% CI: 0.91, 0.92), a slightly higher prevalence of i) early infant HIV testing (26.53% vs. 24.24%, adjusted PR: 1.14, 95% CI: 1.12, 1.16), and ii) higher MTCT at 9-18 months (7.3% vs. 1.81%, adjusted PR: 3.1, 95% CI: 2.53, 3.8).

CONCLUSIONS: Multiple facility attendance for maternal care services is common amongst women with a recent birth in Zimbabwe. Although multiple facility attendance is associated with higher SES and empowerment, it is also paradoxically associated with lower rates of infant prophylaxis and higher prevalence of MTCT. Future research is needed to understand the drivers of this and to inform the design of interventions.

PED1294

MTCT KNOWLEDGE GAPS AMONG BIOLOGICAL MOTHERS OF INFANTS ATTENDING IMMUNIZATION CLINICS IN UGANDA (PMTCT IMPACT STUDY 2017/19)

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BACKGROUND: Comprehensive knowledge on MTCT improves uptake of PMTCT services and Viral Load (VL) suppression among HIV positive (HIV+) mothers. In Uganda PMTCT services are offered in high-level health facilities that provide maternity services and a few immunization clinics. Within the PMTCT Impact Study, we assessed the level of MTCT knowledge among Biological mothers of infants attending immunization clinics to understand critical gaps for optimizing PMTCT interventions for HIV Epidemic control.

METHODS: The PMTCT Impact study prospectively enrolled HIV+ and HIV Negative (HIV-) Mother-Infant pairs from 206 immunization clinics across the country during September 2017-March 2018. We interviewed a total of 12,054 Biological mothers (1,290 HIV+ and 10,764 HIV-); and assessed their knowledge on MTCT (can baby get HIV from infected mother? MTCT modes and PMTCT interventions).

RESULTS: The majority (88%) of HIV negative and HIV+ (96%) mothers knew that a baby can get HIV from infected mother. However, over half (54%) of HIV+ mothers and two-thirds (62%) of HIV- mothers did not know that MTCT can occur during Pregnancy. Similarly, a quarter (26%) of HIV+ mothers and over a third (35%) of HIV- mothers did not know that a baby can get HIV from infected mother during Child birth. High proportions (90%) of HIV+ mothers and HIV- mothers (86%) knew that MTCT can occur during breast feeding.
A few HIV+ mothers (3%) did not know that ART can protect baby from getting HIV.

Characteristics	HIV Negative n=10,764 (89.3%)	HIV Positive n=1,290 (10.7%)
Baby can get HIV from infected mother (Yes)	9,469 (88.0%)	1,237 (95.9%)
Mother's knowledge on MTCT modes		
Breastfeeding (Yes)	8,188 (86.5%)	1,116 (90.2%)
Pregnancy (Yes)	3,606 (38.1%)	566 (45.8%)
Childbirth (Yes)	6,151 (65.0%)	910 (73.6%)
Heard that HIV+ mother can take HAART for life to prevent MTCT (Yes)	8,939 (83.1%)	1,244 (96.4)

[Table 1: MTCT Knowledge among HIV Positive and negative mothers.]

CONCLUSIONS: Both HIV positive and negative women had major knowledge gaps regarding MTCT. Interventions to improve PMTCT knowledge and VL suppression should target Mothers' understanding of MTCT risks during pregnancy, childbirth and breastfeeding. Additional efforts needed to support Mothers adopt safe Infant feeding practices. Immunization Clinics offer a good platform for education, counselling and identification of HIV+ mothers for PMTCT.

PED1295

MULTI-COUNTRY REVIEW ON FINAL OUTCOME IN ELIMINATION OF MOTHER TO CHILD TRANSMISSION OF HIV IN M2M COUNTRIES

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BACKGROUND: Early access and retention on treatment has been a game changer in the fight to eMTCT. This approach includes early treatment initiation, monitoring the effectiveness of treatment, and supporting clients to provide preventative ARVs to their children while adhering to the recommended infant feeding practices. mothers2mothers (m2m) Mentor Mothers robust tracking of client appointments, timely follow-up of lost to care clients, support for early treatment uptake and retention in care, infant prophylaxis and HIV testing and safer infant feeding are methods used to reduce vertical transmission of HIV among mother-baby cohorts for up to 24 months of HIV exposure.

METHODS: A stratified, representative sample of 2957 pregnant women and new mothers enrolled from January – June 2016 from 69 sites in Eswatini, Kenya, Lesotho, Malawi, South Africa and Uganda. A cohort final outcome analysis based on Mother Baby Pairs (MBP) followed from the time of enrollment until December June 2018.

RESULTS:

[Figure. m2m multicountry PMTCT cascade]

Rates of maternal ART initiation and infant prophylaxis among this sample were 97% for and 93% respectively while uptake of CTX was documented at 86%. Uptake of infant testing registered at 91%; 75% of infants had a final test outcome documented at 18-24 months. Combining the two reports 73% of the sample had a final infant status, with a vertical MTCT rate of 1.9% less than the anticipated 5% MTCT rate among breastfeeding children. 93% of the HIV positive children were initiated on ART

CONCLUSIONS: Access to infant HIV tests continues to grow with increased fragmentation of service delivery in health facilities despite limitations. m2m peer interventions can be used to support service integration as part of the change care package in reaching the final outcomes results.

PED1296

THE ROLE OF PEER LAY HEALTH WORKERS PROGRAMMES AND INNOVATIVE SCALABLE QUALITY IMPROVEMENT SOLUTIONS TO IMPROVE FINAL HIV DIAGNOSTIC TEST UPTAKE AMONG HIV EXPOSED INFANTS

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BACKGROUND: m2m's peer-led integrated service platform employs HIV positive women 'Mentor Mothers' to deliver innovative and proactive approaches for uptake of PMTCT cascade services. These include HIV testing among HIV exposed infants (HEIs); those born to HIV positive women and babies of unknown HIV status. Final HIV test outcome must be established among all HEIs at 18-24 months. Lack of a final test outcome among all HEIs creates a key challenge to governments to accurately monitor our progress towards virtual eMTCT.
METHODS: As part of m2m's routine services at facility-community, HEIs are followed up and linked to a continuum of care including EID and 18-24 months rapid diagnostic HIV testing. m2m deployed a quality improvement change package that included Mentor Mothers' review of monthly data on infant tests done versus scheduled; m2m's electronic active tracking system was instrumental. Mentor Mothers also participated in static and mobile immunization clinics to ascertain infant exposure status, proactive linked 18-24 months infants to rapid partner-led community-based HIV testing and provided household follow up integrated with early childhood development interventions.
The analysis of uptake of HIV services among HIV-exposed infants (aged 0-2 years) draws on a stratified, representative sample of 69 sites in Eswatini, Kenya, Lesotho, Malawi, South Africa and Uganda. The sample included all HIV-positive index clients enrolled between January - June 2016.
RESULTS: Uptake of the first DNA PCR test among HIV exposed infants averaged at 69 implementing sites averaged at 87% ranging between 83% in Malawi and 98% in South Africa. Seventy-three (73%) of the HIV exposed infants had a final HIV test at 18-24 months (Eswatini at 68%, Kenya 61%, Lesotho 73%, Malawi 65%, Uganda 79% and South Africa 89%). Although not ideal, the final HIV test and results achieved are above reported national averages.
CONCLUSIONS: Peer lay health workers play a positive role in supporting infant testing and final outcomes of HEIs. However, there is a need to strengthen QA/QI approaches that allow for client-centered service delivery and maximize services integration in resource-limited settings.

PED1297

PROTECTING BABIES OF HIV-POSITIVE MOTHERS FROM MOTHER-TO-CHILD TRANSMISSION (MTCT) IN VENEZUELA IN THE FACE OF A COMPLEX HUMANITARIAN EMERGENCY

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BACKGROUND: The Healing Venezuela Program was launched in response to the complex humanitarian emergency in Venezuela, when AID FOR AIDS was distributing ART to people with HIV and identified 1,000 women without treatment who were at risk of transmitting the virus to their babies through breastfeeding. This program aims to contribute with the nutrition of Venezuelan babies aged between 0 and 12 months, babies of mothers with HIV without access to treatment, by providing them with infant formulas to prevent their malnutrition.
DESCRIPTION: The Healing Venezuela program involves five (5) key steps: 1) AFA secures funding to purchases infant formula. 2) AFA purchases formula already registered in Venezuela with health certificate, this to avoid possible confiscations from the government. 3) AFA partners with pediatricians nationwide to determine needing population. 4) The partner doctors select babies born to mothers with HIV. 5) AFA Venezuela and civil society implement a surveillance system to monitor the delivery and distribution of infant formula.
LESSONS LEARNED: AFA has developed a pioneering mechanism to surpass governmental obstacles and address infant malnutrition in Venezuela. AFA's mechanism entails a continued surveillance of the monthly delivery of the infant formula through the weight and height indicators, turning AFA in one of the largest suppliers of formula nationwide benefiting 2,400 babies exposed to HIV during 2018 and 2019 in 20 states, 24 cities, involving 33 partner doctors, 28 assistance centers, 12 NGOs, 3 Catholic institutions, 6 volunteers and 2 private companies.
CONCLUSIONS/NEXT STEPS: AFA managed to avoid mother-to-child transmission (MTCT) through breastfeeding to the babies benefiting from the Healing Venezuela programme, achieving a satisfactory nutritional evolution in 80% of the babies. Going forward, AFA aims to provide infant formula to 3,000 babies of mothers with HIV while the shortage of ART, viral load and CD4 keeps going.

RISK COMPENSATION: CONCEPTUALIZATION, ASSESSMENT AND MITIGATION

PED1298

PREP OR CONDOMS, OR BOTH? INSIGHTS ON RISK COMPENSATION THROUGH A DISCRETE CHOICE EXPERIMENT ON PREP PREFERENCES AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN

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BACKGROUND: HIV pre-exposure prophylaxis (PrEP) is effective in preventing HIV acquisition among gay, bisexual, and other men who have sex with men (GBMSM). While evidence for risk compensation has been mixed, less work has considered how individuals make decisions around PrEP use vis-a-vis real world considerations, including the availability and accessibility of PrEP vis-à-vis condoms.
METHODS: A discrete choice experiment (DCE) was disseminated through Grindr® among a sample of GBMSM. Participants were asked to select their preferred basket of PrEP attributes relating to cost and accessibility of medication and follow-up visits, and compared this choice to a condoms-only option, and later, an option to add on condoms over and above PrEP (PrEP+condoms). Latent class models were employed to ascertain preferences across classes of GBMSM.

RESULTS: A three-class model was selected based on an assessment of both information criteria and preliminary data collected by the study team. 'PrEP moderates' had no significant preference for PrEP only compared to condoms only, but were more likely to prefer PrEP+condoms compared to PrEP only. Their utilities for PrEP were not associated with their risk perceptions of HIV and other sexually transmitted infections (STI). 'PrEP conservatives' were more likely to have greater utility when using condoms only compared to PrEP only, as well as PrEP+condoms compared to PrEP only. Their utilities for PrEP were sensitive to changing perceptions of HIV risk when considering PrEP only. 'PrEP liberals' were more likely to choose PrEP only compared to condoms only, as well as PrEP only compared to PrEP+condoms. They had greater disutility as perceptions of HIV and other STI risks increased, compared to PrEP moderates, but less so than PrEP conservatives. PrEP liberals were also more likely to perceive themselves to be good candidates for PrEP in the demographic survey prior to the DCE, compared to moderates and conservatives.

CONCLUSIONS: There is evidence for potential risk compensation among PrEP liberals who perceived themselves to be good candidates for PrEP prior to the DCE. PrEP remains an effective means of HIV prevention in GBMSM as PrEP liberals may benefit from enhanced STI screening and treatment through the course of PrEP follow-up.

SCHOOL-BASED SEXUAL EDUCATION, LIFE SKILLS AND GENDER EQUALITY EDUCATION

PED1299

EFFECTS OF SOCIAL MEDIA-DELIVERED INTERVENTION ON HIV RISK PERCEPTION AND WILLINGNESS TO GET TESTED AMONG STUDENTS OF SELECTED TERTIARY INSTITUTIONS IN SOUTH-WESTERN NIGERIA

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BACKGROUND: Persistent new HIV infections especially among young people underscores the need for enhanced prevention. In Nigeria, young people are ardent users of social media (SM) and these media have been understudied in terms it relevance to HIV prevention. This study investigated the effects social media-delivered intervention on HIV risk perception (HRP) and willingness to get tested (WgT) among students of selected tertiary institutions in south-western Nigeria.

METHODS: The quasi-experimental study was conducted in two selected public polytechnics which were randomly allocated into Experimental (EG) and Control Groups (CG). A total of 101 in EG and 99 in CG were selected through a four-stage simple random sampling technique. Baseline data collected using pre-tested self-administered questionnaire included; respondents' socio-demographic characteristics, HRP and WgT. Scores ≤6, 7-12, >12 were categorised as low, average and high HRP. Baseline findings were used to design and implement a four-month educational intervention using a created social media group platform; WhatsApp. A post-intervention survey was conducted after one-month follow-up using same instrument at the baseline. Data were analysed using descriptive statistics, Chi-square and t-test at $\alpha 0.05$.

RESULTS: Respondents' ages were 21.3±2.7 and 21.4±2.7 years, while males included 61.4% and 70.7% in EG and CG, respectively. At the baseline, 31.7% and 35.5% has ever been tested for HIV in EG and CG respectively. WgT for HIV among those who have never been tested was 82.6% (EG) and 87.5% (CG). At the post-intervention, significantly, all participants (100%) who were yet to be tested for HIV were willing to undergo the test in EG while 67.5% were willing in CG. With reference to the baseline, there was a significant increase in HRP in EG at the post-intervention from 11.5±2.8 to 12.6±2.4, compared with CG which increased from 11.7±2.4 to 11.5±2.7 with no significant difference. High HRP was 42.6% (EG) and 42.5% (CG) at the baseline, at the post-intervention, high HRP significantly increased in EG (75.3%) and compared with 43.6% in CG.

CONCLUSIONS: Social media-delivered intervention increased HRP and WgT among the respondents. Social media interventions are therefore recommended to reach young persons on HIV preventive related matters.

PED1300

PREVENTING HIV AND SCHOOL DROPOUT IN UGANDAN GIRLS THROUGH AN ADOLESCENT-LED, SCHOOL-COMMUNITY EARLY WARNING SYSTEM

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BACKGROUND: According to the Uganda Violence Against Children Survey (2018), 20% of girls experienced forced sex before age 18, of whom 28% become pregnant. 75% acquired sexually transmitted infections including HIV, and 25% missed school due to violence, all of which increase the risk of acquiring HIV (UNAIDS, 2018). Uganda has one of the highest global HIV prevalence rates (6%), and the HIV prevalence of adolescent girls (AGs) aged 15-19 is approximately 2.5% - almost four times higher than boys aged 15-19 (UPHIA 2016-2017). Previous research recommends programming for adolescents using the socio-ecological theory that comprehensively engages schools, communities, individuals, and families. The School-Community Accountability for Girls Education (SAGE) program in Uganda was an integrated school-based HIV prevention program for AGs that used an Early Warning System to track school attendance and incorporated social and behavior interventions to change social norms around girls' education.

METHODS: A longitudinal study was conducted in 13 districts of Uganda using cross-sectional baseline and endline surveys. The sample size was 1,310 AGs (950 intervention; 360 control) and 672 parents/caregivers (420 intervention; 252 control). The study assessed the intervention's impact in reducing secondary school dropout and the associated risk of HIV among 38,750 girls aged 13 to 19 in 151 schools.

RESULTS: The data indicated AGs who experienced school-related gender-based violence decreased by 7% in the last six months of the project, the number of AGs who took an HIV test increased by 10.8%, the number of AGs who had sexual intercourse decreased by 7.2%, and rates of corporal punishment in intervention schools decreased by 17.5%. SAGE's innovative combination approach helped shift social norms and practices around girls' education, violence against children, reproductive health, and positive discipline. Further, SAGE monitoring data reported an increase in girls retained in school at the end of the project - 99.7% (2019) compared to 88.5% (2016).

CONCLUSIONS: Findings suggest that the integrated approach is a potentially effective way to identify AGs at risk of dropping out of school and mitigate the causes of dropout (thus decreasing risk of HIV). Scaling up similar interventions to reduce HIV-related vulnerabilities can be considered.

STRATEGIES TO RECRUIT AND RETAIN POPULATIONS (E.G., FROM HOT SPOTS)

PED1301

BARRIERS AND MOTIVATORS TO PARTICIPATION AND RETENTION IN HIV/HCV COHORT STUDIES AMONG PEOPLE WHO INJECT DRUGS: A COMMUNITY CONSULTATION IN IRAN

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BACKGROUND: The lack of robust estimates of HIV/HCV incidence among people who inject drugs (PWID) in Iran calls for well-designed prospective cohort studies. Successful recruitment and follow-up of PWID in cohort studies require formative assessment of barriers PWID are faced with in participation and retention in cohort studies and motivators they think may enhance this engagement. Using a focus group discussion (FGD) format, we conducted a consultation with PWID in southeast Iran to recognize those barriers and motivators.

METHODS: Using targeted sampling, we recruited PWID (aged≥18, injected in last 6 months) from community-based drop-in centers (DICs), homeless shelters, and through outreach efforts to participate in four FGDs (one women-only). Socio-demographic characteristics, injection behaviors and self-reported HCV/HIV testing and diagnosis history were obtained. Then, a semi-structured FGD guide was applied to explore barriers and motivators to participation and retention in cohort studies among study participants. All FGD sessions were recorded and transcribed verbatim, removing any identifying information. The content of FGDs were analyzed by thematic analysis using an inductive approach.

RESULTS: In total, 30 individuals (10 women) participated in the study. The mean age of participants was 35.4 years (SD 7.6), with majority (73.3%) reporting injecting drug use within the last month. Only 40.0% reported ever being tested for HCV whereas a larger proportion (63.4%) reported ever being tested for HIV. With most willing to participate in cohort studies, breach of confidentiality, fear of positive test results, perceived high commitment required, and marginalization were reported as barriers to participation and retention in such studies. Monetary incentive, the thought of a better life, protection from police interventions and trust between health workers and PWID were addressed as motivators of engagement in cohort studies among PWID.

CONCLUSIONS: Strategies to enhance data security and reduce stigma associated with injecting drug use along with involving peer workers in research, providing pre and post-test counselling and education and addressing the needs of more marginalized groups potentially through integrated healthcare programs and housing support are among few approaches that may help address barriers and strengthen the motivators for successful cohort studies among this population.

PED1302

FEMALES LEADING THE WAY FOR VOLUNTEER MOBILIZATION TO REACH VMMC CLIENTS

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BACKGROUND: In Lesotho, only thirty-eight percent of males aged 15-49 years reported being medically circumcised (LePHIA, 2017). With funding from PEPFAR/USAID, Jhpiego has supported over 210,000 voluntary medical male circumcisions (VMMCs) since 2012. Despite low saturation of medical circumcision, uptake of VMMC remains suboptimal, presenting a challenging opportunity for strengthening demand creation.

DESCRIPTION: In response to low VMMC uptake from October 2017 – September 2018, the mobilization program was redesigned from an informal volunteer based system to a structured, incentive-based, system engaging Volunteer Community Advocates (VCAs). VCAs are recruited through local health facilities, VMMC registers of satisfied clients, and other motivated individuals interested in mobilizing for VMMC. A formal three-day training is conducted, basic branded uniforms and ID cards are provided, and data is collected from each VCA through paper-based forms collected monthly. VCA-specific data was entered into excel from January – September 2019 to track performance. Basic VCA demographics were also collected to allow performance to be disaggregated by gender, age and district.

LESSONS LEARNED: During the scale-up 274 VCAs were trained and deployed for VMMC community mobilization directly resulting in over 9,100 clients receiving VMMC services from October-September 2019, while the program as a whole saw a 31% increase in performance. On average 81 VCAs were active each month depending on where services were being offered, and the availability of the VCA. Of the trained VCAs, 56% were female and 44% were male; however 70% of VCA-mobilized clients were brought by female VCAs and only 30% of VCA-mobilized clients were brought by male VCAs. Female VCAs were more likely to be active each month and the productivity per VCA was also slightly higher among females. While males were originally targeted for VCA recruitment, this performance has resulted in a programmatic shift towards a balance of both male and female VCAs as we better understand the important role female mobilizers play in men's health and the ability for women to motivate and encourage men to receive VMMC services.

CONCLUSIONS/NEXT STEPS: While VMMC mobilization is targeting men, female VCAs play a key role in mobilizing men for health services, and encouraging behavior change for health seeking behaviors.

PED1303

ONLINE AND VENUE-BASED RECRUITMENT STRATEGIES ARE COMPLEMENTARY TO REACH HIGH RISK MSM FOR A LARGE PREP SERVICE IN RIO DE JANEIRO, BRAZIL

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BACKGROUND: New cases of HIV infections continue to increase among young MSM in Brazil. In order to mitigate the HIV epidemic, it is crucial to reach and engage young vulnerable MSM in PrEP services. This study compares online and venue-based strategies to recruit MSM to HIV prevention service in Rio de Janeiro, Brazil.

METHODS: MSM at high risk for HIV infection were recruited through venue-based and online strategies. Venue-based strategies consisted in peer educators recruitment in gay venues, referral by friends or health professionals and self-referral. Online strategies included advertisements on GSN dating apps (Hornet and Grindr) and social media (Facebook/Instagram) to increase PrEP and HIV awareness. We used chi-square test to compare the characteristics of MSM who attended the service through online and offline strategies.

RESULTS: From Mar-2018 to Oct-2019, 2246 MSM attended the service looking for HIV testing, HIV counseling and HIV prevention strategies (PEP and PrEP): 649(28.9%) recruited online and 1597(71.1%) through venue-based strategies. MSM recruited online were older (age median 28[IQR:24-35] vs. 27[IQR:23-34] years old, p=0.041), white (39.7% vs 35.6%, p=0.071) and of higher education (53.2% vs 36.0%, p<0.001) compared to MSM recruited through venue-based strategies. (Table). HIV prevalence was 10.7%(IQR:9.5-12.1%), higher among MSM recruited through venue-based strategies (12.0% vs. 7.7%, p=0.03). Among HIV-uninfected MSM, 74.6%(1496/2005) were eligible for PrEP, and the proportion was higher among MSM recruited online (77.8% vs. 73.3%, p=0.033). Among PrEP eligibles, PrEP uptake was 56.4% (844/1496), higher among those recruited online (62.9% vs. 53.5%, p<0.001). PEP initiation was higher among MSM recruited offline (18.3% vs. 8.2%, p<0.001).

		Venue-based 1597(71.1)	Online 649(28.9)	Total 2246(100)	p-value
Median age (years)		27 (IQR:23-34)	28 (IQR:24-35)	27 (IQR:23-34)	0.041
Age (years)	18-24 25-34 ≥35	545(34.3) 729(45.9) 315(19.8)	187(28.9) 312(48.2) 148(22.9)	732(32.7) 1041(46.6) 463(20.7)	0.003
Race	White Non-white	550(35.6) 995(64.4)	246(39.7) 373(60.3)	796(36.8) 1368(63.2)	0.071
Education	≤ Secondary school > Secondary school	998(64.0) 561(36.0)	297(46.8) 337(53.2)	1295(59.1) 898(40.9)	<.001

[Table]

CONCLUSIONS: Online and venue-based strategies are complementary to reach high risk MSM. While online strategies reached more MSM at higher HIV risk, venue-based strategies reached younger, non-white and lower educated MSM.

PED1304

PEER NAVIGATION IS IMPORTANT TO IMPROVE CARE PRACTICES OF ADOLESCENTS MSM AND TGW WHO ARE TAKING PREP: LESSONS LEARNED FROM BRAZIL

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BACKGROUND: In many countries including Brazil, adolescent and youth men who have sex with men (MSM) and transgender women (TGW) (AYKP) are at high risk for HIV infection. PrEP is an effective HIV prevention tool in high-risk populations. However, there are still gaps in PrEP enrolment among adolescents. Our goal is to explore care practices of Peers Navigators (PN) with participants in PrEP1519 study.

METHODS: Data are from PrEP1519, the first demonstration study among AMSM and ATGW aged 15-19, ongoing in three Brazilian cities: Salvador, Belo Horizonte e São Paulo. Data was collected between April-July, 2019 in Salvador site. After PrEP initiation, a PN is assigned to follow-up the needs of each participant and reinforce PrEP adherence. Fifteen field notes describing PN interactions with the participants were reviewed, and main themes categorized. In addition, transcription of a focus group with three PN, and first author field observations analyzed.

RESULTS: PN highlighted the importance of their efforts to create a narrow bond between the project and participants, once their follow-up reduces participants' anxiety and fear of the repercussions of prolonged medication use. The LGBT belonging of PN and their emotional and operational support on PrEP use, facilitated the emergence of sensitive topics such as affective-sexual experiences, self-image, daily life experiences, and access to work. The navigation includes care and support on various aspects such as: use of PrEP and its difficulties (side effects, drug interaction - especially hormone use in TGW, forgetfulness, appropriate storage), sexual health care, combined prevention and the multidisciplinary care offered in the PrEP clinic, following-up them at public services in order to facilitate access to health and care, and social support to overcome TGW vulnerabilities (financial, family and emotional).

CONCLUSIONS: PN is an important bonding and retention strategy for AYKP, considering the various social vulnerabilities they face. The navigation has been developing as a holistic care process and beyond PrEP adherence maintenance. It has been molded and reformulated according to the needs of each participant.

PED1305

REDUCING ATTRITION AMONG PERSONS LIVING WITH HIV IN RESOURCE-POOR SETTINGS: LESSONS LEARNED IN A RETURN-TO-CARE CAMPAIGN IN RURAL HAITI

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BACKGROUND: Despite remarkable reductions in HIV prevalence and mortality in Haiti over the past decade, high rates of attrition remain a serious challenge in progress toward epidemic control. PEPFAR estimates that almost half of the PLHIV newly enrolled in the

past three years have been lost to follow-up (LTFU). Factors contributing to attrition include socioeconomic barriers, migration, stigma, poor health, perceptions of good health, and death.

DESCRIPTION: Partners In Health / Zanmi Lasante support comprehensive HIV treatment for over 15,000 PLHIV in 11 Ministry of Health clinics in rural Haiti. In October 2018, the number of patients lost to follow-up in the prior three years was more than 2,000. In order to address this problem, a new system was designed to return patients to care that: 1) shifted coordination of patient tracking activities from nurses, who were overburdened by clinical and reporting requirements, to social workers, 2) harnessed a cadre of trained and compensated community health workers to track patients, and 3) updated the electronic medical record to identify patients meeting LTFU criteria.

LESSONS LEARNED: Between October 2018 and April 2019, 2,244 patients were identified as LTFU and referred into the redesigned tracking process. Among these, 27% were returned to care and 51% were not able to be located, with tracking activities ongoing at the time of reporting (Table).

Status	Number	Percent
Returned to care	602	27%
Contacted, planned to return to care	107	5%
Contacted, declined to return to care	73	3%
Deceased	117	5%
Relocated out of catchment area	162	7%
Transferred care to another provider	37	2%
Not located, tracking ongoing	1,146	51%

[Table: Patient status in return-to-care campaign]

CONCLUSIONS/NEXT STEPS: This return-to-care campaign demonstrated that with efficient systems for tracking patients LTFU, powered by established community health workers, large numbers of LTFU could be re-engaged in care in a short time period. A significant number of LTFU could not be located, suggesting the need for better documentation of transfers between providers, more study of migration patterns, and improved death registries. Re-engaging patients previously LTFU highlighted the need to expand patient-centered approaches to prevent attrition, including rapid pathways to reduce clinic wait times and multi-month and community drug distribution.

PED1306

CONTRIBUTION OF TRADITIONAL MEDICINE PRACTITIONERS AND RELIGIOUS LEADERS IN THE FIGHT AGAINST TUBERCULOSIS AND AIDS IN CENTRAL AND NORTHERN CÔTE D'IVOIRE FROM JANUARY 2018 TO JUNE 2019

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BACKGROUND: In Côte d'Ivoire, the prevalence of HIV / AIDS is 3.4% (EDS 2012) and for Tuberculosis (TB) the incidence is 153 per 100,000 Hbts. Ivory Coast benefits from Global Fund grants since 2009, with CI Alliance as Principal Recipient Community to run from 2018 to 2020 the New Project Financing Model for HIV / AIDS and Tuberculosis. It is within this framework that the SAS Center intervenes in six health regions in the Center and North of Cote d'Ivoire, ie 30% of the regions of the country. To achieve the objectives of these projects, one strategy was to involve practitioners of traditional medicine and community religious leaders in the notification process of Tb, early detection of HIV and retention ARV and TB care of patients.

DESCRIPTION: Mapping traditional medicine practitioners and religious leaders in the project intervention areas Organize meetings to explain objectives, and project activities related to the three 90s of HIV / AIDS and Tuberculosis Plead for the referral and counter referral of cases of lost sight of or positive screened in denial Awareness raising and case reference by religious leaders (pastors-priests-imams) during their sermons and preaches Awareness raising and case referral for performing HIV test and sputum examination by traditional medicine practitioners during their consultations.

LESSONS LEARNED: 96 advocacy meetings were organized
1414 suspected tuberculosis cases referred
663 cases Tuberculosis suspects detected positive out of the 1414 referred
169 cases referred for HIV testing
160 cases referred for the HIV / AIDS screening test screened positive out of the 169 referred
119 of 135 Loss of Sight under Antiretroviral treatment and 07 out of 10 Loss of Sight under treatment of Tuberculosis were found by leaders of prayer camps and practitioners of traditional medicine and reintegrated into careintegrated into care.

CONCLUSIONS/NEXT STEPS: The referral and counter referral system put in place between traditional medicine practitioners, religious leaders, prayer camp officials, non-governmental community organizations, and state health providers contributes to ensuring that patients are referred early for screening, retention in care and thus lead to the 3rd 90 for HIV and cure for Tuberculosis.

PED1307

STRATEGIES FOR REACHING AND ENGAGING YOUNG MEN WHO HAVE SEX WITH MEN IN A DIRECT-TO-CONSUMER MODEL OF KEEP IT UP!, AN EHEALTH HIV PREVENTION INTERVENTION

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BACKGROUND: Keep It Up (KIU) is a CDC best-evidence, brief online HIV prevention program for young men who have sex with men (YMSM) in the U.S. In nationwide research trials, KIU was delivered 1) via community-based organizations (CBOs) and 2) direct-to-consumer (DTC), where centralized staff recruited YMSM through online advertising, shipped them HIV/STI test kits, and upon testing HIV-negative granted them intervention access. Yet little is known about how to implement eHealth HIV prevention interventions in real-world settings. As it eHealth DTC interventions' success in the real world relies on the ability to reach, engage, and retain the target population, we describe lessons learned from early stages of implementing KIU to inform future eHealth HIV prevention implementation.

DESCRIPTION: In October 2019, we began testing KIU in a hybrid type III effectiveness-implementation RCT comparing CBO versus DTC delivery in 44 U.S. counties (22 counties per strategy). The 4-person DTC staff is implementing a county-by-county recruitment strategy including ZIP-code-based paid online advertising; outreach to CBOs and stakeholders in DTC counties; and direct outreach to YMSM.

LESSONS LEARNED: After 3 months, 1124 individuals accessed our eligibility screener, 49 were eligible, and 14 participants have enrolled. Most eligibles came from paid online ads and participant registries, and primary reason for ineligibility was county of residence. Enrollment patterns and participant feedback suggest that the free HIV/STI tests motivate some to enroll, but the lack of monetary incentives lead to significant attrition. Additional barriers to enrollment include a limited recruitment budget, and lack of on-the-ground presence in the DTC counties. Our YMSM advisory council suggested offering coupon codes and sexual health products to compensate for lack of monetary incentives, and networking with LGBT social groups in each county to increase reach.

CONCLUSIONS/NEXT STEPS: DTC delivery of eHealth HIV prevention interventions promises to reach YMSM more effectively than traditional in-person approaches, yet this has not been studied empirically. Our early challenges suggest that strategies effective in a research context may not be pragmatic in a real-world service implementation of KIU. Our team is brainstorming novel approaches to reaching, engaging, and retaining YMSM in KIU within project constraints.

PED1308

REACHING AND ENGAGING TRANSWOMEN: A SUCCESSFUL RECRUITMENT CASCADE IN AN HIV PREVENTION SERVICE IN RIO DE JANEIRO, BRAZIL

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BACKGROUND: Transwomen are disproportionately affected by HIV epidemic worldwide. However, stigma, social marginalization and transphobia hinder transwomen from accessing HIV prevention and care services. We describe the recruitment cascade among transwomen at a large research and care center for HIV prevention in Rio de Janeiro, Brasil.

METHODS: Since 2015, Fiocruz, a major public health institution in Brasil has implemented a transgender health clinic and has been developing HIV prevention and treatment studies for transwomen. Transwomen diagnosed with HIV infection are offered care and immediate ART initiation, and high-risk HIV negative transwomen are offered HIV prevention services including PrEP and PEP. Clinical care including mental health and endocrinology are offered at no cost. Trans community educators were hired, gender-neutral spaces were created, and support activities and services such as art workshops, dance classes, legal assistance were implemented. Peer referral, peer-educator outreach activities in trans venues and sex work hot spots, and social media campaigns are the main recruitment strategies. Information on demographics, HIV testing, and PrEP were collected by semi-structured interviews.

RESULTS: From Oct-2018 to Nov-2019, 467 transwomen were assessed. The majority were referred by peers (65%) and 15% by outreach activities performed by the trans community educators part of our team. Only 1% was referred by social media advertisements. Median age was 26 years (IQR:22-33), 73% were non-white, and 49% had elementary school or less. 90 transwomen were HIV-infected (19.3% prevalence; 95%CI:16.0-22.1). Among the 377 HIV-uninfected transwomen, 370 (98%) were eligible for PrEP according to CDC criteria, 349 (92.6%) were referred for PrEP, and PrEP uptake was 33.8% (125/370); 21 had criteria for PEP use and initiated PEP in the same day. A hot line was made available for them to call if any adverse events or concerns about PrEP and PEP use.

CONCLUSIONS: A strong partnership with trans communities and the establishment of a gender-affirming setting led to successful recruitment of young and vulnerable transwomen for prevention and care services and research projects. Inclusion of peers is of utmost importance to reach and recruit transwomen. Use of social media has not proven yet as a useful strategy to recruit transwomen in our setting.

TRADITIONAL AND COMPLEMENTARY HEALTHCARE APPROACHES

PED1309

ENGAGING TRADITIONAL BIRTH ATTENDANTS FOR IMPROVED ACCESS TO PMTCT SERVICES BY PREGNANT WOMEN

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BACKGROUND: Prevention of mother-to-child transmission of HIV (PMTCT) programs in Nigeria faces challenges in achieving service uptake. One important reason is because of the significant preference for traditional birth attendants (TBAs) which have not routinely been included in national PMTCT programs. We examined the benefits of incorporating TBAs in PMTCT program.

METHODS: We conducted a retrospective review of PMTCT data in 128 facilities linked to 190 TBAs in three local government areas (LGAs) of Rivers State between January 2018 and March 2019 A 7-step TBA engagement intervention model was implemented ;1 Advocacy and stakeholder management: PMTCT gap analysis discussions were held with stakeholders. 2. Mapping of TBAs: We mapped TBAs around existing PMTCT health facilities, 3. Knowledge assessment and capacity building: A baseline knowledge assessment and capacity building on SOPs for HIV counselling and testing, 4. Roll out of PMTCT services by TBAs: HIV counselling, testing and documentation were supported with supply of commodities and technical assistance, 5. TBA-Health facilities Referral system: Each TBA was linked to PMTCT sites with protocols for referral and linkage services, 6. Performance based incentives: High performing TBAs were provided with incentives such as communication allowances and souvenirs for clients.7.Monitoring and Evaluation: Documentation and reporting of testing, delivery, ARV prophylaxis and referral services.

RESULTS: 580 HIV positive pregnant women delivered their babies at the health facilities within the period of review, and 20.7% (120) were unbooked pregnant women referred from TBAs. Similarly, 463 HIV exposed infants received ARV prophylaxis within 72 hours of delivery, of which 11.0% (84) were HIV exposed infants delivered outside the health facilities but referred by the TBAs for EID and prophylaxis. Another 52 exposed infants received ARV prophylaxis after 72 hours, of which 65.4% (34) were from TBA referrals of HEIs delivered outside health facilities.

CONCLUSIONS: The involvement of TBAs in PMTCT reflects an opportunity to improve PMTCT outcomes. It can help bridge access gap between the communities and health facilities.

USE OF TECHNOLOGY, SUCH AS M-HEALTH

PED1310

USE OF CHATBOT FOR ADDRESSING ADOLESCENT'S QUERIES ON SRH AND HIV RELATED ISSUES – FINDINGS FROM A PILOT INITIATIVE IN MADHYA PRADESH, INDIA

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BACKGROUND: As per the Census of 2011, adolescent (10 – 19 years of age) constitute around 20% of the population. Because of taboos around sexual health, many adolescents lack the correct information and at times even spread false information among their peers. Without access to reliable channels for providing accurate information on sex and sexual health, young people get incorrect or incomplete information. A study done by Population Council in two states in India highlighted adolescents' limited awareness on sexual and reproductive matters including HIV/AIDS.
DESCRIPTION: In order to provide correct information to adolescent, while ensuring their privacy and confidentiality, a chatbot was developed. The chatbot had access to more than 9000 question and answers including audio and video materials. A helpline was also developed, which can be accessed both online and through phones, to answer any further questions. The helpline was manned by trained counselor. A study was done with 480 adolescents (240 boys and 240 girls) in two districts of Madhya Pradesh to assess its relevance and usefulness.
LESSONS LEARNED: The concept of chatbot was appreciated by 93% of the respondents and they prefer it instead of having face-to-face conversation with counselor or health care providers for information on SRH and HIV/AIDS related issues. 89% respondents appreciated that it is easily accessible, 74% respondents appreciated that it has comprehensive information and 72% respondents found chat messages appropriate. 31% respondents also called up on helpline to get more information after chatting with the chatbot. 27% respondents were also worried that as their family members may see their chats. 38% respondents also expressed the need of making it multilingual and support some regional languages.
CONCLUSIONS/NEXT STEPS: Chatbot can be very powerful medium to address adolescent's queries on SRH and HIV related issues as it is easily accessible and adolescent feel more comfortable. At the same time, it need to be backed with service provision and create enabling environment for adolescent to avail services like condoms from health facilities. Besides that, not all adolescent has access to internet and also there may be risk that other family members can access the chat violating the privacy.

PED1311

GEOSOCIAL NETWORKING APPLICATION USAGE IS ASSOCIATED WITH INCREASED HIV SEXUAL RISK BEHAVIOR AND PREP AWARENESS AMONG NIGERIAN GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN

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BACKGROUND: Nigerian gay, bisexual, and other men who have sex with men (GBMSM) bear a disproportionately higher burden of HIV compared to the general population. In countries where same-sex attractions and sexual activity are stigmatized and criminalized, GBMSM may seek social and sexual networking through geosocial networking applications (GSN apps). We investigated prevalence of GSN app usage and its association with sexual behaviors, mental health, minority stress factors and PrEP awareness in a sample of community-recruited, multisite sample of GBMSM in Nigeria.
METHODS: Between March and Jun 2019, we recruited 406 GBMSM from Abuja, Delta, Lagos, and Plateau to complete a quantitative assessment at local community-based organizations. Bivariate and multivariable logistic regression were used to examine factors associated with GSN app usage.
RESULTS: More than half (52.6%) of participants reported using GSN apps to find male partners for sexual activity in the previous 3 months. In the multivariable model, factors significantly associated with increased odds of higher frequency of GSN app usage included: being single [adjusted odds ratio (aOR) 1.62; 95% confidence interval (CI): 1.04 to 2.51] compared to not being single, having a university degree or higher (aOR 1.81; 95% CI: 1.07 to 3.07) compared to senior secondary school or lower, reporting 4-5 receptive anal sexual acts (aOR 2.32; 95% CI: 1.23 to 4.40) and 6 or more receptive anal sex acts (aOR 3.18; 95% CI: 1.42 to 7.12) in the previous 3 months compared to none, reporting awareness of PrEP (aOR 2.58; 95% CI: 1.54 to 4.33), reporting having a primary care provider (aOR 1.62; 95% CI: 1.06 to 2.46), and higher levels of identity concealment (aOR 1.09; 95% CI: 1.04 to 1.14).
CONCLUSIONS: Our results suggests that GSN apps might be a effective medium to disseminate health information, specially related to HIV prevention and treatment services and harm reduction strategies to a high-risk population, especially due to the highly stigmatized nature of GBMSM individuals in Nigeria. While GSN apps might be an effective mechanism to reach a subset of the GBMSM community in Nigeria; it might overlook a far more vulnerable population (less educated and lower socioeconomic status).

PED1312

CORRELATES OF ENGAGEMENT WITHIN AN ONLINE HIV PREVENTION INTERVENTION FOR SINGLE YOUNG MEN WHO HAVE SEX WITH MEN: THE MYDEX PROJECT

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BACKGROUND: My Desires & Expectations (myDEx), is an online intervention to promote HIV prevention behaviors among single young men who have sex with men (YMSM; ages 18-24) seeking partners online. Previous mHealth intervention studies showed effectiveness in reducing sexual risk behaviors among sexual minority populations, but challenges in promoting engagement in mHealth interventions remain. Therefore, we examined whether YMSM's psychosocial characteristics were associated with their intervention usage.

METHODS: 180 YGBMSM were randomized into either myDEx arm or attention-control arm using a stratified 2:1 block randomization. 120 YMSM randomized into the myDEx arm after completing a baseline survey and granted access to the 6-session intervention content over a three-month period. Six sessions within intervention condition include: introduction, relationship and sexual decision-making, sex education, reduction in HIV risk-taking behaviors, sexual communication, and summary. Participants are allowed to view the same sessions multiple times. We used Poisson regressions to assess the association between engagement outcomes (defined as the number of sessions viewed and logins, respectively) and YMSM's sexual behaviors, partner-seeking behaviors and psychological well-being. Multivariable models were fit based on significant variables in bivariable models ($p<0.05$).

RESULTS: The mean number of sessions viewed was 6.93 (range 0-22) and number of logins was 5.44 (range 2-14). In multivariable model, number of sessions viewed was lower among Latino YMSM (estimated Poisson regression coefficients [b]=-0.27, p=0.002), and negatively associated with lower education (b=-0.19, p=0.002), limerence (b=-0.02, p=0.004), and online discrimination (b=-0.01, p=0.007). In addition, number of sessions viewed was positively associated with perceived utility of online apps for hookups (b=0.13, p=0.002) and loneliness (b=0.06, p=0.004). However, we found no association between number of logins and the aforementioned variables in multivariable model.

CONCLUSIONS: YMSM's engagement with session visits is linked to their psychosocial profile, yet not linked to their likelihood of login multiple times into the app. Given the importance of dose receive and fidelity in long-term intervention effectiveness, engagement strategies should be personalized using YMSM's psychosocial characteristics to increase continued intervention exposure and usage and maximize the effect of mHealth interventions among YMSM.

PED1313

A MOBILE PHOTO VERIFICATION APP FOR HIV SELF-TESTING: A MIXED-METHOD STUDY OF USER EXPERIENCES

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BACKGROUND: Despite the expansion of HIV self-testing (HIVST) around the world, many research studies rely on self-reported outcomes. New methods for verification of HIVST are needed, especially in resource-limited settings. The purpose of this study was to evaluate the usability of a mobile health application to enhance self-testing results reporting and verification.

METHODS: A sequential mixed-method approach was used to evaluate usability in three core areas: effectiveness, efficiency, and usefulness. Participants used a think-aloud approach while performing usability tasks and subsequently completed a qualitative exit interview. The app included educational resources on HIV, step-by-step video instructions for performing HIVST, a 20-minute timer, a guide on interpreting results, and a photo-verification system. Demographic characteristics were descriptively reported. Qualitative data were analyzed using thematic analysis.

Variable considered	Beta Test 1 [01/08/2019]	Beta Test 2 [24/09/2019]	Beta Test 3 [29/09/2019]
Appearance of the App	"The App could be more attractive, with regard to colour"	"The App should be more colorful/ attractive" "There is a need to improve on the resolution of the videos"	"The App background should be more attractive" "There is a need to use more phrases that will catch Nigerian youth attention"
Ease of use of the App	"It is easy to use the App. The picture/ videos were helpful even for a layman" "It is simple and straight forward" "Basic HIV information on the App was useful"	"The information about HIV on the App was quite educational" "The instruction on HIV self-testing on the App is adequate to safely conduct the test" "The App instruction on how to setup the test needs a little more work" "I would prefer if the language of the App could also be pidgin English" "The App contains all the information I will need to do HIV self-testing on my own"	"The App is self-explanatory" "The video made it easy to understand the test process" "I wonder if the App can be used offline" "It was easy to take the photo evidence of my test" "The explanation of the test result is adequate to educate users on their test result, its significance and next steps to be taken"
App usage and privacy	"It does encourage privacy"	"The App will promote privacy because many young people want to keep their health issues private" "The App is convenient especially for someone who does not want to go to a health center or who live far away from a health center"	"Am happy that no one can have access to my result by looking at the App on my phone"
Linkage to Care after checking result	"After reading my result, I will prefer to call the health facility with the number provided"	"The feature on the App to request a call or call a youth counselor is great, though I would prefer to make the call myself after seeing my result"	"Yes I will request a call from the youth counselor if my result is positive"
Recommend the App to peers			"I will recommend the App to my friends because it is simple and easy to use"
Timer countdown to result	"The time of waiting to read the result is too long" "I would prefer an alert/buzz when the 20 minutes waiting time elapses"		"The buzz at the end of 20 minutes is important. I also like the fact that the App can function in the background while I wait for my result"

[Table]

RESULTS: Nineteen users (12 female, 7 male) participated with mean age of 22 years. Ninety-five percent completed the usability tasks on first attempt. All participants successfully uploaded a photo of their test result using the app. Three main themes were identified in the data:

1)"Design" described how providing an offline version and/or low data usage app was integral to the level of usability;
2)"Ease of use" described how participants felt that the app was self-explanatory and the instructions made it easy to understand the test process;and
3)"Linkage to care" referred to the ability to request a call from trained counselors upon completion of the test, and was highlighted as a key feature of the app.
A majority of the participants noted that the app provides a convenient and private means of verifying HIV test results.
CONCLUSIONS: Our study demonstrated the importance of engaging end-users at the development phase of technological innovation targeted for youth health action. Future trials are needed to determine the feasibility and acceptability of using a mobile health app to verify HIVST results among young people.

PED1314

TECHNOLOGY-DELIVERED HIV SELF-TESTING SERVICE – WHAT USERS FROM A UGANDA PILOT LIKE AND DISLIKE

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BACKGROUND: National healthcare programs have been scaling up HIV Testing Services to include the roll out of HIV Self Testing (HIVST). However, there remains significant contextual barriers to the successful implementation of HIVST. In this study, we assess qualitative feedback from study participants regarding what they liked and disliked about their experience in a novel HIVST intervention that leveraged SMS and voice (telehealth) platforms to facilitate information provision and HIVST kit access.
METHODS: Between May and June 2019, we enrolled participants at community event locations in Kampala, Uganda for a telehealth HIVST intervention. For 90 days following enrollment, participants received (and could respond to) theoretically-grounded (Information, Motivation, Behavioral) HIVST messages through either SMS, Facebook messenger, or Twitter direct messaging. They also had access to an existing medical call-in center from where they could order free HIVST kits via voice calls or the messaging platforms above. Kits would then be delivered to them at a location of their choice. Assessments occurred at months 1 and 3 through telephone-administered questionnaires, including asking participants what they liked and disliked about HIVST. Qualitative data were double-coded for themes and disagreements were resolved through discussion.
RESULTS: 100 participants were recruited for the study and complete data was available for 99 participants; Mean age-26 years (standard deviation-6); 49% women and 60% were young adults (18-24years). There were 4 prominent themes for what participants liked most about HIVST: 1) usability: HIVST was easy to use and did not require technical knowledge (23% of statements); 2) HIVST was painless (24% of statements); 3) confidentiality: HIVST was private and confidential (25% of statements); and 4) convenience: the HIVST saves time and avoid hospital queues (20% of statements). Among the dislikes were: 1) the geographical limitation of pilot to one district (52% of statements); 2) design: too long of a wait and bulky packaging (26% of statements); 3) fear of an HIV-positive test result (12% of statements).
CONCLUSIONS: HIVST roll out with technology-assisted ordering, delivery and follow up is feasible and received predominantly positive user reviews for its confidentiality, easy-of-use and convenience. Further effort is needed to address the packaging design and results-anxiety.

PED1315

OUTCOMES OF THE KIDZALIVE MOBILE APP CAPACITY-BUILDING INTERVENTION IN 45 COMMUNITY AND PRIMARY HEALTHCARE FACILITIES IN GAUTENG AND KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Digital application-based job aids are increasing in popularity in low resource settings where they are being leveraged to improve the knowledge, skills and confidence of frontline healthcare workers (HCWs) delivering HIV services. The KidzAlive Talk Tool, originally a paper-based child-friendly job-aid widely used by the National Department of Health of South Africa to improve the quality of care for children living with HIV (CLWHIV), was developed into a novel mobile application for android devices.
The KidzAlive Talk Tool app was successfully pilot-tested between 2018 and 2019 where it received positive reviews from frontline healthcare workers, children, primary caregivers and primary healthcare managers. The next stage of testing has led to its scale-up in 45 community and primary healthcare facilities in Gauteng and KwaZulu-Natal since November 2019. Part of this scale-up involved capacity building (one-one training, mentorship and a training video) of HCWs on how to use the mobile app during HIV care for CLWHIV. We evaluated the outcome of this capacity building process using Kirkpatrick's four-level model for evaluating training.
METHODS: We conducted a pragmatic mixed-methods study. A mix of 45 community organisations and primary healthcare facilities from Gauteng and KwaZulu-Natal were purposively selected to participate in the scale-up process. HCWs (nurses and HIV counsellors) from each of these organisations/facilities were trained and mentored between November and December 2019 using a training video (loaded on tablet devices). We measured the outcomes of each stage of training including a Knowledge test, Confidence questionnaire, Training/Mentorship evaluation form and a Mentorship assessment form. We analysed the quantitative data generated from this process using means and two-sample t-test for proportions and thematic analysis for qualitative data.
RESULTS: The results of this study suggest positive participant reactions to the training, high knowledge and skills retention (p=0.01), increased confidence over time p=(0.00) and improved quality of care (based on qualitative data).
CONCLUSIONS: This study makes a case to support the value of training and mentoring frontline HCWs on digital innovations to increase their acceptability, sustained usage over time and quality of care for children living with HIV in low resource settings.

PED1316

DEVELOPING AN MHEALTH INTERVENTION FOR IMPROVED TREATMENT LITERACY AND MEDICATION ADHERENCE AMONG PEOPLE LIVING WITH HIV/AIDS IN MUMBAI, INDIA

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BACKGROUND: Antiretroviral therapy (ART) adherence is a principal predictor for the success of 90-90-90 goals. Digital interventions offer a potential cost-saving solution for overburdened health systems with high service delivery costs to improve patient outreach & support. We evaluated the feasibility of a mobile application for improving treatment literacy & medication adherence among People Living with HIV/AIDS (PLHAs) in Mumbai India.

DESCRIPTION: We analysed treatment & counselling patterns at select ART centres through focused group discussions & interviews. Based on these inputs, we developed a mobile application containing videos, infographics & quizzes in the local language & piloted the application at 6 ART centres. The application uses story-telling with relatable PLHA personas in familiar community settings to help build a personal connection. The video themes include information on treatment initiation and adherence, misconceptions and stigma around HIV, safe behaviour & nutrition. PLHAs receive points & badges for content consumption & understanding. Additionally, it also has a self-reported mood tracker to gauge PLHAs' emotional wellbeing.

LESSONS LEARNED: Since enrolment, the app has been used by 450 PLHAs. On an average, 20% users are active on the app every week. The videos belonging to themes Nutrition and wellbeing, Treatment literacy and Emotional health received highest views. Most watched infographic themes included Healthy living and Community support. During qualitative feedback sessions, many PLHAs reported that the video duration was helpful for watching in short time & they were able to connect with the personas represented in the videos. PLHAs who have been on ART for longer duration felt the need for more detailed videos on special interest topics such as sex education, ongoing diet & exercise counselling.

CONCLUSIONS/NEXT STEPS: The usage behaviours & patterns demonstrate that PLHAs are interested in seeking information about various aspects of the disease, medications & lifestyle changes. This mHealth intervention can be effective in ensuring personalised treatment literacy and address behaviour change to effect improved ART adherence. The mHealth intervention can be replicated and upscaled to other parts of the country.

VOLUNTARY MEDICAL MALE CIRCUMCISION

PED1317

ACCELERATED SCALE UP OF VOLUNTARY MEDICAL MALE CIRCUMCISION WITHIN THE MILITARY HEALTH SERVICES IN UGANDA: THE RACE TOWARDS 2020 HIV EPIDEMIC CONTROL

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BACKGROUND: Scaling up Voluntary Medical Male Circumcision (VMMC) is a critical ingredient in achieving HIV epidemic control by 2020. However, documentation of programmatic interventions to improve VMMC uptake among military populations, an HIV high-risk population is lacking. URC - Department of Defense HIV/AIDS Prevention Program implemented a novel approach to accelerate VMMC uptake in the Ugandan military. We describe trends and operational cost associated with VMMC uptake following the intervention contrasted between military and civilian facilities.

DESCRIPTION: We implemented monthly mobile VMMC services throughout the country targeting soldiers, their families and surrounding communities. Records gathered during implementation were used to describe the intervention. Quantitative methods were applied to compare VMMC post intervention rates with set targets and monthly VMMC trends country-wide between military and civilian facilities over a five months period. An operational VMMC service cost analysis was applied to determine per male circumcision unit cost excluding cost of consumables.

LESSONS LEARNED: Command-driven mobilization, multiple stakeholder engagement, use of mobile VMMC teams and data-driven planning increased demand for and uptake of VMMC services among the military. By the first month of intervention, VMMC performance had surpassed set monthly targets of 1,474 by 199% (n=2,931 circumcisions) from 31% to 62% uptake. Overall VMMC performance achieved within the military was 132% in excess of set targets (n=7408) at six months. The scaled-up operational VMMC cost per circumcision performed dropped from $15 to $7, a 47%-unit cost saving within six months. While a positive trend in VMMC uptake was observed in the military facilities, the opposite was exhibited in civilian facilities over the observation period.

CONCLUSIONS/NEXT STEPS: It is feasible to rapidly scale up circumcision coverage in military populations through mobile short term episodic VMMC services optimizing volume and efficiency. Invoking command-led mobilization and multiple stakeholder involvement is critical in demand creation and overcoming the mobile nature of the military.

PED1318

WHAT INFLUENCES ADULT MEN TO USE HIV PREVENTION SERVICES: LESSONS FROM A PROMISING MALE-FRIENDLY 'VIP' INITIATIVE TO PROMOTE VOLUNTARY MEDICAL MALE CIRCUMCISION (VMMC) SERVICES IN TANZANIA

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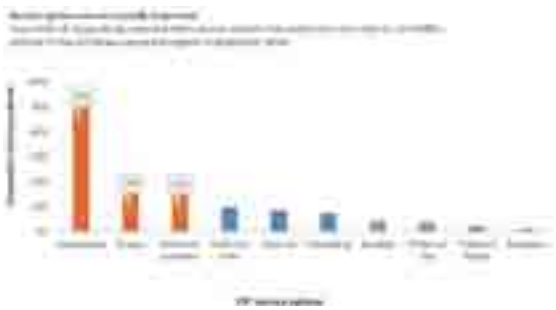
BACKGROUND: Reaching adult men with evidence-based HIV prevention interventions is a global priority to achieve epidemic control. The AIDSFree Project has successfully supported VMMC services in five regions in Tanzania since 2014 reaching 563,139 men 10 years and older since inception. However, VMMC utilization among 25-29 year-old men has been problematic. AIDSFree reached 26% (5,477) of the annual target for this age group from January to December 2018.

DESCRIPTION: AIDSFree developed a menu of 10 'VIP' options to improve declining VMMC service utilization among adult men. Produced as a 'VIP' card, the menu incorporated local volunteers' intimate knowledge of their communities and barriers to VMMC services reported by adult men. AIDSFree pretested the 'VIP' card among 164 men, providers and volunteers at nine government health facilities in early 2019 and scaled up its use to all 71 AIDSFree-supported facilities in August 2019. Volunteers recruited 'VIPs', assisted them to check off desired options on their 'VIP' cards and pre-arranged clinic visits with providers.

LESSONS LEARNED: From August to December 2019, AIDSFree served 4,983 adult men compared to 1,864 men from January to July 2019. The 'VIP' intervention improved utilization among by 267% between the two periods, achieving 55% of annual target. Extrapolating same levels of VMMC service utilization after 'VIP' inception, the project would have served 11,959 men during the year compared to 3,195 men without 'VIP' services, equivalent to 374% higher utilization. In September 2019, AIDSFree asked 160 'VIP' clients for their feedback. 97% of respondents reported satisfaction with 'VIP' services. 81% of respondents favored three options (Figure 1).



[Figure 1. How 'VIP' options influenced men to use VMMC services]

CONCLUSIONS/NEXT STEPS: The 'VIP' model addressed barriers to men accessing VMMC services from their perspective, substantially improving uptake. Pre-arranged support for clinic visits can help men move from longstanding intention to use VMMC services to actual use by assuring them that their needs will be met.

PED1319

70% MALE CIRCUMCISION CONVERSION RATES IN KATETE DISTRICT: DEMAND CREATION FOOTBALLERS

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BACKGROUND: Voluntary Medical Male Circumcision (VMMC) has been provided in Zambia since 2007, however uptake is still insufficient to meet targets and uptake of the procedure is expected to decline as early adopters have already been circumcised. VMMC prevalence has plateaued in the past 5 years at 22% as seen in both the 2013/14 ZDHS and the 2016 ZAMPHIA, there is therefore an urgent need to improve the quality and precision of demand creation strategies to convert hard to reach men.
In response to this, Jhpiego Zambia has implemented various interventions to scale up VMMC for HIV prevention in its areas of work with a priority of reaching both young and adult men aged 15 to 29.

DESCRIPTION: Jhpiego, funded by PEPFAR through CDC, supports 40 facilities in five provinces to provide VMMC services. The project's overall objective is to increase VMMC coverage to 80% in supported locations. To scale up services, the project introduced an innovative and targeted demand creation strategy in Katete district which combines "soccer galas with complimentary IPC conducted before and during the galas". The participating football teams were oriented on VMMC messaging and were tasked to mobilize a minimum of 15 clients per team as an entry requirement into the tournament. Mobilization continued during the tournament with a general orientation of the entire stadium, with mobilizers stationed throughout the arena to provide information to spectators one-on-one.

LESSONS LEARNED: In a space of three weeks, football teams booked 630 prospective clients of which 427 people were circumcised and during the games there was an additional 250 bookings with 190 circumcised. In the previous month the health facility covering this catchment only mobilized 507 clients and only 264 clients were circumcised. The gala increased the circumcision number by 62% and these improvements have been sustained with clients referring to the soccer gala as their information source for MC.

	People Booked	Circumcised	Conversion Rate
Soccer Gala Teams	630	427	67%
Mobilizers during gala	250	190	76%
Total	880	617	70%

[Table]

CONCLUSIONS/NEXT STEPS: The soccer gala plus IPC demand creation strategy created more awareness for VMMC than the other approaches at reaching and converting men. The project is scaling up this approach to other districts with low circumcision coverage.

PED1320

CONSTRUCTIONS OF SEXUALITY AND RISK IN THE SIX WEEK PERIOD POST VOLUNTARY MALE MEDICAL CIRCUMCISION IN SOUTH AFRICA

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BACKGROUND: Voluntary male medical circumcision (VMMC) is a key interventions to reduce HIV transmission, but during the six week period post VMMC, risks of HIV infection for men who have unprotected sex are raised. This paper seeks to understand how men interpret and practice their sexuality, and understand risk over the six week period post VMMC.

METHODS: Six focus groups from Cape Town and 25 semi-structured interviews from Mangaung, South Africa, were conducted with men who have been through VMMC. These interviews were done as part of larger studies to assess the use of voice messaging to encourage abstinence during the six week healing period. The interviewees were recruited from the VMMC clinics, and were purposively selected to obtain a wide range of experiences. A descriptive phenomenological analysis approach was applied using Atlas ti.8.

RESULTS: The men knew that they should not have sex during the six week period, but had a poor grasp of the risks over the latter weeks once the pain had remitted. For the men in any sexual relationships, sex was felt an essential part of life; including enjoyment, satisfaction of their desire, support of identity, and to maintain relationships. Key was the influence of triggers especially with partners or going out with friends. Men were uncertain of their capacity to resist having sex once aroused.

During first two weeks the penis is too painful, but once the pain reduced the men reported their desire returned. Men had to decide between satisfying desire and their own safety. The approaches were dominantly to:

Balance their risk, including condom use and reduced sexual frequency

Avoid temptation, including drawing on partner support and sleeping and dressing separately, and staying at home, one man hid at home.

CONCLUSIONS: Men showed great care is trying to balance their awareness of risk with their desire to have sex, using their own knowledge and beliefs about HIV to reduce the risk. Many felt they had to take additional measures to avoid having sex, including some level of social isolation. Greater education is required on the nature of the additional risk over the latter weeks.

PED1321

BARRIERS, BENEFITS, AND BEHAVIORAL BELIEFS: A THEORY-DRIVEN ANALYSIS TO INFORM DEMAND-CREATION STRATEGIES THAT FACILITATE IDEATION FOR VOLUNTARY MEDICAL MALE CIRCUMCISION UPTAKE IN ZAMBIA

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BACKGROUND: With high voluntary medical male circumcision (VMMC) coverage (22.2%) and sustained investment to offer 400,000 boys and men VMMC in 2020, Zambia is well-positioned to reach high VMMC coverage and curb HIV transmission. Efforts to scale services, however, are threatened by competing benefits and barriers to service uptake. Applying Kincaid's Behavioral Ideation Model, we sought to identify cognitive and social determinants of circumcision intention in a nationally representative sample of Zambian men in order to inform VMMC demand-creation efforts.

METHODS: Two-stage sampling proportional to population size was used to identify households across residence types (urban/rural) in 14 districts. Circumcision intent was ascertained dichotomously in uncircumcised men aged 15-59 years through self-reported intention to access VMMC services in the future. Bivariate and multivariable Poisson regression with robust error variance modeled relationships between ideational determinants (e.g., perceived benefits, barriers, susceptibility, and self-efficacy) and VMMC intent. Survey weights adjusted for clustering and stratification.

RESULTS: Among uncircumcised men (N=1,204), 40.0% expressed future intent to access VMMC services. Men declaring intent to circumcise were more likely to perceive circumcision to increase sexual satisfaction/pleasure (Adjusted Prevalence Ratio [APR] = 1.45, 95% Confidence Interval [CI]: 1.11–1.89) and endorse distance to services as a barrier to VMMC uptake (APR=1.54, CI: 1.27–1.87). Conversely, these men endorsed the following barriers to VMMC at significantly lower proportions than men with no intention to circumcise: reduced sexual satisfaction (APR=0.10, CI: 0.02–0.94), incompatibility with local customs (APR=0.41, CI: 0.18–0.94), and perceived unimportance (APR=0.71, CI: 0.51–0.98).

CONCLUSIONS: Demand-creation strategies seeking to bolster VMMC uptake should address salient barriers to uptake, particularly concerns around sexual pleasure, distance to services, and perceptions that VMMC is incompatible with local customs. The barrier around perceived unimportance should be addressed by ongoing awareness-raising efforts while respecting that for some men, notably those with low HIV risk, VMMC may indeed be unimportant.

PED1322

DEMAND FOR MEDICAL CIRCUMCISION SERVICES BY OLDER MEN IN A MATURE PROGRAM IN WESTERN KENYA: WHERE MEN ARE IN THE DECISION-MAKING PROCESS TOWARDS CIRCUMCISION

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BACKGROUND: Most medical male circumcision (MMC) programs in Africa face challenges with getting older men above 25 years to take up MMC services, yet this is the age at highest risk of sexually acquired HIV. About 90% of those circumcised in Kenya (n=2,256,396) were <20 years, and only 5% were above 25 years. Using Transtheoretical Model (TTM) of behaviour change, we explored with uncircumcised men in western Kenya the stage at which they were in making a decision to seek MMC services.

METHODS: We conducted household listing in 3 locations (urban, peri-urban and rural) of Kisumu County, and identified households with men aged 20-49 and uncircumcised. We administered a survey to determine circumcision status of those who met the eligibility criteria. Those reporting being uncircumcised were asked for the likelihood of getting circumcised. We used TTM framework to place men at various stages of decision-making towards circumcision: pre-contemplation (operationally defined as 'not considering MMC'), contemplation ('weighing options) and preparation (planning to go 'soon'). (Action, maintenance and termination stages were deemed irrelevant.)

RESULTS: We enrolled 1,200 uncircumcised men, median age 33 [IQR 28-39], 73% completed ≥primary school, 92% were married/living together, and 21% reported condom use in the last one month. Likelihood of getting circumcised was 55% 'definitely', 35% 'maybe' and 9% 'unlikely'. This is equated to 9% being in pre-contemplation stage, 35% in contemplation stage, and 55% in preparation stage. However, when asked directly to self-classify in the TTM Model, 25.1% put themselves under pre-contemplation (not planning for MMC ever or within 6 month), 46.7% contemplation (planning within 6 months) and 27.9% preparation stage (planning within one month). However, only 1.3% actually went for MMC within three months. Ninety-seven percent believed circumcision reduces HIV risk, but only 39.4% believed they are at moderate-to-high risk of acquiring HIV.

CONCLUSIONS: Uncircumcised men in Kenya know that MMC reduces HIV risk yet are unprepared to go for MMC possibly due to low risk perception. Interventions to boost demand for VMMC should be tailored to increase risk perception and support men to progressively move from one stage of change to the next.

PED1323

COMMUNITY MOBILIZATION AS STRATEGIC TOOL FOR HIV TESTING, A STUDY OF LARKANA DISTRICT OF SINDH PROVINCE OF PAKISTAN

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BACKGROUND: Pakistan become fastest growing AIDS epidemic in the south Asian, as 20,000 AIDS cases were reported in 2017. HIV various is affecting mostly poor and marginalized segment of the population in Larkana, city of Pakistan is affected badly with HIV virus. In July 2019, WHO declares HIV outbreak as grade 2 emergencies in Larkana district. The current study aimed to measure the association between community mobilization efforts and HIV testing to seek whether communication mobilization is good strategy to engage Larkan distircts's people in testing.

METHODS: Data from individuals aged 16-45 from Larkana. In this study, social mobilization variable was measured on 5-point scale using on its four dimensions: community participation, social cohesion, collective efficacy, and leadership. Bivariate and multivariate regression model was used to measure the association between HIV testing and community mobilization. Furthermore, multivariable models were stratified in term of sex and residence.

RESULTS: Among 400 respondents, 10% (n=40) previously gone for HIV testing, with female (9% vs. 8%, p< 0.001) and married (7% vs. 6%, p< 0.001) respondents reporting HIV testing at significantly higher proportions than male and never-married respondents, respectively. People aged 116-23 years reporting significantly lower proportion when compared with respondents aged 24-33 years (8% vs. 10 %, p< 0.001) and 34 to 45 years (8% vs. 11%, p< 0.001). The results also revealed that, in multivariable analysis, community mobilization (mean: 51.48, range: 28 to 88) was significantly associated with HIV testing (AOR=1.02, CI: 1.00 to 1.02). on account of gender, and living area -stratified models, the odds of HIV testing were higher and significant among males (AOR=1.02, CI: 1.01 to 1.04), in rural areas people (AOR=1.03, CI: 1.01 to 1.06), but not among females or urban residents, for each additional unit increase in community mobilization.

CONCLUSIONS: The findings shows community mobilization is linked with HIV testing HIV testing among those respondents who participated in survey. The finding highlights that, among male segment of the society living in rural and remote areas. Social mobilization is very effective tool to reach remote and hard to reach areas, especially men who are living in remote and rural areas.

PED1325

INITIATING HIV SERO STATUS DISCLOSURE TO REGULAR PARTNERS AMONG WOMEN LIVING WITH HIV (WLHIV) AT A CLINIC FOR A HIGH RISK KEY POPULATION IN KAMPALA

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BACKGROUND: Disclosing HIV sero-status to regular sexual partners is a challenge among women living with HIV(WLHIV). The Good Health for Women project clinic in Kampala offers PEPFAR supported services that include HIV testing and counselling, provision of condoms, STI care, gender-based violence prevention education and ART treatment and care to women at high risk of HIV who include self-identified sex workers. Services are offered to women and their regular sexual partners. Women are encouraged by the facility counsellors to share their HIV results in order to broaden their support network. WLHIV are invited in small groups to discuss areas of concern in the disclosure process. Expert peers who have disclosed to partners provide support to their peers by sharing their personal testimonies.

DESCRIPTION: One hundred WLHIV in care have received counsellor- and peer-supported counselling sessions at the clinic between April and September 2019. Mean age was 33.8 years; 49% reported

to regularly use alcohol; 13% reported smoking tobacco and/or other substances. Only 27% were able to share their HIV positive results with their regular partner, seven of whom experienced some form of gender-based violence. In spite of their revealed sero discordancy, 13/27 (48%) reported not to be using condoms with their regular partner.

LESSONS LEARNED: HIV is still highly stigmatized in the community. Peer-supported counselling is a useful model to foster sero-status disclosure by WLHIV to their regular sexual partners. Some WLHIV have been able to share their test results with regular sexual partners. Condom use is a challenge with spouse or regular partners even among high-risk women who disclose their sero status. Gender based violence, alcohol and substance use may be affecting the disclosure process.

CONCLUSIONS/NEXT STEPS: Disclosure of HIV sero-status to regular sexual partners is key in reducing HIV transmission. A model to encourage group sharing and use of expert peers working with professional counsellors is a worthwhile strategy in this population.

TRACK E

NATIONAL FINANCING ANALYSES AND INITIATIVES

PEE1323

DOMESTIC CONTRIBUTION TO THE HIV/AIDS RESPONSE AMONG COUNTRIES CLOSER TO EPIDEMIC CONTROL

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BACKGROUND: UNAIDS estimates that US$26.2 billion is required for the global HIV response in 2020 alone. UNAIDS data from 112 countries shows domestic public spending on HIV increased by 60% from 2006 to 2016 exceeding international donor funding. Despite a flat-lined budget since 2010, the President's Emergency Plan for AIDS Relief (PEPFAR) remains the world's largest donor fighting HIV/AIDS. Countries are expected to increase their HIV/AIDS budgets and implement efficient and cost-effective methods due to shrinking donor funding.

METHODS: We analyze trends in Domestic Resource Mobilization (DRM) from 2017 to 2019 across select countries at or near epidemic control. Epidemic control is attained when the incidence mortality ratio (IMR) is less than one. Countries selected for this analysis have IMR between 0.32 and 1.5. The Sustainability Index Dashboard (SID) is a tool developed by PEPFAR and UNAIDS and implemented by partner countries every two years to measure progress towards sustainable epidemic control. DRM is an element in the SID and analyzes multiple factors specific to HIV/AIDS on a scale of 0-10: long-term financing strategy, HIV targets in the national budget, and the share of domestic funding within the national response.

RESULTS: While 70% of countries in this abstract show a positive trend towards increasing DRM, Cambodia, Ethiopia, and Zimbabwe declined from 2017. Significant increases in DRM score are seen in Kenya, Lesotho, and Namibia (chart below).

[Chart]

CONCLUSIONS: While countries have shown progress towards mobilizing resources, a common factor across countries showing a decline in DRM score is budget execution, which leads to less than efficient program implementation. In comparison, the common factors across countries with increased DRM score are budget execution and improvement in long-term HIV financing strategy. Going forward, PEPFAR will focus on strengthening budget execution in select countries in order to maximize available resources and sustain the HIV/AIDS response.

PEE1324

DECLINING INVESTMENT IN HUMAN RIGHTS AND GENDER (HR/GESI) IN SOUTH ASIAN (SA) COUNTRIES AFFECTING THE 90-90-90 TARGETS

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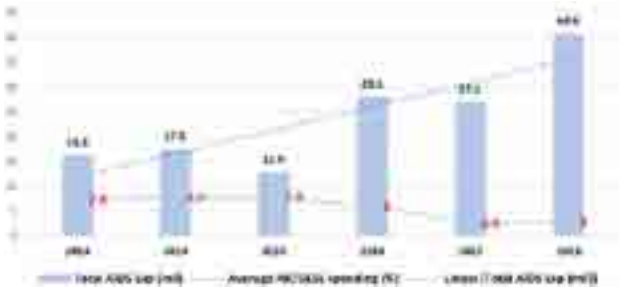
BACKGROUND: Many countries are lagging behind in achieving 90-90-90 targets. It has been ostensibly highlighted globally that HR/GESI (GBV, stigma, discrimination) are major barriers for KPs in accessing HIV services; therefore emphasised for increased investment. Clearly, exploring the investment made in HR/GESI is pertinent

METHODS: We reviewed the Global AIDS Monitoring data (2013-2018) for SA countries for spending on HR/GESI activities. Four country's data were available (we excluded India), that we grouped into three,

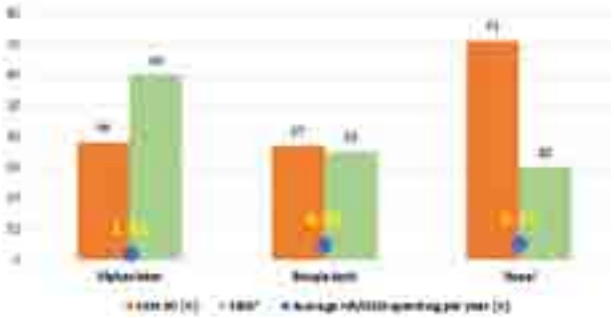
1. HR/GESI:
2. KP interventions; and,
3. Other.

To get the total investments, along with direct spending, we also arbitrarily considered 10% as HR/GESI spending from KP interventions where HR/GESI activities are often inbuilt. We analysed HR/GESI spending against selected indicators (Global AIDS updates 2019), first 90 and S&D (...would not buy vegetables from a PLHIV shopkeeper).

RESULTS:



[Figure 1. HR/GESI spending (%) in three South Asian countries]



[Figure 2. HR/GESI spending (2013 - 2018), 90-90 targets, S & D]

Average spending on HR/GESI was recorded at 7.4% (2013) and 3% in 2018 peaking at 7.9% (2015). Total AIDS spending in the same period more than doubled from 16.3 mil to 40.8 mil (figure 1). In the same period Afghanistan has 1.9%, average spending/year on HR/GESI Bangladesh 4.8% and Nepal 5.15%. The first 90 targets in those countries was noted at 38%, 37% and 71%; and S&D was recorded at 60%, 35%, and 30% respectively (figure 2)

CONCLUSIONS: While overall AIDS spending has increased over the period, percentage of HR/GESI spending has declined in the same period (figure 1). A clear pattern and relationship of HR/GESI spending with first 90 target and S&D was observed. This calls for increased investment and further study on HR/GESI

PEE1325

ASSESSING INVESTMENT IN HIV PROGRAMMES FOR PEOPLE WHO USE DRUGS AND OPPORTUNITIES FOR A REDIRECTION OF DRUG-RELATED LAW ENFORCEMENT SPEND IN SEVEN COUNTRIES IN ASIA

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BACKGROUND: New HIV infections among people who use drugs continue to rise globally. In order to meet commitments within the 2016 Political Declaration on HIV/AIDS of reducing new HIV infections to less than 500,000 per year, it is critical that access to harm reduction services is dramatically increased. Although challenging, critically assessing investment in HIV programmes for people who use drugs is crucial for informing advocacy for responsible donor transition and sustainable harm reduction financing.

METHODS: Harm Reduction International (HRI) developed research tools which were adopted by civil society partners to assess harm reduction investment in India, Thailand, Nepal, Cambodia, Vietnam, the Philippines and Indonesia. Applying pre-developed criteria, countries were ranked on four categories: harm reduction service coverage; accessibility of spending data; government investment; and sustainability of funding. An instrument to capture drug-related law enforcement expenditure was also developed and data collected in Thailand, Indonesia, Nepal and India.

RESULTS: Harm reduction service coverage varied with Thailand, India, Nepal and the Philippines ranking most poorly and Indonesia ranking most favourably. Accessibility and validity of spending data was a concern across all countries. Government investment in needle and syringe programmes was minimal; with any substantive funding allocated to opioid substitution therapy or ART. Overall there was a paucity of investment in HIV services specifically targeted at people who use drugs. In several countries, community and civil society representatives reported concerns relating to poor political will to ensure financing for HIV services for people who use drugs. Furthermore, researchers identified an exorbitant amount of public funds being channeled into punitive drug control in the four country study sites.

CONCLUSIONS: Study indicated that harm reduction funding in all sites is precarious or already in crisis, and that increased government investment into and mainstreaming of harm reduction services will be crucial for sustaining national responses. Greater accessibility around harm reduction, HIV and law enforcement spending data is necessary to inform strategic investment in public health responses to HIV and drug use. HRI modeling projections demonstrate that redirecting a small proportion of drug control funds to harm reduction could end injecting-related HIV infections by 2030.

PEE1326

ACHIEVING EFFICIENCY IN EXPENDITURE ON HIV TREATMENT IN NIGERIA

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BACKGROUND: The 90-90-90 strategy is central towards ending AIDS. Investment in HIV treatment is critical to this following the adoption of test and treat policy and treatment as prevention (TasP) approach in Nigeria. The country needs to implement HIV treatment programs at higher efficiency to achieve the second 90.

METHODS: Data for this paper was extracted from the National AIDS Spending Assessment (NASA) and National aggregated HIV treatment program. NASA collects expenditure amounts on mutually exclusive HIV and AIDS activity categories (treatment, prevention, etc) from program implementers, donors and government agencies using a top-down and bottom-up approach that prevents double counting. HIV treatment expenditure data was collated for 2012 to 2018.

The national HIV treatment program collects routine facility-level data using the ART monthly summary form which is aggregated to obtain annual data for the country. HIV treatment data for 2012 to 2018 was collated. Simple average was calculated with HIV treatment expenditure amount and number of PLHIV on treatment to obtain expenditure per PLHIV on treatment for each year.

RESULTS: As shown in table below, expenditure on HIV treatment was highest in 2015 at USD308, 609,485 and lowest in 2012 at USD191,463,353. Number of persons on treatment rose gradually from 491,021 in 2012 to peak at 1,066,223 in 2017 before a decline to 1,049,019. HIV treatment expenditure per person ranged between USD227 in 2018 to USD390 in 2012.

Year	Expenditure on HIV Treatment (USD)	Persons on HIV Treatment	Expenditure/Person (USD)
2012	191,463,353	491,021	390
2013	211,994,657	639,397	332
2014	190,766,855	747,382	255
2015	308,609,485	853,992	361
2016	302,808,349	983,980	308
2017	304,376,381	1,066,223	285
2018	238,447,440	1,049,019	227

[Table 1: Expenditure on HIV Treatment in Nigeria 2012 - 2018]

CONCLUSIONS: This study shows annual variability in expenditure per person on treatment which indicates opportunities to reduce waste and maximize efficiency. Therefore, Nigeria needs to improve in the number of people covered per unit of expenditure in order to reach more PLHIVs with treatment and end HIV by 2030.

PEE1327

GENERATING ADDITIONAL RESOURCES FOR HIV RESPONSE THROUGH MAINSTREAMING HIV&AIDS IN NATIONAL PROCESSES: THE CASE OF UGANDA

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BACKGROUND: Mainstreaming HIV into national processes is a key approach to generating additional domestic resources for HIV and addressing the behavioral and structural risk factors of the HIV epidemic. Through integration of HIV interventions within the sector programs, mainstreaming enables a multisectoral and multi-stakeholder response. In Uganda, HIV Mainstreaming is enshrined in the Presidential Fast Track Initiative for Ending AIDS as a Public Health Threat in Uganda by 2030 – launched in June 2017. Guidelines for an effective and standardized HIV&AIDS mainstreaming approach for public and non-public sectors in Uganda were developed in 2019. The Ministry of Finance Planning and Economic Development in its Budget Call Circulars for Financial Years 2018/2019 & 2019/2020 instructed all government Ministries, Departments, Agencies (MDAs) and District Local Governments (DLG) to allocate 0.1% of the budgets (excluding Pensions, Gratuity & Transfers) to HIV activities. We assessed the extent to which Uganda has generated additional domestic resources towards HIV response through Mainstreaming HIV&AIDS into national programs.

METHODS: In October 2019, we conducted a rapid assessment of Ministerial Policy Statements for all the 19 Government of Uganda Sectors to generate sector allocations and expenditures to HIV&AIDS for 2019/2020.

RESULTS: A total of 146 entities from 19 Sectors were analyzed. 136 entities had evidence of allocating at least 0.1% of their budget to HIV and AIDS Mainstreaming activities. 8/19 sectors had allocated >0.1% of their total budget, with an average allocation of 0.2%. Only 4 sectors allocated <0.1%. A total USD 10.5 Million was allocated to HIV interventions through the HIV mainstreaming approach in the respective sectors. HIV interventions financed included; HIV Counseling & testing, HIV Awareness campaign, social support, care and treatment, and workplace policies.

CONCLUSIONS: This study demonstrates that HIV mainstreaming can creatively avail additional domestic resources to the National HIV response. To optimize this opportunity further, it will require the Government of Uganda to create a vote output to track resources and expenditures to sector HIV specific outputs. This will ensure efficient and effective use of public resources mobilized through HIV&AIDS mainstreaming.

PEE1328

A TIME TO ACT: PROSPECTS FOR RE-COMMITMENT TO EPIDEMIC CONTROL AND SUSTAINABILITY IN INDONESIA'S LAGGING PROGRAM

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BACKGROUND: Indonesia is far from HIV epidemic control with a high ratio of incidence to prevalence and only 16% ART coverage (December 2018). In 2019, the government launched the ART Acceleration Plan, targeting 40% ART coverage by December 2020 and epidemic control by 2027. However, to become reality this requires political will, strengthened coordination and collaboration across institutions, transparency and efficiency in procurement practices (tenders for vital drugs fail and the country pays much more per regimen than neighbors), efficient service delivery, and revised provider payments to incentivize outcomes.

DESCRIPTION: Since 2017, the USAID- and PEPFAR-funded Health Policy Plus (HP+) project partnered with the Ministry of Health, National Health Insurance, local governments, and civil society organizations (CSOs) like the Indonesia AIDS Coalition to generate evidence on HIV costs, epidemic trajectory, financing options, etc., to inform HIV policy formulation. In 2020, HP+ is supporting a pilot of HIV service purchasing reforms.

LESSONS LEARNED: Consistent engagement at national and subnational levels is needed to implement the government's strategy to identify, link, initiate and retain ART patients. With mentoring, local governments in Jakarta and Papua, two high-burden provinces, have developed capacity to generate and use costing and modelling evidence for decision-making. Local governments must also mandatorily fund HIV case-finding under a minimum package of services. CSOs are now using new tools and cost data to develop outcome-linked budgets to access government grants for HIV. Overall, key program priorities include: optimize HIV case-finding based on cost-efficiency analysis of current testing methods, stratified by risk groups; improve referral and down-referral systems to ensure stable ART patients are seen at the appropriate level; implement performance-based payment at primary care to incentivize retention in care; support more efficient procurement of ARVs and improved reimbursement for the scale-up of viral load testing, and introduce new and effective service delivery models for high-cost interventions, such as ART support groups and lost-to-follow-up tracking.

CONCLUSIONS/NEXT STEPS: Indonesia's program must institutionalize routine, country-led analyses and adaptive policymaking; differentiated service delivery models, de-medicalizing and making more accessible HIV care to reach the majority of people living with HIV are needed, which better leverage the existing financing schemes.

PEE1329

CALCULATING THE COST OF PREVENTION AND EARLY INTERVENTION SERVICES TO ADDRESS THE SOCIAL DRIVERS OF HIV IN SOUTH AFRICA: A COSTING ANALYSIS OF THE CORE PACKAGE OF SERVICES

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BACKGROUND: South Africa has 2 800 000 orphans, 12.2 million children receiving social assistance, and carries an HIV population of around 500 000 HIV positive children. Providing social services to such a large population is hampered by the limited ability of the Department of Social Development (DSD) to secure appropriate funding. DSD developed a prevention/early intervention-based Core Package of Services (CPS) for orphaned and vulnerable children (OVC) and embarked on a costing exercise of the program.

DESCRIPTION: An economic evaluation of the CPS was conducted. The CPS was converted into a logic- model. Then, field research was conducted to determine the true cost of services across that logic model; state of resources; and staffing available. Subsequently,, the

data were reworked into the logic model and usable costing model with provincial budgeting and planning. Lastly, the costing gap between currently available funding and CPS implementation were calculated. Public and private sector representatives then collaborated on developing a finance strategy aligned with the legal and policy environment.

LESSONS LEARNED: The costing enables DSD to calculate and assign the cost of services for an individual child across risk level within a standardised intervention framework. The costing model tool enables service cost projection which factors in variables of coverage and adjustable timeframes for service reach. The model allows provincial planners to isolate priority districts with the highest HIV prevalence, predicting service demand indicating gaps in budgeting. The financing strategy highlights resource gaps in the country to fund OVC services. It calls for a platform for public/private investment in common and sustainable objectives to improve the lives of Orphans and Vulnerable Children.

CONCLUSIONS/NEXT STEPS: The costing of the CPS was beneficial for understanding current service costs and anticipating future expenses. It also provides a broader baseline calculation of Government's investment into prevention and early intervention program. It is anticipated that the implementation of the program and the ability to calculate costs more effectively across South Africa by both the private and public sector, will deliver on the anticipated long-term social returns and enable a more system better able to sustain gains and mitigate setbacks related to national financing.

PEE1330

COUNTRY-LEVEL COSTS FOR VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAMS IN 14 PRIORITY SUB-SAHARAN AFRICAN COUNTRIES: AN ECONOMETRIC APPROACH USING MICRODATA FROM SEVERAL COSTING STUDIES

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BACKGROUND: Costing studies are expensive and slow to implement, and mathematical modeling is often the only viable and timely option for informing decision-making. Most of the studies using mathematical modeling to assess the costs and impacts of scaling-up voluntary medical male circumcision (VMMC) programs rely on two assumptions: that costs remain constant across different levels of scale and coverage and do not vary regardless of other service delivery platform (SDP) characteristics. In this work we presented an alternative approach to estimate total costs of VMMC programs based on econometric analysis taking into account the effects of scale, national coverage and SDP characteristics.

METHODS: We estimated VMMC total costs using primary data from eight African countries. First, we identified VMMC costing studies that collected primary data and contacted authors to request the underlying data. All datasets were standardized to create a pooled dataset for analysis. We modeled VMMC unit cost costs to explore and identify the effects of scale, national VMMC coverage and SDP on unit costs. Based on historical data, we projected the change in the number of circumcisions and national levels of coverage. We estimated unit and total costs of VMMC for priority countries from 2018 to 2022.

RESULTS: We estimated VMMC unit cost for the 14 priority countries. We observed a negative and significant association between unit cost and scale --for every 10% increase in the annual number of male circumcisions, the unit cost decrease on average 1.5% – and a significant association with VMMC coverage --for every percentual point increase in coverage the unit cost increases in two percent. Other predictors of unit cost variation were: ownership and service delivery model (outreach vs fix). We estimated the total annual investment needed to achieve or keep the 80% VMMC coverage target ranging from 4 billion USD in Ethiopia to 338 billion USD in South Africa.

CONCLUSIONS: This work presented an alternative econometric empirical approach to model total costs of VMMC programs accounting for variations in facility-level costs resulted from evidence based factors such as economies of scale, increase of coverage and SDP characteristics specific to each country.

TRANSITIONAL FINANCING

PEE1331

FROM THE GROUND UP: LOCAL ADVOCACY INTERVENTIONS AS A BASIS FOR A SMOOTH AND SUSTAINABLE TRANSITION OF HIV PROGRAMS FINANCING FROM THE GLOBAL FUND TO STATE BUDGETS IN UKRAINE

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BACKGROUND: Before 2018 Ukrainian government financed only healthcare and ART purchasing, while the rest of social care and prevention services for more than 250,000 people living with HIV (PLHIV) and Key populations had been provided via HIV programs funded by Global Fund to Fight AIDS, Tuberculosis and Malaria (GF). Such services became under threat of discontinuation after the GF budget had been planned to decrease by 80% during 2018-2020.

In 2017, CO "All-Ukrainian Network of PLHIV" (the Network) supported by USAID and GF started to implement advocacy initiatives on transitional financing to support sustainability of social services.

DESCRIPTION: Due to decentralization processes in Ukraine, a set of advocacy interventions at state and local levels was conducted with the aim of developing local sustainability policies, obtaining funds from local budgets and introducing mechanisms of direct purchases of social care services from NGOs.

Under the program framework, 27 local NGOs had been trained by partner CO "Light of Hope" to advocate local policies changes and transitional financing.

LESSONS LEARNED: Transitioning of financial responsibility for HIV programs from GF to Ukrainian authorities started after execution of a set of advocacy interventions by NGOs at local level. In 2017, after deployment of first initiatives approx. $60K in total were allocated from regional budgets for direct purchases of social care services delivered by regional NGOs. In 2018 total amount reached approx. $70K and in 2019 – approx. $110K.

Based on successful local pilot programs, an amount of $3.6M was allocated in national budget in 2019 to cover 50% of all expenses to provide social care services for PLHIV. Furthermore, approx. $6.8M are planned in 2020 to cover 100% of needs.

Local experience became a basis for development of most of national standards of cost, description and budget planning of HIV social care and prevention services.

CONCLUSIONS/NEXT STEPS: Successful local advocacy interventions helped to develop mechanisms for a smooth transition from GF to Ukrainian national budget funding in 2018-2020.
In 2019 the Network in partnership with Alliance for public health started pilot projects in Eastern Europe and Central Asia aimed to implement best practices in 7 countries with similar political and economic backgrounds.

PEE1332

KEY DRIVERS OF SUSTAINABILITY IN HIV/TB RESPONSES IN EASTERN EUROPE AND CENTRAL ASIA (EECA)

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BACKGROUND: EECA is the region of donor exiting despite being one of the two regions globally with reported increase in the incidence of HIV, at the level of 30% between 2010 and 2018. Drug use remains the main driver of HIV/HCV epidemics. Current policies to control drugs contribute to disease progression and over-incarceration for mainly nonviolent offences such as possession for personal use. Successful transition to national funding will be key in controlling HIV epidemic in EECA.
DESCRIPTION: ART most successfully transited to national funding; major areas at risk are key populations programs. Different transition focus was made for these interventions. The largest Global Fund HIV prevention program transition happened in Ukraine in 2019 and prioritized national CSO contracting through open tender process. Similar approach was taken in Bulgaria. North Macedonia, Montenegro and Serbia have followed national grant scheme. In Russian Federation and in Belarus regional financing is the major source. Engaging cities to fund programs has been successful in Ukraine and Moldova, more progress expected in Kazakhstan and Serbia in 2020.
The main challenges of transition in EECA are: lack of understanding and systems for civil and community services delivery; replacing outreach civil society services with medical institution-based ones; very skinny packages of services for key populations with limited attention to quality and quality control; low allocations for key population services; political dynamics and government change containing risk in allocation for next period; difficult to engage officials to support transition in low prevalence HIV settings.
LESSONS LEARNED: Optimization of expenditure (e.g. on ART) is a trigger to prevention domestic financing. The most sustainable responses involve multiple funding sources and modalities, e.g. financing procurement and medical interventions through insurance package (ART, OST, PrEP), basic package of HIV prevention and linkage services through national granting or service procurement scheme, city specific packages and information campaigns - through municipal budgets.
Where strong, civil society and communities played key role during transition and further programs implementation.
CONCLUSIONS/NEXT STEPS: ART procurement should be optimized. Diverse financing modalities and sources should be prioritized in EECA countries. EECA drug policy commission should be established and address the regional drug use criminalizing approaches.

PEE1333

ACHIEVING SUSTAINABLE HIV FINANCING: A NOVEL FRAMEWORK TO MEASURE AND MONITOR PROGRESS

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BACKGROUND: As countries approach middle-income status and transition out of international donor support, a critical issue of sustainability faces the HIV response, especially the continued investments in programs for the most affected key populations (KP). The Sustainable HIV Financing in Transition (SHIFT) Program, was a 2-year Global Fund grant (2017-2018) aimed at enabling and empowering civil society, including KP communities to advocate for sustainable HIV-financing. The program was implemented by the Australian Federation of AIDS Organisations (AFAO) in four countries – Indonesia, Malaysia, Philippines and Thailand.
METHODS: A new monitoring and evaluation framework was developed to measure progress towards enhancing meaningful participation of civil society organizations (CSOs) in financing discussions, and towards achieving sustainable financing. This framework consists of 23-indicators across domains of fiscal space, allocative efficiency, transitioning, domestic funding mechanisms, and sustainable financing for CSOs, and can be used as a tool to track and monitor government and/or donor budget and spending. Primary and secondary data for these indicators was collected through literature reviews, KII and FGDs at the start (07/2017) and end (01/ 019) of the program and compared to measure progress.
RESULTS: SHIFT implemented 47 national and regional advocacy activities that mobilized 1,165 people; 22 training activities that reached a total of 422 individuals, and produced a total of 50 information products. Achievements of the program include: development of sustainable CSO coalitions; formation of strategic partnerships; allocation of official seats for CSO and key population representatives in domestic funding mechanisms; development of city-level investment plans; integration of SHIFT project activities in national grants and strategic plans; and development of funding proposals for organizations and coalitions.
CONCLUSIONS: SHIFT developed a novel framework to quantify meaningful participation of CSO in financing discussions and progress towards sustainable financing of national HIV responses. This framework is one of the first attempts at methodologically evaluating progress in HIV financing and sustainability advocacy and can also serve as a tool to monitor government/donor budgeting and spending. SHIFT's indicators can be adapted to fit the needs of different stakeholders across most geographical contexts and can thus readily support future projects involving financial sustainability of the HIV response.

PEE1334

COSTING OF HIV PREVENTION SERVICES AS ELEMENT IN THE ADVOCACY FOR A MORE SUSTAINABLE CONTRACTING AND FUNDING MECHANISM THROUGH THE GOVERNMENTAL FINANCING

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BACKGROUND: A steady decline in funding for HIV programs from the Global Fund has been observed in recent years in many countries. In order to insure the sustainability of HIV prevention program among key population advocacy of funds in governmental budgets is the essential task. Instruments that are needed for this advocacy is good communication and clear understanding of the amount of funds, which should be allocated by Government. Calculating of the costs per client per budget period and multiplying it by coverage targets can be the easiest way for the requested funds calculation, which also allow for direct linkage between coverage targets and funds allocated to the program.

DESCRIPTION: An electronic costing tool developed in Microsoft Excel helps can help to calculate both the cost of preventive services and goods per one unique client reached in the program as well as the budget per service provider organization. The tool requires following easy steps: decide which services should be included to the primary (essential) and secondary packages; updating prices of health products and salaries of social workers or other service providers, updating time per one service provision, frequency of visits and number of health products per client per budget period.

LESSONS LEARNED: This tool was used for unit cots calculation in Balkan countries and following results have been received. Level of salary of social and outreach workers are the most important factors influencing unit costs while time per client per service are almost the same in countries. Other factor is coverage per one service provider - in organization with small coverage overhead costs (which usually are fixed) can be more than 50%.

Country	KP	Primary services and commodities, EUR	Secondary services and commodities, EUR
Romania	PWID	70.73	15.36
	SW	62.19	15.61
	MSM	83.23	11.60
Bosnia and Herzegovina	PWID	117.40	7.75
	MSM	76.77	53.37
North Macedonia	PWID	114.74	13.40
	SW	129.49	22.25
	MSM	62.57	33.63

[Table]

CONCLUSIONS/NEXT STEPS: We recommend the usage of Costing Tool for countries under the transition period as it can help in the advocacy for developing a more sustainable contracting and adequate funding of the prevention services.

INTERNATIONAL ASSISTANCE, FRAMEWORKS AND FUNDING MECHANISMS

PEE1335

IMPACT OF ECONOMIC STATUS, HEALTH SYSTEMS, AND ADOPTION OF WHO ART POLICIES ON ART COVERAGE AND REDUCTIONS IN NEW HIV CASES AMONG PEPFAR AND SELECT NON-PEPFAR COUNTRIES

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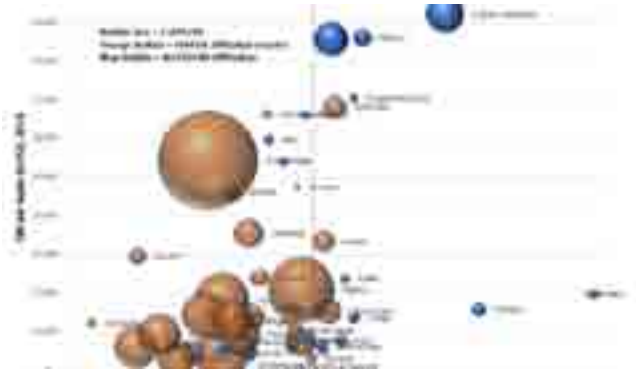
BACKGROUND: Significant progress towards control of the HIV/AIDS epidemic has been made in low resource countries. Factors may include the national economy, the strength of the health system, and/or the political will of national governments, measured by the timeliness of adoption and implementation of key ART delivery policies. The purpose of this analysis is to assess to what degree these factors impact progress towards reaching epidemic control, especially among low income countries.

DESCRIPTION: This analysis compares three system factors, (1) national economic (GNI), (2) health system status (Health Systems Efficiency Index - HSI), and (3) rapid ART policy adoption to level of ART coverage and changes in new infections among PEPFAR and non-PEPFAR countries.

LESSONS LEARNED: As shown in Figure 1, the economic status (GNI) is positively correlated (Pearson's r=0.34) with the percent change in new infections from 2010 to 2017; specifically, the lower a country's GNI per capita, the greater the reduction in infections over time. Affiliation with PEPFAR has been associated with fewer new infections over time, which may offer an explanation for this finding.



[Figure 1]

HSI was not correlated to percent change in new infections or ART coverage for either PEPFAR or non-PEPFAR countries. Finally, countries demonstrating early adoption of priority ART guidelines, defined as the adoption of WHO-Consolidated ART Guidelines within 12 months of their release, have considerably higher levels of ART coverage and a greater reduction in new infections than comparison countries. For example, ‚early' adopters such as Namibia, Eswatini, Lesotho, and Zimbabwe progressed more rapidly to epidemic control than ‚late' adopters, such as Cameroon, Cote d'Ivoire, and Tanzania. Further analysis is warranted to better understand these findings.

CONCLUSIONS/NEXT STEPS: PEPFAR resources and the rapid adoption of WHO HIV treatment guidelines was associated with significant progress in reaching HIV/AID epidemic control, regardless of current economic or health system status.

PEE1336

PILOTING THE SUSTAINABILITY BRIDGE FUNDING APPROACH TO SUSTAIN NGO-BASED HARM REDUCTION SERVICES WITHIN THE TRANSITION CONTEXT IN SOUTHEASTERN EUROPE

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BACKGROUND: Some donor and civil society stakeholders believe that a special mechanism - the Sustainability Bridge Fund (SBF) — should be introduced to ensure that countries have the required capacity to maintain and scale-up their response to end the three epidemics after they are no longer eligible for international funding and to mitigate the damage of improperly planned transitions from donors' support if and when they arise. In 2018 - 2019 the Eurasian Harm Reduction Association (EHRA) with support of OSF piloted the SBF approach in 3 Balkan countries (Bosnia and Herzegovina, Montenegro and Serbia), analyzed the strengths and weaknesses of this approach and developed the suggestions for its improvement in future.

DESCRIPTION: The project was implemented between June 2018 and September 2019 through one sub-regional level sub-recipient and three national level sub-sub recipients. It served the purpose of ensuring the sustainability of harm reduction services in 3 countries after the transition from Global Fund support until national funding becomes available and was also considered as a demonstration of the SBF approach in the region.

A desk review and interviews with implementing partners were conducted. Besides exploration of the applicability of a particular modality of SBF approach, the results of the project have been evaluated from two perspectives: (I) the sustainability of regional/national NGOs and their contribution to activities within this project to (II) ensure sustainability of harm reduction services at national/local levels using government funds.

LESSONS LEARNED: The application of SBF approach in 3 countries as well as its organizational model were considered as highly relevant to the context although the implementation period of the project was short and the sufficiency of budget available within the project is disputable. Donors should engage national counterparts, especially from NGO sector, in the process of selecting the focus of the SBF mechanism. SBF mechanism should ensure the provision of continuous funding to civil society advocacy efforts which are less likely to be supported by national governments within the transition, but also should be responsive to ad-hoc demands.

CONCLUSIONS/NEXT STEPS: Although SBF is still a concept and not yet fully defined its piloted modality can be transferred to many settings.

PEE1337

THE DREAMS INNOVATION CHALLENGE: FINDING NEW SOLUTIONS TO HIV PREVENTION AMONG ADOLESCENT GIRLS AND YOUNG WOMEN

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BACKGROUND: HIV prevalence rates among females ages 15-24 are consistently higher than among their male peers, with adolescent girls and young women (AGYW) being up to 14 times more likely to become HIV-infected than their male counterparts. PEPFAR announced the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) public-private partnership to provide a comprehensive package of core interventions to address many of the factors that make AGYW particularly vulnerable to HIV.

DESCRIPTION: PEPFAR launched the DREAMS Innovation Challenge in 2016 to:

1) identify innovative solutions for HIV prevention among AGYW;

2) engage new partners that have never received PEPFAR funding; and,

3) support funding for small local community-based organizations (CBOs).

The Challenge covered six focus areas: strengthening the capacity of communities for service delivery; keeping girls in secondary school; linking men to services; supporting pre-exposure prophylaxis (PrEP); providing a bridge to employment; and applying data to increase impact. Through a competitive process, 55 organizations were selected to implement innovative solutions.

LESSONS LEARNED: Innovative solutions that were implemented include: combining PrEP services to AGYW with distribution of self-testing kits to their male partners; instituting an early warning system to improve retention in secondary school; training AGYW in skills such as mechanics, financial literacy, and coding linked to employment; utilizing community libraries as safe spaces to provide mentorship and HIV prevention information; using celebrities and musicians to create demand for PrEP services; and building CBOs capacity to integrate gender-equity promotion strategies in institutional culture. 40% of the organizations selected for the Challenge had never received PEPFAR funding, and nearly two-thirds were small CBOs of less than $1 million annual revenue.

50% of the grantees funded by PEPFAR were indigenous organizations and 52% secured additional funding to continue their programs beyond the Challenge. 90% had a gender policy in place, compared to 16% at baseline.

CONCLUSIONS/NEXT STEPS: Utilizing an innovation challenge can help bring new ideas, solutions, and partners to the response to HIV/AIDS. The Challenge was able to support innovative solutions to addressing the complex needs of AGYW and strengthen the ability of indigenous and community-based organizations to effectively deliver HIV/AIDS services to AGYW.

PEE1338

SUPPORTING HIV TESTING, ART INITIATION AND ADHERENCE IN MALAWI IN A HIGH BURDEN DISTRICT THROUGH FELLOWSHIPS TO FILL GAPS AND INCREASE HUMAN RESOURCES FOR HEALTH

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BACKGROUND: Malawi suffers a shortage of nurses: over 60% of government positions are vacant. Malawi has made substantial efforts to increase the production of new nurses and Global AIDS Interfaith Alliance (GAIA) has partnered in this effort through a health worker training program that supports disadvantaged students. However since 2015, shortfalls in the government budget have delayed the deployment of newly graduated and licensed nurses. In 2017, GAIA

worked with the Mulanje District Health Office (DHO) to create fellowship positions at clinics and health centers for new graduates awaiting permanent deployment.

DESCRIPTION: With fellowship salaries and training costs provided by The Elizabeth Taylor AIDS Foundation, GAIA recruited new graduates awaiting formal deployment to serve as fellows to work in a variety of clinical settings including mobile HIV testing (HTS) programs, antiretroviral therapy (ART) clinics, and high HIV burden fixed facilities. Fellows received HTS and ART training according to Malawi Ministry of Health and Population (MoHP) guidelines and provided compensation commensurate with MoHP rates for new graduates. While in the program, GAIA supported fellows to create resumes and practice interviewing skills for permanent employment. Once a fellow secured a permanent deployment, another recent graduate awaiting deployment was recruited, trained and employed.

LESSONS LEARNED: Thirty positions were available at a time, increasing Mulanje's health workforce by 11%. A total of 45 new graduates were supported through the program for an average of 14 months each with a range of 3 to 22 months. At the end of 2019, 34 fellows had attained permanent deployment and the remaining 11 are expecting permanent deployment by q1 2020. During the two year program, the number of people living with HIV (PLHIV) initiated on treatment in Mulanje increased by 23% from 47,337 to 58,293.

CONCLUSIONS/NEXT STEPS: The program addressed the lag in deployment by keeping new graduates working in their chosen field, helping them both maintain and gain new skills. At the same time, it addressed workforce shortages, especially in HIV services when Malawi adopted universal treatment, expanding DHO capacity to serve PLHIV when there was a spike in the number eligible for and seeking ART.

PEE1339

ACHIEVING PEPFAR'S FUNDING LEVEL FOR LOCAL ORGANIZATIONS: CHALLENGES AND SUCCESSES TO GETTING TO 70% IN ETHIOPIA

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BACKGROUND: Local NGOs are pivotal for sustainable epidemic control, providing essential services to meet national and global targets, but have had limited organizational growth opportunities primarily working as subs to international NGOs. Accelerating Support to Advanced Local Partners (ASAP) rapidly develops organizations to have essential capabilities to serve as prime recipients for USAID/PEPFAR. This new and developing program has seen the common challenges local organizations face and the required remedial action for organizational growth and compliance with donor requirements.

DESCRIPTION: ASAP's approach starts with baseline assessments of local NGOs. ASAP expanded NUPAS (Non-US Pre-Award Survey) to develop NUPAS Plus, which includes: 1) compliance management with donor's legal provisions; 2) effective leadership and governance; 3) financial management and segregation of duties; 4) early fraud detection and mitigation; 5) talent management; 6) gender equity; 7) IT security; and 8) business development and sustainability.

ASAP has conducted baseline assessments in Tanzania, Uganda, Nigeria, and Ethiopia to identify capacity development needs. Assessments form the basis for on-going short-term locally-embedded technical assistance, including capacity-building in financial management and compliance; audit readiness; sub-award and grants management; human resources; business development/sustainability; program management and performance monitoring.

In Ethiopia, ASAP is working with 10 local organizations with identified needs in 1) financial management and compliance; 2) administration and procurement systems and 3) human resource systems. All organizations were successful at achieving previous targets for orphans and vulnerable children but lacked the full skill set to do robust monitoring and evaluation.

LESSONS LEARNED: External assessments are a learning opportunity when administered collaboratively. Organizations managed budgets but were unaware of accounting cost principles and needed training followed by on-site support and peer learning. Performance monitoring was heavily reliant on prime recipients and required support in quality assurance and data use. Gender equity is challenging at the highest levels and requires active change management internally.

Carefully selected embedded TA provides quick and responsive support to organizations.

CONCLUSIONS/NEXT STEPS: For PEPFAR to achieve the target of 70% of funding going to local organizations, it is critical to have external assessments and provide individually responsive support to strengthen organizations.

FINANCING HIV WITHIN UHC FRAMEWORKS

PEE1340

"FLEX" YOUR MUSCLES: WHAT GOVERNMENTS REALLY NEED TO DO TO ACHIEVE UHC

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BACKGROUND: In 2019, governments pledged at the UN to achieve Universal Health Coverage (UHC). While debates on UHC have focussed on financial risk protection and service delivery, the third component i.e. access to safe, effective, quality and affordable essential medicines has yet to be properly addressed. According to the WHO, essential medicines are those that, "satisfy the priority health care needs of the population." Internationally, the WHO's Model EML is used as a guide by countries. For several decades, patented medicines accounted for only a small number of medicines on the WHO's EML. In the 2002 WHO EML, several patented anti-retrovirals for the treatment of HIV were included. The more recent WHO EMLs have seen steady inclusions of patented medicines across disease areas.

DESCRIPTION: The 2019 EML addresses the issue of cost in detail and highlights the importance of the use of TRIPS flexibilities in ensuring access to medicines. This paper examines multiple case studies of the use of TRIPS flexibilities by governments for the procurement and sustainable supply of affordable medicines including:

1. Government Use Licenses for HIV, heart disease and cancer: Sustainability of Thailand's Universal Coverage Scheme:
2. Rigorous patentability criteria: Opening generic supply of ARVs in India
3. Transition period: A critical procurement tool for least developed countries (LDCs)
4. First government use license for hepatitis: Supporting access and innovation in Malaysia

LESSONS LEARNED: It is evident from the case studies, that the use of TRIPS flexibilities by low and middle income countries will be critical to the success of implementing UHC. Yet countries often face barriers in using TRIPS flexibilities. Some hurdles arise from a lack of technical expertise in the use of these flexibilities or their absence from national or regional patent laws or take the form of pressure either from the pharmaceutical industry or at times from developed countries.

CONCLUSIONS/NEXT STEPS: There is still considerable debate on how UHC should be achieved; ensuring access to essential medicines requires specific commitments and a clear intent from the global community in using every legal and regulatory tool in this regard, particularly the full use of TRIPS flexibilities.

APPROACHES TO ACHIEVING SUSTAINABILITY

PEE1341

ENABLERS AND BARRIERS TO SUSTAINABILITY OF HIV&AIDS CONTROL PROGRAMS IN UGANDA: A QUALITATIVE EXPLORATION OF THE DREAMS AND CHAI PROGRAMS

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BACKGROUND: Uganda is one of the HIV high burden countries in the world that has recently made impressive progress towards controlling the HIV epidemic. Sustaining the country's progress is currently gaining attention in the country given the changing trend in global health priorities. However, there is an inadequate knowledge base about the enablers and barriers to sustainability of HIV&AIDS programs in the current setting. This study explored the technical and structural enablers and barriers to sustainability of HIV&AIDS programs in Uganda, based on the PEPFAR funded DREAMS program and the World Bank funded Community HIV&AIDS Initiative – CHAI.

METHODS: We conducted 19 key informant interviews and 6 focus group discussions from October to December 2019. Data were collected in 3 purposively selected districts and at national level. The participants included decision-makers from government, donors, and NGO involved in the planning and implementation of the DREAMS and CHAI HIV&AIDS programmes. Data was analyzed thematically using both inductive and deductive approaches based on theoretical constructs combining Williamson's Transaction Cost Economics theory (Williamson, 2010) and Ostrom's Institutional Analysis and Development framework (Ostrom, 2011).

RESULTS: A total of 69 participants were interviewed. The thematic analysis identified the perceived level of seriousness of the epidemic (i.e. level of emergency of the problem) in particular as a key enabler prominently among government decision-makers. Other enablers identified were social commitment, strength of 'community voices', and legal responsibility. The decline in the value of social capital, technically controlled approach to project implementation, lack of legally binding enforcement mechanisms, and failure of the decentralization policy were the most commonly mentioned barriers.

CONCLUSIONS: This study found that decision-makers' perception of the seriousness of the epidemic is critical in planning for and sustaining HIV interventions. Efforts towards sustaining HIV&AIDS control programs will require dedicated efforts to keep the public and decision-makers informed on public health burden of HIV, as well as optimizing the enablers and addressing the barriers identified in this study.

PEE1342

ASSESSING THE ECONOMIC IMPACT OF TB MORTALITY IN HIGH HIV/TB BURDEN COUNTRIES: WHAT IT WILL COST IF WE DON'T ACHIEVE THE END TB TARGETS

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BACKGROUND: Despite declines in mortality over the last decade, TB remains the leading cause of death among people with HIV (PLHIV). We examined the economic value of reducing premature mortality from TB in high TB/HIV burden countries - specifically, if a 90% reduction in mortality, compared to 2015, was achievable in 2030, as proposed in the End TB strategy.

METHODS: We estimated the change in life expectancy in 165 countries from 2020 to 2050, if TB deaths among PLHIV were to fall by 90% (of 2015 rates), by 2030. We monetized the changes in life expectancy by transforming life expectancy gains to standardized mortality units, scaling them to each age (interval) and then multiplying by the density of age distribution, the per capita income for each year, and the value of a statistical life in each country, which we adjusted for country income. To calculate the population value of the gains, we multiplied the per capita value by the projected population in each year, which was available from the World Population Prospects database.

RESULTS: The total economic value of reducing TB mortality in PLHIV in the 30 highest TB/HIV burden countries by 90% (of 2015 rates), by 2030 would be US$47.8 billion. If reductions were delayed until 2045, an additional US$32 billion (to total US$79.8 billion) would be lost. If the End TB targets were achieved by 2030 and TB deaths were to remain steady through 2050, the highest economic gains would accrue to South Africa (US$15.7 billion total, US$84.3 million annually), Nigeria (US$8.2 billion), and Zimbabwe's (US$7.96 billion). We estimated that in countries in sub-Saharan Africa, the economic losses will be 13-fold higher, compared to the next highest region (East Asia & Pacific; US$3.5 billion compared to US$43.6 billion).

CONCLUSIONS: Failure to achieve the End TB targets by 2030 will have a devastating and disproportionate economic impact on countries with a high prevalence of both HIV and TB, especially those in sub-Saharan Africa. These results highlight the urgent need for increased funding for TB research in strategies that will lead to rapid declines in mortality among PLHIV in high TB/HIV burden countries.

PEE1343

COSTS, BENEFITS AND EFFICIENCY GAINS FROM INTEGRATION OF HIV SERVICES WITH OTHER HEALTH SERVICES: A SYSTEMATIC REVIEW

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BACKGROUND: From its inception, the HIV response was a unique undertaking and often separate from the broader health system. Nowadays, there is a widespread recognition that the future of a sustainable HIV response will depend on finding opportunities for strategic integration between HIV and other health services, boosted in recent years by the Sustainable Development Goals (SDGs), strengthened movement towards Universal Health Coverage, and rising double burden of HIV/AIDS and non-communicable/chronic diseases/conditions. We systematically reviewed the literature on potential benefits and efficiency synergies to be gained through integrated HIV service delivery with other health services; including well-known integration types as well as more innovative integrations such as with chronic-disease-platforms, human papilloma virus screen-and-treat, and mental health.

METHODS: We included peer-reviewed studies published after 2010 that present empirical evidence on economic, health, utility and quality indicators related to HIV services integration and synthesised the findings from previous reviews within our scope. Following the review, we developed a conceptual framework to guide policy on finding suitable integration strategies for different contexts.

RESULTS: Of the over 4,000 reviewed articles, 105 articles were finally included. Most studies were conducted in sub-Saharan Africa, followed by Asia and the United States. Overall, most commonly evaluated integration types were HIV services integration with family planning or sexual-and-reproductive-health, followed by primary healthcare, maternal-and-child-healthcare and tuberculosis care. Evidence on potential benefits of newer integration strategies remains scarce. A range of integrated services were found to lead to benefits and efficiency gains. Magnitude of synergies gained depended on (i) the target population; reachability and (type of) end-users, (ii) which types of services are integrated; such as prevention, testing and counselling or treatment adherence, and (iii) degree of integration; solely at service-level or beyond.

CONCLUSIONS: Our systematic review provides a comprehensive up-to-date overview of the existing evidence on HIV services integration, and our framework can help guiding decision making for a sustainable HIV response in the light of the SDGs. Although current evidence supports service integration in most contexts, there is no 'one-size-fits-all' integration strategy, and optimal integration strategies depend on the local epidemiological and health system context.

PEE1344

THE PEPFAR RESPONSIBILITY MATRIX: CHANGING THE FINANCING DISCUSSION FROM TOTAL DOLLARS SPENT TO FULFILLING RESPONSIBILITY FOR HIV SERVICES, PROVIDING A ROADMAP FOR TRANSITION

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BACKGROUND: The international community focuses on Domestic Resource Mobilization as the main sustainable financing source. While funding is important, early transition experience shows that overall health funding is less important than actually continuing specific elements of the HIV response.

DESCRIPTION: PEPFAR created the responsibility matrix (https://www.state.gov/where-we-work-pepfar/) to chart elements of the HIV response that are fulfilled by donors or domestic sources. In a focus session, in country stakeholders determined the level of responsibility for the HIV response between PEPFAR, the Global Fund or other domestic sources.

LESSONS LEARNED: Despite spending that is nominally low compared to international donors, there is no country where the HIIV response is solely the responsibility of the international community. 81% of PEFPAR supported countries have primary responsibility for service delivery elements of HIV care whereas donors generally have primary responsibility for non-service delivery elements (eg training.) Only 39% of countries are categorized as primarily responsible for non-service delivery elements. Within service delivery, there is a mutual primary responsibility for service delivery with 30% of PEPFAR countries with both domestic and international sources listed as primary. In other words if either side did not fulfill their responsibility, service delivery would end. In general, Facility Level workers (93%) are more likely to be domestic responsibility while Community Health Care Workers are international responsibility (67%) which accounts for some of the dual responsibility.

	Care and Treatment Service Delivery	Care and Treatment Non Service Delivery	Facility Level Staff	Community Health Care Workers	KP Program Service Delivery	KP Program Non Svc Delivery
% Domestic Primary Responsibility	81%	39%	93%	48%	33%	26%
% International Primary Responsibility	30%	59%	15%	67%	89%	89%
% Domestic Secondary Responsibility	15%	33%	4%	22%	30%	44%
% International Secondary Responsibility	70%	41%	81%	33%	11%	11%

[Table 1: Select measures from the Responsibility Matrix]

CONCLUSIONS/NEXT STEPS: Charting responsibility avoids the problem of equating spending with importance to the response which, in turn, undervalues domestic contributions. Charting responsibility creates a roadmap to transition. With the roadmap, the focus can evolve away from general budget commitments for health, to a targeted discussion elements required for sustainability. Given the shared nature of service delivery, PEPFAR will be more

focused on country capabilities. Without ending support, countries can be encouraged to take on primary responsibility while the international community is still available to provide a safety net of secondary responsibility.

PEE1345

PEPFAR'S SUSTAINABILITY INDEX AND DASHBOARD: RESULTS FROM SID 2019

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BACKGROUND: The achievement of sustainable control of the HIV epidemic is a critical goal for individuals, communities, and governments. PEPFAR's Sustainability Index and Dashboard (SID) defines critical elements that contribute to sustainability, and enables its users to assess the current state of national HIV/AIDS responses while identifying strengths and vulnerabilities over time. The latest iteration, "SID 2019," provides results that reveal insights into advances and common challenges across countries.

DESCRIPTION: SID 2019 was implemented in more than 30 countries through a participatory process. PEPFAR country teams worked with UNAIDS to convene key stakeholders who collaborated to complete the SID tool, enabling them to assess sustainability across 17 elements organized into four domains. This cycle, two new elements were added: *market openness* and *data for decision-making ecosystem*.

LESSONS LEARNED: The results of SID 2019 show that while PEPFAR-affiliated countries continue to make progress towards a more sustainable response to the epidemic, the pace of improvements has slowed—i.e., from 2015 to 2017, among PEPFAR's 23 standard countries, there was an average increase of 0.58 points across elements (from 5.75 to 6.33 on a 0.00-10.00 scale), but from 2017 to 2019 there was just a 0.30 increase. Average scores improved across 14 of the 15 elements that were in place both SID cycles, although many showed very modest increases. From 2017 to 2019, the three elements with the highest average gains were *public access to information*, *private sector engagement*, and *performance data*. The average SID element scores of 17 of the 23 standard countries rose while 6 fell, with Tanzania's average score increasing the most and Ethiopia's falling the most.

CONCLUSIONS/NEXT STEPS: PEPFAR has designed an original index that enables important cross-country comparisons that highlight what critical variables support advancement of sustainable programs. The SID provides essential data used to determine health systems investments and metrics to track the impact of those investments over time. At the country level, the SID framework continues to orient national stakeholders to their sustainability strengths and challenges, and facilitate informed decisions about where to target efforts and resources to respond to the HIV epidemic more efficiently.

PEE1346

THE ROLE OF CIVIL SOCIETY IN PRICE REDUCTION OF HCV TREATMENT IN MOROCCO

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BACKGROUND: Direct-acting antivirals (DAAs) have revolutionized the treatment of HCV infection. However, the exorbitant price of their launch made them inaccessible in resource-limited countries. This price is largely linked to the market monopoly of originator products most often protected by patents.
Since the launch of this new therapeutic class, Moroccan civil society organizations under the coordination of ITPC-MENA joined their advocacy efforts to make treatment affordable in the country and scale-up free access to all people.

METHODS: During three years, civil society organizations have developed, adapted and implemented an advocacy strategy for price reduction based on several components:
- Raising awareness of decision-makers and media campaign
- Research on the status of patent protection, assessment of the quality of patents,
- Dialogue with the patent office about quality of patents
- Dialogue with the pharmaceutical industry within the framework of Community Advisory Board (CABs) and advocacy for inclusion in voluntary licenses
- Use of the competition authority to improve competitiveness in the context of procurement tenders.

RESULTS: Thanks to the action of civil society, the monopoly on the market for originator products has been broken. The country has been included in the main voluntary licenses covering the pan genotypic combinations SOF / VEL and SOF / DCV paving the way for the entry into the market of generic versions. Local production initially reduced the cost of the cure by 90% to $ 1,250. Increased competition between suppliers during calls for tenders reduced the cost of the cure (SOF / DCV) to $ 216 according to the last call for tenders, which represents a reduction of 83%.

CONCLUSIONS: Removing barriers to entry into the generic drug market and putting several suppliers under competition are key elements to reduce drug prices. The efforts of civil society in Morocco will contribute to the generalization of access to treatment and the acceleration of the plan to eradicate hepatitis C by 2030 in accordance with the commitment of the Ministry of Health. Despite this significant price reduction, NGOs are continuing their efforts and hope to reach the target of $ 100 per cure with increased competition and increased volumes.

PEE1347

COST SHARING FOR THE SUSTAINABILITY OF THE HIV RESPONSE IN THE DOMINICAN REPUBLIC: INCLUSION OF ARVS IN THE COUNTRY'S SOCIAL SECURITY HEALTH INSURANCE

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BACKGROUND: Although the Ministry of Health (MoH) has financed the procurement of antiretrovirals (ARV) and laboratory reagents, the Dominican Social Insurance System (DSIS) does not cover the costs of ARV to patients with HIV insured by a subsidized or pre-paid insurance plan. This constitutes an unfair public subsidy to the better-off. The National HIV Strategic Plan (NHSP) specifies that services, including ARV, must be covered by the DSIS. The National HIV and AIDS Council (CONAVIHSIDA) and the Superintendence of Health and Labor Risks (SISALRIL) were instructed to implement this directive but they confronted a challenge: ARV are procured internationally within a joint mechanism in one annual order to reduce costs, and DSIS's decentralized design does not cover drugs or supplies purchased centrally from foreign suppliers.

DESCRIPTION: To tackle this issue, USAID's Health Financing and Governance Project (HFG) provided technical assistance to establish a national technical group (NTG) to develop an operational model that identified the legal and institutional reforms required for allowing ARV to be financed by DSIS while maintaining the MoH international pooled procurement at the central level. The NTG proposed the creation of a unified special fund for disease control programs (FONSAP, Spanish acronym) to facilitate the DSIS financing of ARV. FONSAP was designed to receive funds from the Social Security Treasury (insured population) and withholds from the MoH to cover the uninsured population. The NTG proposed a model and it was presented and approved by the MoH in 2019 and will be presented to the DSIS for final approval in 2020.

LESSONS LEARNED: The evidence-based analysis of HIV financial challenges by a multi-institutional team and the proposal of a feasible model were key pieces in the decision-making and approval of the model by the MoH.

CONCLUSIONS/NEXT STEPS: DSIS coverage of ARV will increase the sustainability of the HIV national response and free MoH resources for prevention programs, also providing a model for integrating other disease programs, and reduce reliance on international donors. FONSAP charts a path for DR's HIV program financial sustainability and provides a model for other countries for covering HIV services through the social insurance

PEE1348

FINALIZING ETHIOPIA'S FIRST-EVER HIV DOMESTIC RESOURCE MOBILIZATION AND SUSTAINABILITY STRATEGY, 2020–2025: ACHIEVING MULTISECTORAL CONSENSUS AND WHAT IT MEANS FOR A SCALED-UP AND SUSTAINABLE HIV RESPONSE

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BACKGROUND: Over the past decade, 90% or more of funding for Ethiopia's HIV program was external. External funding declined by more than 60% over this period, even as the program needs to sustain and further scale up antiretroviral treatment and deliver high-impact prevention interventions critical for epidemic control. The government of Ethiopia has committed to ensuring sustainability of the program and to mobilize new domestic resources to continue progress toward national and international targets.

DESCRIPTION: The Federal HIV/AIDS Prevention and Control Office and Ministry of Health, with support from the USAID-funded Health Policy Plus project, led a consultative process with stakeholders from government, development partners, private sector, and civil society to develop a five-year HIV Domestic Resource Mobilization and Sustainability Strategy. The decision-making process was informed by a first-ever assessment of domestic HIV financing. Stakeholders achieved consensus on best practices for resource mobilization and allocation adaptable to the Ethiopian context and aligned with the country's universal health coverage schemes. The final strategy includes five initiatives:

- Increasing budget allocations from federal and regional governments
- Institutionalizing participation in and use of AIDS Fund contributions for formal sector employees
- Improving targeting of cross-sectoral HIV budget mainstreaming
- Mobilizing voluntary community-level resources
- Implementing an HIV-earmarked tax on corporate profits

By 2025, the strategy aims to mobilize 30% of the cost of the national HIV/AIDS Strategic Plan from domestic sources, with targets and roles for each initiative.

LESSONS LEARNED: Often the policy process for HIV resource mobilization has been driven only by HIV program stakeholders. Ethiopia's approach of engaging high-level government officials and multi-sectoral stakeholders—including the Ministry of Finance and Ministry of Revenue—led to a consensus on (a) the need to increase domestic financing for the HIV program and (b) how, and to what extent, this can be accomplished.

CONCLUSIONS/NEXT STEPS: Ethiopia's experience presents a best practice for developing an HIV domestic resource mobilization strategy based on a recent assessment of the baseline performance of the system, and then thorough, iterative engagement of actors within and outside the HIV and health sector to develop consensus on actions needed.

PEE1349

ACHIEVING SUSTAINED EPIDEMIC CONTROL FOR HIV/AIDS: LESSONS LEARNED FROM THE SUSTAINABLE FINANCING INITIATIVE

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BACKGROUND: Per UNAIDS estimates, countries will require an investment of around $26.2 billion by 2020 to meet the demand for HIV/AIDS services. At least $14.6 billion, or 55 percent, of the total should come from domestic sources. If fully-funded, the AIDS response could avert an estimated 17.6 million new infections and 11 million premature deaths between 2016 and 2030.

DESCRIPTION: The Sustainable Financing Initiative for HIV/AIDS (SFI) is a PEPFAR-funded, USAID-led initiative to encourage domestic financial participation in the HIV response in PEPFAR-supported countries. SFI works with ministries of health and finance, donors, the private sector, and other critical stakeholders to improve efficiencies in the HIV response through data-driven resource allocation for HIV/AIDS at the national and subnational levels. Three core areas of assistance are emphasized: improved public financial management, integration of HIV services into social health insurance schemes, and leveraging the private sector. Much of this work cuts across three key themes of increasing the efficiency of the HIV response, advocacy and analytics to generate political will for shared responsibility, and securing a sustainable supply of HIV commodities into the future.

LESSONS LEARNED: Over a four year period, SFI invested $48 million across eighteen countries to leverage domestic resources for HIV/AIDS and improve approaches to health financing. SFI interventions have yielded significant results globally. For example:

- In Vietnam, SFI supported the inclusion of over 80 PEPFAR-supported clinics to be contracted with Vietnam's Social Health Insurance Scheme (SHI). Currently 97% of HIV facilities nationally have enrolled.
- In Kenya, advocacy for increased allocations to health and HIV resulted in a $26 million allocation for ARVs and test kits, $6 million allocated to HIV, and $98 million allocated to health at the county level.
- In Nigeria, SFI decongested public hospitals by decanting patients into decentralized private sector outlets. As of 2019, 18,000 patients were picking up their medication from private pharmacies and hospitals.

CONCLUSIONS/NEXT STEPS: By investing in financing interventions, PEPFAR funding can leverage additional resources from host-country governments and the private sector to increase the sustainability of the HIV response.

ECONOMIC EVALUATION AND AFFORDABILITY ASSESSMENTS

PEE1350

ASSESSING THE WILLINGNESS TO PAY FOR HIV COUNSELLING AND TESTING SERVICE: A CONTINGENT VALUATION SURVEY IN LAGOS STATE, NIGERIA

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BACKGROUND: One of the major health concerns facing the world and in particular sub-Saharan Africa for some decades is HIV and AIDS. Presently, Nigeria ranks third by a number of people living with HIV/AIDS in the world. HIV Counselling and Testing (HCT) is prominent among the continuum of HIV/AIDS intervention programmes because of its strategic role as a gateway between prevention and care. However, HCT service in Nigeria is faced with many challenges among whom is inadequate funding which threatens its sustainability. There has been a paucity of research into these area leading to inadequate evidence to support policy decision-making. This study was carried out to assess the quantum of payment and determining factors associated with people's willingness to pay (WTP) for HCT services in Nigeria.

METHODS: The study employed a cross-sectional survey to examine the contingent valuation method of economic evaluation using data from 768 individuals collected through convenience sampling in three Local Government Areas -Alimosho, Ikorodu, and Surulere in Lagos State, Nigeria, between May - July, 2015. Data were analysed using descriptive statistics, chi-square, Mann-Whitney, Kruskal-wallis, and GLM regression analysis.

RESULTS: The results revealed that 75% of the respondents were willing to pay on the average N1291 (~$4.22) amount for HCT service. The amount is much lower than the reported $7.4 mean cost per client. Individuals who were male, less than 50 years of age, and married were willing to pay more. Furthermore, the significant determinants of WTP were, income, knowledge of someone living with HIV or died of AIDS, worry about HIV infection, and fear of HIV-related stigma.

CONCLUSIONS: The findings of this study accentuate high rate of willingness to pay for HCT service. The findings suggest feasibility of partial cost recovery from potential users of HCT service. The findings offer vital information germane to future implementation of co-payment schemes aimed at financial sustainability of HCT services in Nigeria.

PEE1351

HEALTH CARE EXPENDITURES OF PLHIV IN SOUTH WEST OF FRANCE: MATCHING ANRS CO3 COHORT AND SOCIAL SECURITY SYSTEM DATA

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BACKGROUND: A good knowledge of the distribution of healthcare expenditures among people living with HIV (PLHIV) is needed to optimize their care pathways. The objectives of our study were to estimate the annual total cost of healthcare by any sources of funding in PLHIV followed in Aquitaine (South West of France) and to analyze its determinants in 2014.

METHODS: A retrospective cohort study was carried out by matching the hospital-based Aquitaine ANRS CO3 cohort database with that of the French national health insurance while respecting the anonymity of individuals. Patients seen at least once in 2014 in one of the 16 participating centers were included. A step-by-step multivariate analysis was carried out to identify the determinants of healthcare cost of the 25% highest and of the 25% lowest consumers.

RESULTS: 4145 PLHIV were included (M/F= 2.54; median age = 50 years; median time since diagnosis = 17 years). 17.2% lived in rural areas. HIV-related expenditures were fully covered by the national health insurance for 94.6% of the patients. 9.4% benefited from a health insurance program (CMU-C) allocated to the poorest persons. 49.8% had at least one comorbidity. 67.8% were current or former smokers. 97.5% received antiretroviral drugs. Total annual healthcare expenditures were € 67,095,047 (median per person = € 12,650) of which 85.8% were for ambulatory care (antiretroviral drugs = 63.3% of the total) and 14.2% for hospitalization. The determinants of high consumption were: length of time since diagnosis, CD4+ < 500/mm3, 50 c/mL ≤ viral load (VL) < 400 c/mL, ≥ 1 comorbidities, smoking, contracting HIV by intravenous drug use (IVDU), women infected through heterosexual contact. Determinants of low consumption were: CD4+ ≥ 500/mm3, VL ≥ 400 c/mL, no comorbidity, contracting HIV by IVDU, men infected through heterosexual contact, university hospital follow-up, CMU-C.

CONCLUSIONS: Antiretroviral drugs account for two-thirds of healthcare expenditures for PLHIV. Healthcare consumptions are mainly driven by epidemiological, clinical, and biological factors. The effects of history of IVDU and of VL level are non-monotonous. Further, residential location has no impact and PLHIV who benefit from CMU-C are more likely to be low healthcare consumers. Next step will be studying the relevance of differences in healthcare consumptions.

PEE1352

GLOBAL EVIDENCE ON HEALTH-ECONOMIC EVALUATIONS OF PROVIDING DIFFERENTIATED SERVICE DELIVERY FOR HIV: A SYSTEMATIC REVIEW

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BACKGROUND: Differentiated Service Delivery (DSD) is a client-centred model of care, focused on simplifying and adapting health services to meet the needs and expectations of people living with HIV across their continuum of care, whilst reducing the burden on health systems. To identify available evidence and gaps regarding health-economic evaluations of DSD provision, we conducted a global systematic review.

METHODS: We searched Medline and Embase from 1 January 2010 to 21 November 2019 and ClinicalTrial.gov (ongoing trials only) for studies reporting original health-economic outcomes of DSD models. We classified studies by geo-economic region, HIV care continuum stage targeted, DSD model type (facility-based individual, out-of-facility individual, healthworker-led group or client-led group), and whether it evaluated cost-effectiveness (CE).

RESULTS: We identified 5,595 studies, with 161 meeting inclusion criteria. Most (n=113) were from low- and middle-income countries (LMICs), including 91 from sub-Saharan Africa. The review identified two important trends. First, whilst peer-reviewed publications from LMICs have predominantly focused on individual-centred DSD models strengthening all stages of the HIV care continuum, those from high-income countries mainly reported on individual-centred DSD models targeting early stages (e.g. prevention, screening). Few studies reported on health worker-led or client-led group models. Secondly, more recent publications and ongoing trials are increasingly focusing on later stages of the HIV care continuum (e.g. adherence, viral suppression) across settings, and also evaluating group-centred models. Overall, 78 studies included a CE evaluation, including 37 peer-reviewed publications with healthcare perspective valuations and 41 ongoing trials. The rest solely summarised DSD costs (e.g. cost-per-client-year, program costs), mainly from the provider perspective.

CONCLUSIONS: Although our review identified a wealth of economic evaluations of DSD provision, crucial evidence gaps remain. These include economic evaluations of models focusing on groups and social engagement, beyond individual-level health, and on the scale-up, sustainability and optimisation of DSD models. Data emerging from ongoing trials should, at least in part, address these gaps (e.g. combining individual- and group-centred models). Further studies, combining primary data collection and economic decision models, are needed to optimize economic and health-related benefits from DSD.

PEE1353

THE ECONOMIC BURDEN AND THE DETERMINANTS FOR BOTH NATIVE AND TRANS-REGIONAL MULTIDRUG-RESISTANT TUBERCULOSIS PATIENTS

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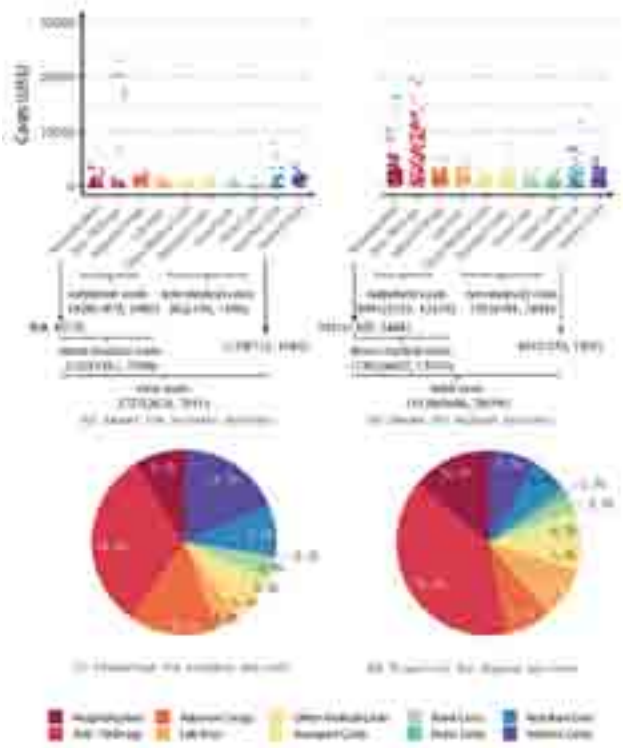
BACKGROUND: The financial barrier impeded multidrug-resistant tuberculosis (MDR-TB) patients from effective treatment. The World health Organization (WHO) aims to eliminate the catastrophic costs of caused by TB by 2020. For seeking better health care service, trans-regional treatment is common for MDR-TB patients in China. However, the trans-regional movements bring extra expense. The financial burden for trans-regional MDR-TB patients is unknown.
METHODS: A questionnaire for MDR-TB patients was conducted in Guangzhou chest hospital to investigate the basic information, non-medical expenses and work absence. Medical expenses and reimbursement information of patients were collected from the hospital information system. The determinants of total expenses of MDR-TB patients were analyzed by hierarchical multiple linear regression model.



[Figure]

RESULTS: A total of 162 MDR-TB patients were included in this study, with 59 native patients and 103 trans-regional patients. The total cost of trans-regional patients was significantly higher than that of native patients, which was USD $3727(2638, 7541) and USD $15138(9646, 20199), respectively. Anti-TB drugs contributed to the largest proportion of total costs (native patients: 30.4%, trans-regional patients: 39.2%). MDR-TB treatment resulted in 29/59 (49.1%) of native patients, and 93/103 (90.3%) of trans-regional patients suffering from catastrophic total cost, respectively. The results of the hierarchical regression model showed that trans-regional movements, unemployment, the use of cycloserine and linezolid, hospitalization and family accompanying would increase the economic burden of MDR-TB patients. After adjusted, the basic health insurance has no association with the total costs of MDR-TB patients.
CONCLUSIONS: MDR-TB patients face heavy economic burden. In order to reduce the economic burden of MDR-TB patients, the access of treatment and diagnose for MDR-TB should be improved. The coverage of the subsidy policy should be further expanded to cover trans-regional patients. Meanwhile, the reimbursement ratio and limit of the basic medical insurance should be improved to reduce the economic burden of MDR-TB patients.

FINANCING HIV DRUG ACCESS: THE ECONOMICS OF GENERICS AND DIFFERENTIAL PRICING STRUCTURES

PEE1354

IMPACT OF PATENT MONOPOLIES ON INCREASING ACCESS TO DOLUTEGRAVIR IN EASTERN EUROPE AND CENTRAL ASIA: SNAPSHOT ANALYSIS AND GENERIC ACCESS SCENARIO

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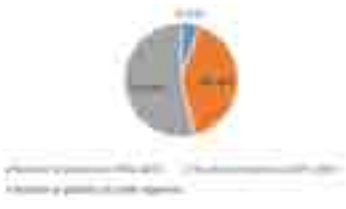
BACKGROUND: WHO-2018 HIV treatment guidelines introduced dolutegravir (DTG) as a preffered first-line option. Several countries in Eastern Europe and Central Asia introduced DTG proactively thanks to generic access under the licensing agreement. Excluded countries do not have access to generic DTG because of the patent protection (e.g. Belarus, Kazakhstan, Russia).
Our aim was to asses access to DTG in Russia as a country with the largest epidemic in EECA and to draft a DTG generic access scenario.
Objectives:
1) identify per patient per year (PPY) DTG cost
2) estimate a number of people receiving DTG, including percentage of total PLWH on ART
3) draft a generic access scenario for increasing DTG access
DESCRIPTION: Methodology included:
1) Analysis of tender document;
2) Calculation of total ART budget, including regimen breakdown;
3) Calculation of all ART cost PPY;
4) Calculation of total number of patients on ART;
5) Calculation of number of patients for each medication (with focus on DTG and EFV).

[Table]



[Figure. Comparison of DTG and EFV coverage in Russia, 2019]

LESSONS LEARNED: In 2019, DTG cost in Russia was 1842 USD PPY. In countries with generic access the cost ranged from 60 to 73 USD PPY.
The DTG budget in Russia was over 45 mln. USD. The number of people receiving DTG was 25 211 (5% of PLWH on ART), as opposed to 205 400 on EFV (40%).
With generic price the number of people on DTG can be increased to 636 146 with the same budget.
CONCLUSIONS/NEXT STEPS: Patent monopoly is a barrier for access to DTG. It is observed in other countries without generic access. Proportion of PLWH on DTG ranges from below 1% in Belarus, to around 10% in Kazakhstan with the price range USD 1300-2000 PPY.
Price reduction measures are needed for better access to WHO-recommended regimens, e.g. compulsory licensing (discussed for Kazakhstan and Russia) or voluntary license.

PEE1355

MARKET DYNAMICS OF ANTI-RETROVIRAL DRUGS: ESTIMATING THE MARKET SIZE AND PRICE VARIATIONS IN GENERIC ACCESSIBLE LOW- AND MIDDLE-INCOME COUNTRIES USING DATA REPORTED TO UNAIDS AND TO GOVERNMENT CUSTOMS AGENCIES

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BACKGROUND: By end of 2018, 37.8[32.7 million–44.0] million people were living with HIV and 24.5 million [21.6 million–25.5] people were accessing antiretroviral therapy by mid-2019.
METHODS: Data from Global AIDS Monitoring (average ARV unit prices) and India government customs were analyzed to estimate the market size, price trends & variations for generic ARVs (exported between 2016 and 2019) in generic accessible low-and-middle-income countries (LMIC). .
Estimates for person-years on treatment and unit costs per person-years were calculated from the volume and price of ARV exports in LMICs. Analyses were stratified by year, regimen, income group and region.
RESULTS: The value of the market size for ARVs in generic accessible low-and-middle-income countries was estimated at US$ 1.9Bn (US$ 1.8Bn – US$ 2Bn) in 2019.
Between 2016 and 2019, the unit cost per person-year on treatment decreased from US$89.01 to US$75.76 for lamivudine-based regimens and from US$117.11 to US$100.85 for emtricitabine-based regimens. For combinations including lamivudine or emtricitabine, unit costs were lowest for lower middle-income (US$72.57) and low-income countries (US$73.65), respectively. Unit prices varied from US$68.12 in West and Central Africa to 264.82 in Eastern Europe and Central Asia for lamivudine-based regimens; US$61.13 in Asia and the Pacific to 166.31 for emtricitabine-based regimens.
The average unit prices for Zidovudine-Lamivudine-Nevirapine regimens came down in Sub Saharan Africa from US$ 91 per person year on treatment in 2016 to US$ 73 in 2019. During the same period, Tenofovir-Lamivudine-Efavirenz based regimens witnessed a price drop from US$98 per person year to US$ 73.5. The average price per dose for Tenofovir-Lamivudine based regimens which could be administered for PrEP was US$ 47 in Sub Saharan Africa in 2019. It witnessed a price reduction of US$ 4 per dose in the last 3 years.
CONCLUSIONS: There were declines in unit prices between 2016 and 2019 in most income level groups of countries and in regions. There still are large variations in average procurement prices.
In the current environment of flat-lined international resources for HIV, countries must look for options to optimize their procurement cost and thereby reallocate the resources saved through supply chain optimization to other program needs.

FUNDING FOR HIV PROGRAMMES AND SERVICES

PEE1356

INTERNATIONAL DONORS MORE LIKELY TO HAVE RESPONSIBILITY FOR KEY POPULATION PROGRAMMING: SUSTAINABILITY OF KP PROGRAMMING AT RISK

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BACKGROUND: As countries achieve epidemic control in their general population groups, Key Population (KP) groups will still need additional work to achieve and maintain epidemic control. Today, the international community only uses total spending converted into dollars to understand KP programming at the country level.
DESCRIPTION: PEPFAR created the responsibility matrix (https://www.state.gov/where-we-work-pepfar/) to chart elements of the HIV response that are fulfilled by donors or domestic sources. The Sustainability Index and Dashboard (SID) is a tool developed by PEPFAR and UNAIDS to assess the sustainability of a country's HIV response. In a focus session during the summer of 2019, in country stakeholders determined the level of responsibility for the HIV response between PEPFAR, the Global Fund or other domestic sources and also updated the SID.
LESSONS LEARNED:

	Care and Treatment Service Delivery	Care and Treatment Non Service Delivery	Facility Level Staff	Community Health Care Workers	KP Program Service Delivery	KP Program Non Svc Delivery
% Domestic Primary Responsibility	81%	39%	93%	48%	33%	26%
% International Primary Responsibility	30%	59%	15%	67%	89%	89%
% Domestic Secondary Responsibility	15%	33%	4%	22%	30%	44%
% International Secondary Responsibility	70%	41%	81%	33%	11%	11%

[Table]

While general service delivery for HIV programming is often the responsibility of the host government, the international community has higher rates of responsibility for Key Population programs. As is shown in table 1, only 33% of countries take primary service delivery responsibility for KP programs. Even fewer countries, 26%, take responsibility for non-service delivery components. Also since KP program are more heavily dependent on community workers,

many countries will have a significant challenges maintaining KP programs without policy changes that enable the use of community health care workers.

CONCLUSIONS/NEXT STEPS: While domestic responsibility for elements of HIV care has increased, or has been under estimated, it is clear that there is a much further ways to go when it comes to key populations programming. In general, where there are separate focused efforts, KP programming is more often the responsibility of the international community. Building the political will and creating domestic funded and operated KP programs will be a more significant task to assure sustained epidemic control. Ensuring that Community Health Care Workers are recognized cadres within a national system will be an important part of KP programming sustainability. Focusing on social contracting for KP services or creating social enterprises are key sustainability efforts.

PEE1357

THE FUNDING FOR THE PREVENTION AND TREATMENT OF HIV CAN SAVE LIVES! THE MECHANISMS FOR FUNDING PROGRAMS IN THE AREA OF HIV, THROUGH LOCAL BUDGETS!

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BACKGROUND: At the moment, the situation in the Kyrgyz Republic with the financing of programs to overcome HIV infection, is not for the better. We can see that since the beginning of the 2000s, the activities were carried out by the Global Fund, and 90% of the funding in the Republic was carried out at the expense of donors. Since 2014, the country has moved into the category of a country with an income below the average in the world Bank category, and until today there is a steady trend of reduction of funds. The commitments made by the country to achieve the goals set out in the UNAIDS 90-90-90 strategy to save lives and stop the HIV epidemic **can be met by increasing public funding and spending efficiency.**

DESCRIPTION: NGO "Plus Center", in 2018, was active in the field of Advocacy for Public funding and the rights of vulnerable groups. The project, together with the city hall of Osh, created a working group that developed and presented to the deputies of the city Council - a social program, the Project conducted research on the needs of vulnerable groups and missing services. The project protected a Social program worth 2 million soms for 2 years, and the deputies approved the city budget with services for vulnerable groups, including PLHIV.

LESSONS LEARNED: Osh city Hall has signed a document to Fund services for vulnerable groups. Five NGOs in the city received funding from the Osh city budget. 2000 representatives of vulnerable groups were covered. Training was conducted for city hall employees on rights, laws and stigma of discrimination.

CONCLUSIONS/NEXT STEPS: A City-wide HIV Coordination Council has been Established in Osh. Osh city hall, signed the Paris Declaration on HIV, Osh City hall is preparing to adopt a new city plan on HIV for two years, with funding for services for PLHIV and other target groups. HIV services will be Monitored at the city level. Vulnerable groups receive political support from the mayor's office. Communities have been involved in the research, development and implementation of local, national, and international instruments for HIV treatment, care, and support programs.

PEE1358

HOW MUCH ARE WE INVESTING IN THE RESPONSE TO HIV? RESOURCE AVAILABILITY FOR THE HIV RESPONSE IN LOW- AND MIDDLE-INCOME COUNTRIES 2010-2018 AND CHANGES FROM 2017 TO 2018

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BACKGROUND: A target to mobilize at least $26.2 Billion (at constant 2016 dollars) by 2020 for an effective response to HIV in low- and middle-income countries was adopted in 2016. This target assumed efficiency gains of 40% and increased program effectiveness..

METHODS: The international sources were based on annual reports for bilateral contributions, and disbursement reports by multilaterals. The domestic public resources were estimated by panel data regression analysis using the 2000 to 2018 annual reports to the Global AIDS Monitoring; domestic private estimates used data from NASA.

RESULTS: The resource availability from all sources for low- and middle-income countries increased from $15 Bn in 2010 to $19.0 Bn in 2018 (26% increase) expressed in 2016 constant dollars (to make it comparable to the 2020 target set in 2016). The peak value was in 2017 at $19.9 Bn.

The domestic resources increased from 2010 to 2018 by 50% (or by $3.6 Bn) to reach $10.7Bn in 2018. Similarly, bilateral contributions from the US-government increased by 47% or $1.6 Bn. Bilateral's contributions (other than the USG) decreased by 57% (from $1.9 Bn to $0.8 Bn).

Multilateral institutions other than GFATM and UNITAID decreased by 37% down to $217 million in 2018. The share for HIV from UNITAID decreased by -36% (from $200 to $132 million). The resources disbursed by the GFATM to LMIC for HIV in 2010 were almost at the same level as in 2018.

There was a reduction in the resource availability in 2018 compared to 2017 of $920 million constant 2016 dollars equivalent to a 5% decrease. This would be the second time since 2000 that there had been reductions on the total availability for same countries on a year-to-year basis, i.e. from 2013 to 2014 ($400 million reduction, or -2%).

In 2018, domestic resources (public and private) constitute 56% of the global AIDS resources

CONCLUSIONS: The resource availability for HIV has flattened in recent years and efficiencies have not yet been fully realized thus risking meaningful change in the epidemic trend.The funding gap to reach the 2020 target of $26.2 Billion (in 2016 dollars) is not being reduced.

PEE1359

WHEN THE POLITICS IS IN THE WAY; UNDERSTANDING BARRIERS TO EFFECTIVE DOMESTIC FINANCING OF HIV/AIDS THROUGH THE LENS OF GOVERNMENT'S PUBLIC FINANCIAL MANAGEMENT (PFM) SYSTEM

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BACKGROUND: There is a high dependence on donor funding and inadequate domestic spending on HIV/AIDS in Nigeria. With decreases and changes in prioritization of donor funding for HIV/AIDs control, domestic revenue mobilization (DRM) is a vital step for sus-

tainability of HIV control efforts. The government is not meeting this challenge and therefore, it was imperative to examine the obstacles to government funding through a closer examination of the Public Financial Management(PFM) system. An effective PFM system is essential to ensuring adequate public spending on HIV/AIDS.

METHODS: We conducted a PFM assessment in 4 Nigerian states with the highest HIV burden in the country, to understand the system, identify roadblocks to government spending on HIV/AIDS, and devise solutions. The assessment examined the financial planning, budgeting, releases, and spending and was based on the Health Finance and Governance Project's 'Guided Self-Assessment of Public Financial Management Performance (PFMP-SA), and the USAID's Public Financial Management Risk Assessment Framework (PFM-RAF) methodology. We conducted key informant interviews and reviewed government financial documents to obtain required information.

RESULTS: Common obstacles were found in the four states. Budget credibility is low as evidenced by a lack of accurate costing and unavailability of accurate budget ceilings or envelops for departments during the planning process. Budgets are unrealistic when compared to available or potential revenues, and changes in political priorities affect expenditures; as prioritization is political and not evidence based. Missing links and wide variances exist between budgeted and actual expenditure. Health actors have inadequate understanding of the PFM process and are not proactive in requesting for funds allocated to them. Disbursement decisions are made at the highest executive level requiring strong political advocacy and lobbying, leading to delays and often non-release of funds for HIV/AIDS activities.

CONCLUSIONS: For effective government spending on HIV/AIDS control efforts, PFM reforms are vital. Health stakeholders should employ political engagement to address PFM obstacles and promulgate use of evidence-based, realistic and program based budgets. To increase government HIV spending, capacity building of HIV sector actors on the PFM system, and fostering of inter-sectorial collaboration and partnerships with finance ministries and high level advocates is essential.

PEE1360

ALIGNING RESOURCES TO MAXIMIZE EFFICIENCY, ACCOUNTABILITY, AND IMPACT OF THE GLOBAL HIV RESPONSE

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BACKGROUND: PEPFAR and the Global Fund in partnership with host country governments form the cornerstone in combating the HIV/AIDS epidemic. To achieve a sustained response, it is essential to synergize efforts and ensure optimal alignment and allocation of resources between stakeholders. Availability of routine harmonized financial data enables increased collaboration between donors and partner governments during planning and budgeting processes ensuring investments are strategically aligned for maximum impact.

DESCRIPTION: Collaborative planning between stakeholders is critical to ensuring that prioritized interventions are scaled, geographic priorities are shared, and that all available resources for HIV/AIDS in the country are utilized optimally. Every year PEPFAR country teams in close collaboration with host country and Global Fund ensure that dollars strategically align to address gaps and solutions for impact while maximizing transparency, efficiency, and accountability of resources.

LESSONS LEARNED: The Resource Alignment collaboration between PEPFAR and the Global Fund has enabled efforts to better align resources, avoid duplication, drive efficiency, and improve the cost analysis and resource estimations of HIV treatment and prevention programming. Harmonizing budgets and expenditures for the two largest donors in the HIV response have enhanced strategic collaboration and coordination during program cycle planning and budgeting. Examining actual expenditures against planned investments by specific program areas help identify areas of low absorptive capacities, investigate possible causes, and develop strategies to address it. Triangulating resource alignment data with national program data will provide a better understanding of total funding against results; whether investments are adequately targeted to address issues along the clinical cascade; assess possible gaps in funding and pockets of inefficiencies; identify areas where agency/host country government can prioritize resources based on competitive advantages.

CONCLUSIONS/NEXT STEPS: As donor funding continues to plateau or decline in some cases amidst an accelerated pursuit of epidemic control, resource alignment efforts become an invaluable tool to engage with partner governments to advance efforts around domestic responsibility and resource mobilization to ultimately ensure financial sustainability of HIV programs.

EVIDENCE FROM INTEGRATION OF HEALTH SERVICES

PEE1361

HPV TESTING ON SELF-COLLECTED VAGINAL SAMPLES AS A CERVICAL CANCER SCREENING METHOD AMONG HIV-POSITIVE WOMEN: A STUDY IN UGANDA

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BACKGROUND: Cervical cancer incidence and mortality is highest among women living with HIV (WLHIV) in low-income countries with limited access to cervical cancer screening and treatment. The World Health Organization currently recommends HPV testing as part of cervical cancer screening programs. In Uganda, cervical cancer is the leading cause of cancer death but only 10% of women are screened annually through visual inspection with acetic acid (VIA). A study is being conducted in Uganda to assess the acceptability and feasibility of HPV testing using self-collected samples for WLHIV.

METHODS: In this observational pilot (September 2019-March 2020) in seven Ugandan hospitals, self-collected vaginal samples from WLHIV are tested using GeneXpert. Data is extracted from facility registers. Descriptive analyses are presented here for data through December 2019.

RESULTS: 1021 women were tested for HPV; 991 (97%) had a valid result and 349 (35%) tested HPV+. 175 (50%) HPV+ women were linked to care and received VIA, of whom 54 were VIA+ and 2 suspected

of cancer. Among these women, 35 (63%) were treated with either thermocoagulation or cryotherapy, 16 (29%) referred for specialized treatment, and 5 (9%) deferred for treatment. In sub-population analysis among women with minimum of 30-day follow-up, the proportion linked to VIA was 72%. Median turnaround time (TAT) for sample collection to patient result receipt was 12 days (IQR: 3-27), with TATs being faster for HPV+ (9 days) versus HPV- women (14 days). For HPV+ women, TAT from patient result receipt to VIA was 0 days (IQR: 0-1).

CONCLUSIONS: HPV prevalence in this population was 35%. Preliminary data from the pilot indicate that HPV testing in WLHIV was acceptable and feasible with the majority of HPV+ women linking to care and receiving treatment on the same day they received their results. As this study is ongoing, we expect linkage rates to increase with additional follow-up. Additionally, in resource-limited settings, thermocoagulation and cryotherapy are practical approaches for prompt on-site treatment of VIA+ women. The pilot results are expected to inform the National Cervical Cancer Control Programme in Uganda in the adoption and implementation of HPV testing as the primary cervical cancer screening method nationally.

PEE1362

PEER SUPPORT INTEGRATION: CREATING SAFE SPACES FOR ADOLESCENTS LIVING WITH HIV

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BACKGROUND: HIV is the leading cause of mortality amongst adolescents in Africa, who remain under-served in the HIV response.

DESCRIPTION: The Re-Engaging Adolescents and Children with HIV (REACH) programme is a health facility-based, low-cost adolescent peer support model building the capacity, agency and resilience of lay providers age 18-24 years living with HIV to deliver psycho-social support services for their peers. Implemented at 15 health facilities across Cameroon, Kenya, Malawi, Uganda and Zambia, peer supporters work alongside health providers to improve service quality through task-shifting and an expanded package of psycho-social support services. The programme provides peer supporters with training, mentorship, peer engagement, livelihood strengthening and skills--building to improve job performance, career prospects and well-being. Embedded mixed methods monitoring and evaluation is being used to assess the model's feasibility, acceptability and effectiveness, while developing a user-friendly package of tools to support its scale-up in the region.

LESSONS LEARNED: In the past year, REACH facilities tested 54% more adolescents and young people (AYP) for HIV than they had the year before REACH was initiated. Across sites, the 66,699 tested yielded an HIV positivity rate of 3%. Remarkably, 99% of that tested positive were initiated on antiretroviral therapy (ART). Looking at the total population of AYP on ART within the programme, 95% were retained in care and 95% virally suppressed.

While preliminary results have demonstrated that REACH is feasible, acceptable and can result in improved service delivery and client outcomes, data have also revealed challenges, such as peer supporters being required to perform tasks for which they are not equipped, and insufficiently recognised and respected by health providers. In partnership with peer supporters and health providers within the programme, a suite of guidelines and tools was developed covering peer supporter recruitment to integration.

CONCLUSIONS/NEXT STEPS: Looking ahead, the prospect of mainstreaming REACH using mobile technology to establish virtual safe spaces will be explored, as will differentiating the model and its tools to reach marginalised groups of young people living with HIV. These efforts will assist health facilities to set standards for peer support services and build greater uniformity in service quality for all AYP.

APPROACHES TO FINANCING ACROSS SECTORS

PEE1363

JOY OF GIVING AND RECEIVING: GRASSROOT FUNDRAISING IN MBEYA, TANZANIA

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BACKGROUND: Recent budgetary challenges have adversely affected our ability to purchase life-saving medicines, provide important social support packages (such as transport, clothes, blankets, basic necessities), and offer food packages for the most vulnerable children living with HIV/AIDS. To address these shortcomings, the Mbeya COE Pharmacy, Social Work and Nutrition departments created and implemented a fundraising event on World AIDS Day 2018.

DESCRIPTION: The event targeted the local community by inviting guests to the COE for a celebratory day, viewing of short inspiration HIV/AIDS videos, and discussions with COE staff about the program in hopes of soliciting local donations. As staff, we organized ourselves into two teams. One team handled internal logistics and event agenda, and the second team helped to deliver invitation letters and initiate mobilization amongst people to attend our event. Children from our clinic were not invited to curb disclosure of status in public and risk of unintended stigmatization.

This event gathered a grand total of cash and auctions worth of USD 3,730. Donated products (e.g. sugar, flour, clothes, powdered soap) are being stored for distribution through Social Work department to eligible children. Perishable items such as eggs were distributed to around 60 families to celebrate Christmas before the holidays. Donated gallons of liquid soap is auctioned to raise additional money to support COE patients.

LESSONS LEARNED: This event brought to light kindness that community bears in relation to giving for children living with HIV/AIDS. As three departments, we have also learnt to form a committee and formal processes for accessing and using the products and money accumulated from this cause. It is also important to clearly depict processes of accessing the accumulated products and funding since delays as well as uncertainties would disable motivation for this exercise.

CONCLUSIONS/NEXT STEPS: We hope to continue these community level fundraising efforts on annual basis in Mbeya. We hope to collaborate through other community partners, civil society organizations and commercial business sector in the community to further mobilize our cause and keep receiving community support for future.

ASSESSMENTS OF COST EFFECTIVENESS: PROVIDER AND COMMUNITY PERSPECTIVES

PEE1364

ARE HIV SELF-TESTS A COST-EFFECTIVE ALTERNATIVE FOR INCREASING THE NUMBER OF HIV TESTS CONDUCTED IN AN ADULT RURAL NIGERIAN COMMUNITY COMPARED TO EXPANDING PRIMARY HEALTHCARE SERVICES?

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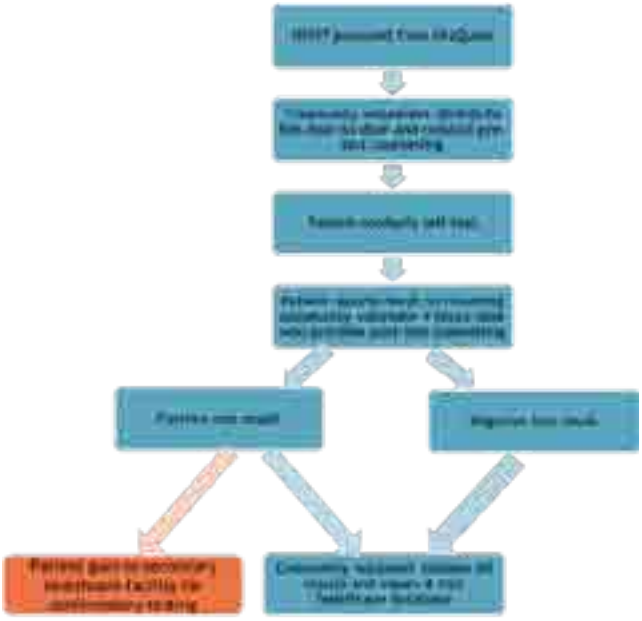
BACKGROUND: Nigeria has the second-largest HIV epidemic in the world with 3.2 million people living with HIV. 2016 World Health Organisation (WHO) guidelines recommended HIV Self-Tests (HIVST) as an additional approach to testing.
In 2012 EFMC conducted their 1 year Reaching All with Care and Support Services in HIV/AIDS (REACH) initiative which involved expanding HIV services in primary healthcare facilities (PHC). The aim of the research was to evaluate current testing practice (expanding HIV services in primary healthcare facilities) and HIVST, as well as to conduct a cost-effectiveness evaluation of those.
METHODS: Cost-effectiveness was determined by comparing the social cost per test of REACH and an HIVST model based on WHO guidelines. Primary data was collected via a survey conducted in Bwari general hospital outpatient department and HIV clinic (n=50). Secondary data on the REACH program was obtained from EFMC and CFHI.
Sensitivity analysis was conducted on each estimated cost, this showed the extent to which our assumptions could vary the cost of the model. If the range of possible total costs didn't overlap, the results would be significant. The HIV self-test model was created based on a literature review and information gathered from patients, doctors and EFMC:



[Figure]

RESULTS: Results showed that one self-test would cost $11.13 (9.79-12.79) per person, while in REACH the price was $21.14 (19.66-22.62). Overall, sensitivity analysis shows that the HIVST model is more cost-effective than the REACH program. At a critical value of $12 a kit HIV self-testing becomes more expensive than current PHC based practice.
CONCLUSIONS: Apart from the cost of HIVST kits, no single cost has a large enough variation to make the range of total cost of both methods overlap. Sensitivity analysis of the HIVST model shows the price of kits is the only significant variable. Limitations and future directions have been identified.

PEE1365

EVALUATING THE EFFECTS AND COST-EFFECTIVENESS OF A FAMILY ECONOMIC EMPOWERMENT INTERVENTION TO INCREASE ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG HIV+ ADOLESCENTS IN UGANDA

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BACKGROUND: Economic insecurity is associated with poor adherence to antiretroviral therapy (ART) among HIV-infected youth. Family-based economic empowerment (FEE) interventions, which aim to increase household financial stability, have the potential to mitigate the challenges in accessing treatment due to economic insecurity and improve adherence in this vulnerable population. We present efficacy and cost-effectiveness analyses of the Suubi Adherence study, a FEE intervention aiming to improve ART adherence among HIV-positive adolescents in southern Uganda.
METHODS: Intent-to-treat analyses using multilevel logistic regressions compared the effect of the intervention on participants receiving economic incentives and medical and psychosocial support-bolstered standard of care to those only receiving bolstered standard of care. The primary outcome was viral load suppression (< 40 copies/ml) at 24 months. Per-participant costs for each arm were calculated conservatively using the treatment-on-the-treated sample. Intervention effects and per-participant costs were used to compute incremental cost-effectiveness ratios from a provider perspective.
RESULTS: At 24 months, participants in the intervention arm exhibited higher odds of being virally suppressed (OR 2.15; 95% CI 1.12, 4.15; p = 0.022) and had higher mean difference in viral suppression compared to baseline (Percent change: 10.0% versus 1.1%; p = 0.032). Per-participant cost was US$109 for the intervention group, and US$27 for the control group. While the estimated cost of achieving 10% increase in the probability of being virally suppressed was US$71 (95% CI $30, $680), the cost per virally suppressed adolescent was estimated at $923 (95% CI $474, $2982).
CONCLUSIONS: Our findings indicate that the family-based economic empowerment intervention was effective in improving ART adherence among HIV-positive adolescents in Uganda. There is limited evidence regarding the cost-effectiveness of medication adherence for HIV in particular, and for chronic diseases in general. This study contributes with findings on ART adherence from low resource settings, that can aid policymakers in developing guidelines and programming for HIV care in such contexts.
Funding: National Institute of Child Health and Human Development at the National Institutes of Health (Grant #1 R01-HD074949-01, PI: FMS). Eunice Kennedy Shriver National Institute of Child Health and Human Development (PI: FMS).

PEE1366

COST-EFFECTIVENESS OF "UNIVERSAL HIV TEST-AND-TREAT" STRATEGY TO ELIMINATE HIV EPIDEMIC AMONG MEN WHO HAVE SEX WITH MEN IN TAIWAN: A MODELLING STUDY

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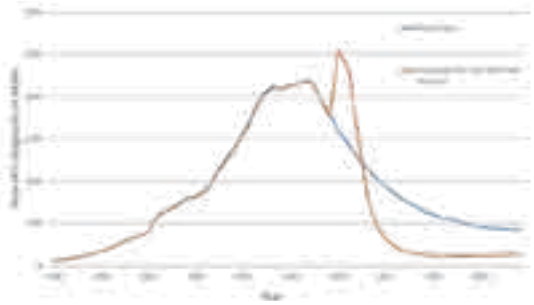
BACKGROUND: In Taiwan, HIV epidemic concentrates in men who have sex with men (MSM). Despite a universal access to antiretroviral therapy, social stigma and discrimination associated with current MSM-targeted HIV testing program discouraged potential clients. In 2018, up to 33% of newly diagnosed HIV clients developed AIDS within 3 months. A "Universal HIV Test-and-Treat" program for all sexually active young men and women might greatly improve timing of HIV diagnosis. We aimed to provide the first economic evaluation for such strategy to eliminate HIV epidemic in MSM.

METHODS: We conducted a modelling study on the effect of a universal annual-HIV-test-and-immediate-treat program (scaling up from status quo to targeted level over a 3-year period) for all sexually active unmarried young men and women in Taiwan, using Taiwan MSM-HIV Model which was calibrated to actual HIV epidemic data from 1986 to 2019. Lifetime medical cost per new MSM HIV case was based on Taiwan National Health Insurance data, with extrapolation of survival and cost to 50 years after diagnosis, taking a 3% annual discount rate from a payer's perspective. To obtain a conservative cost-effectiveness estimate, averted heterosexual transmission was not considered.

RESULTS: Over a 20-year time horizon, universal HIV test-and-treat strategy will avert 26% cases, lead to 100,275 QALYs gained, and eliminate HIV epidemic by 2027. This strategy will cost 76 million US dollars per year, but is highly cost-effective (US$2,442/QALY gained). Sensitivity analysis shows that if we restrict testing to only sexually active young men or MSM, the program will become cost-saving with a ratio of 5.6 and 71.5, respectively (Table).



[Figure. Impact of universal HIV-test-and-treat strategy in Taiwan (eliminate HIV epidemic defined as an HIV incidence lower than 0.001/ year by World Health Organization)]

Strategy	Annual HIV testing costs	Incremental cost-effectiveness ratio (USD/QALY)	Cost-saving ratio
Universal HIV test-and-treat for sexually active young men and women	76,461,768 USD	2,442 (2019 GDP per capita in Taiwan: 25,932 USD)	–
HIV test-and-treat for sexually active young men	40,046,006 USD	dominated	5.6
HIV test-and-treat for MSM	3,108,845 USD	dominated	71.5

[Table. Cost-effectiveness of Universal HIV Test-and-Treat Strategy in Taiwan]

CONCLUSIONS: Universal HIV test-and-treat is a highly cost-effective strategy to eliminate the HIV epidemic among MSM in Taiwan.

PEE1367

SOCIAL RETURN ON INVESTING IN A COMMUNITY-BASED HIV PROGRAM IN INDIA: LESSONS LEARNED FROM THE AVAHAN PROGRAM

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BACKGROUND: The Bill & Melinda Gates Foundation has invested USD 7 million in 2014 to strengthen community-led organizations (COs) across five states of India: Tamil Nadu, Andhra Pradesh, Telangana, Karnataka and Maharashtra. Through this investment, it was expected to reduce structural barriers faced by female sex workers (FSWs), men having sex with men (MSM), and transgenders (TGs) and hence, reduce vulnerabilities related to financial security, social protection and crisis response over three years. This study uses social return on investment (SROI) methods to evaluate social, economic and health values resulting from the investment of the Avahan-III program.

METHODS: The SROI methodology is a social cost-benefit analysis that measures and accounts for the values created by a program by adopting the multi-stage approach. Data to carry out the SROI for this study was collected from the program monitoring data and the end line survey data conducted during 2017-2018. SROI involves reviewing the theory of change of the project i.e. inputs, outputs, outcomes and impacts experienced by the beneficiaries of the program during the consultation workshop. Five stages were used to calculate the SROI: establishing scope and identifying key stakeholders, mapping project outcomes, assigning a financial value to project outcomes, establishing project impact, and calculating inputs.

RESULTS: SROI estimation of Avahan Phase-III program described that the program over its 4 years of implementation had delivered a positive return to investment ratio of 16.7:1. This means an investment of 1 USD resulted to 16.7 USD after 4 years of the program and suggested that investments made to reduce social, financial and crisis response related vulnerabilities among the key population can generate "value for money". Beneficiaries gained large share of returns (62%) from financial, social and crisis response components. Return on financial security dimensions was the highest (59%), followed by crisis response (28%).

CONCLUSIONS: The findings suggest that the investment was highly successful, particularly, in ensuring financial security. Given the intervention was community-led, the investment made would be sustainable and the return is likely to continue in future.

PEE1368

REDUCING HIV INCIDENCE AMONG PEOPLE WHO INJECT DRUGS WITH LOCALIZED COMBINATION IMPLEMENTATION STRATEGIES IN SIX U.S. CITIES

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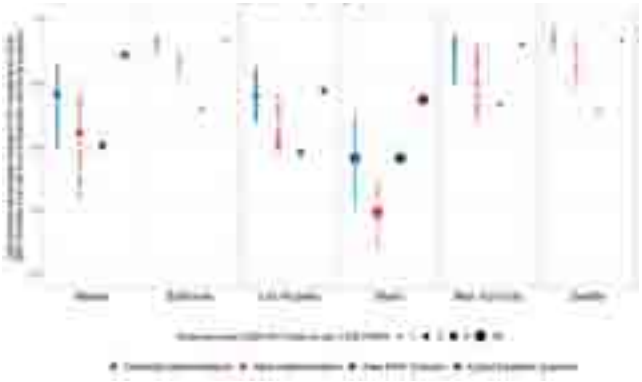
BACKGROUND: People who inject drugs (PWID) are at a disproportionately high risk of HIV infection in the United States. We aimed to determine HIV incidence reduction among PWID in six US cities resulting from highest-valued combination implementation strategies of expanded access to evidence-based prevention and care interventions for PWID.

METHODS: Using a dynamic HIV transmission model calibrated for Atlanta, Baltimore, Los Angeles, Miami, New York City and Seattle, we assessed the value of implementing combinations of evidence-based interventions at optimistic (drawn from best available evidence) or ideal (90% coverage) scale-up. We estimated reduction in HIV incidence among PWID, quality-adjusted life-years (QALYs) and incremental cost-effectiveness ratios (ICERs) for each city (10-year implementation; 20-year horizon; 2018$US). We also examined the impact on HIV incidence of the changing opioid epidemic (40% increase in injection prevalence; increased mortality risk from fentanyl) and further provision of free PrEP.

RESULTS: The reduction in HIV incidence among PWID from 2020 to 2030 varied from 8.1% (95% CI: 2.8%, 13.2%) in Seattle to 54.4% (37.6%, 73.9%) in Miami (Figure) with highest-valued combinations implemented at optimistic levels containing between six (Atlanta and Seattle) and twelve (Miami) interventions. ICER values ranged from $94,069/QALY in Los Angeles to $146,256/QALY in Miami.



[Figure. Projected reductions in HIV incidence among people who inject drugs (PWID)]

Incidence reduction reached 16.1% (Baltimore) to 75.5% (Miami) at ideal scale-up. The changing opioid epidemic had a profound impact on mortality among PWID living with HIV and resulted in more modest incidence reductions, ranging from 8.7% (Baltimore) to 31.6% (Miami). Incidence reduction reached 33.4% (New York City) to 52.2% (Los Angeles) with the provision of free PrEP—with Miami unchanged at 54.4%.

CONCLUSIONS: Evidence-based interventions targeted to PWID can deliver considerable value; however, ending the HIV epidemic among PWID will require innovative implementation strategies and supporting programs to reduce social and structural barriers to care.

PEE1369

COST-EFFECTIVENESS OF HIV SELF-TESTING VS. FACILITY-BASED HIV RAPID-DIAGNOSTIC TESTING SUPPORTED BY COMMUNITY-BASED ORGANIZATIONS AMONG MEN WHO HAVE SEX WITH MEN IN CHINA

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BACKGROUND: HIV self-testing (HIVST) has been adopted and widely used. Knowing the cost-effectiveness of HIVST is critical for planning and scaling-up HIVST in different settings, especially in resource limited countries. This study aimed to evaluate the cost-effectiveness of an HIVST model implemented in China.

METHODS: A cost-effectiveness analysis (CEA) was conducted by comparing HIVST models and a CBO-led facility-based HIV rapid diagnostics testing (HIV-RDT). The full economic cost, including fixed and variable cost, from a health provider perspective using a micro-costing approach was estimated. By using the information collected from the two testing models, a decision-tree model using TreeAge Pro 2019 was built to explore the cost-effectiveness of these two HIV testing models delivered to a population of 10,000 people. We report costs using US dollars (2018).

RESULTS: From January 2017 to December 2018, a total of 4,633 men tested in the HIVST model, and 1,780 men tested in the HIV-RDT model. The HIV test positivity was 3.3% (95% confidence interval (CI): 2.8-3.9) and 7.1% (95% CI: 5.9-8.4) for the two models, respectively. The mean cost for testing an individual using HIVST was $7.21 and using HIV-RDT was $30.70. HIVST dominates HIV-RDT in both HIV testing and the number of men diagnosed with HIV ($9.19 vs. $36.59 per person tested, and $274.82 vs. $516.88 per person diagnosed) and diagnosed more men with HIV (155 vs. 126).

CONCLUSIONS: This study confirms that compared to facility-based HIV-RDT, a community-based organization led HIVST program is a cost-saving approach to testing and diagnosing MSM living with HIV in China.

PEE1370

SOCIAL CONTRACTING WITH CIVIL SOCIETY ORGANIZATIONS (CSO): AN EFFECTIVE APPROACH FOR SUSTAINABLE HIV/AIDS RESPONSE

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BACKGROUND: In Vietnam, community-based organizations (CBO) have made significant contributions to the achievements of the national HIV/AIDS program. However, the financial sustainability of community-based HIV service deliveries is now one of the greatest challenges for the national HIV prevention efforts. In 2018, the Government of Vietnam just initiated a process to develop new policies for integration of community-based service deliveries into the national program and budget. The study was conducted in response to the request of the Ministry of Health to provide more accurate information about the actual costing and cost-effectiveness of the services provided by the community-based organizations for such policy development.

METHODS: The activity-based costing ingredient approach was employed to calculate the average cost of community-based HIV/AIDS service deliveries provided by local CSO/CBO under an USAID funded project in four provinces of Vietnam during 2015-2018. A static model was adopted from Holtgrave DR. et al. to estimate the potential health impacts of the CBO-based services in comparison with the facility-based. Key indicators selected for assessment included HIV transmission avoided and DALY averted. Empirical data on HIV diagnosed and referred for treatment by both the community-based and facility-based HIV/AIDS services was used as the main input.

RESULTS: The potential health impacts of the CBO-based services were significantly higher than those of health facilities in terms of HIV transmission prevention (237.6 cases vs. 124.4 cases) and number of DALY averted (1,077.9 DALYs vs. 577.4 DALYs). The average cost for the community-based service for finding one new HIV positive case is about US$ 498 and US$ 547 for both finding and linking a new HIV positive case to treatment. This cost ranged from US$ 221 in urban areas to US$ 1,100 in mountainous areas.

CONCLUSIONS: Study results showed that the CBO-based model was cost-effective in reducing HIV transmission and had good impacts on burden of health and healthcare cost outputs. Further analysis of the social and political context should be pooled out for effective implementation in the actual setting.

PEE1371

HEALTH IMPACT AND COST-EFFECTIVENESS OF HIV TESTING, LINKAGE, AND EARLY ART IN THE BOTSWANA COMBINATION PREVENTION PROJECT

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BACKGROUND: The Botswana Combination Prevention Project (BCPP) tested the impact of universal test and treat (UTT) on HIV incidence. Through HIV testing campaigns, improved linkage, and expanded ART eligibility, UTT increased ART coverage and decreased HIV incidence. Our objective was to project the long-term clinical impact and cost-effectiveness of UTT.

METHODS: Based on BCPP results, we estimated the additional cost of universal testing and linkage (US $1.79M) and the number of people with HIV (PWH) started on ART with the intervention compared to control (n=1,284). To project the impact of early HIV detection and ART initiation seen in the intervention, we compared two strategies using the Cost-Effectiveness of Preventing AIDS Complications (CEPAC) model: (1) *UTT*: PWH were tested, in care and on first-line ART at model start, and (2) standard of care (*SOC*): counterfactual in which the same PWH were unlinked to care at model start, with a probability of HIV detection (3%/ month) and linkage (86%) thereafter. Key model inputs were from BCPP data; outcomes included quality-adjusted life years (QALYs), lifetime costs, and per-person first-order transmissions over 10 years. We calculated incremental cost-effectiveness ratios (ICERs, $/QALY) from discounted (3%/year) QALYs and costs, defining cost-effective as an ICER <$4,150/QALY (0.5x Botswana *per capita* GDP). In sensitivity analysis, we varied the additional number of PWH started on ART and UTT cost.

RESULTS: For each additional person started on ART in *UTT*, life expectancy increased by 0.86 QALYs, costs increased by $2,300, and 0.12 first-order transmissions over 10 years were averted compared to *SOC* (Table). Including the impact to those for whom infection was averted, *UTT* increased life expectancy by 1.26 QALYs and costs by $1,300 per additional PWH started on ART; the ICER for *UTT* was $1,000/QALY. In sensitivity analyses, *UTT* was cost-effective over plausible parameter ranges.

	Excluding the impact on HIV transmissions		Including the impact on HIV transmissions (first-order, over 10 years)				
	QALY [a]	Cost [a], US $	Per-person transmissions	QALY [a]	Cost [a], US $	$/ averted transmission [a]	ICER [a], $/ QALY
SOC	15.74	10,200	0.20	15.09	11,900	-	-
UTT	16.60	12,500	0.18	16.35	13,200	11,000	1,000
Difference	0.86	2,300	-0.12 [b]	1.26	1,300	-	-

SOC, standard of care; ***UTT***, universal test and treat; **QALY**, quality-adjusted life year; **ICER**, incremental cost-effectiveness ratio.
[a] Discounted at 3%/ year.
[b] When scaled to the 1,284 people with HIV started on ART, 146 transmissions were averted due to *UTT*.

[Table. Clinical and economic outcomes of the UTT intervention compared to SOC per additional person started on ART (n=1,284)]

CONCLUSIONS: Enhanced HIV testing, linkage, and early ART initiation will improve life expectancy, reduce HIV transmission, and be cost-effective in settings like Botswana.

PEE1372

POINT OF CARE TESTING FOR HIV CARE IS COST-EFFECTIVE IN SOUTH AFRICA

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BACKGROUND: The scale-up of "HIV test and treat" has rapidly increased the number of persons on antiretroviral therapy (ART) requiring treatment monitoring in low-resource settings. Decentralized point-of-care (POC) testing for ART initiation and monitoring can alleviate burden on laboratories and improve clinical outcomes; however its cost-effectiveness is not well-evaluated.

METHODS: We used primary cost data and effectiveness from the STREAM trial in South Africa, which assessed the effect of POC testing for CD4 count, viral load, and creatinine, with task-shifting from professional to lower-cadre registered nurses compared to standard-of-care lab-based testing without task-shifting. We parameterized an agent-based network model, EMOD-HIV, to project the impact of implementing this intervention in South Africa. In our base analysis, we assumed POC monitoring increased viral suppression by 9%, enrollment into community-based ART delivery by 25%, and switching to second-line ART by 1%, as found in the STREAM trial. We assumed POC testing scale-up in moderately sized clinics (initiating 30 patients on ART/month) but varied this assumption in sensitivity analyses. We use a 20-year time horizon, a cost-effectiveness threshold of $500 per disability-adjusted life year (DALY) averted, and report the mean of 250 model simulations.

RESULTS: Implementing the POC testing at 70% coverage of ART patients was projected to reduce HIV infections by 4.5% and HIV-related deaths by 3.9%. In clinics with an average of 30 ART initiations/month, the intervention was associated with an incremental cost-effectiveness ratio (ICER) of $197/DALY averted. Results remained cost-effective when varying background viral suppression, ART dropout, intervention effectiveness within the 95% confidence bound of the trial. Assuming POC testing did not increase enrollment into community ART delivery produced an ICER of $1,149, exceeding the threshold. At higher clinic volumes of 40 or more ART initiations/month, POC testing was cost-saving compared to standard of care. At lower clinic volumes (20 patients initiated on ART/month) ICERs exceeded the threshold at $734 per DALY averted.

CONCLUSIONS: POC testing with task-shifting is a promising strategy to monitor the growing number of ART patients and reach ambitious 95-95-95 targets in Africa. We found this intervention to be cost-effective in moderately-sized clinics and cost-saving in larger clinics in South Africa

PEE1373

COST-EFFECTIVENESS OF NATIONAL NEEDLE AND SYRINGE PROGRAM AND OPIOID SUBSTITUTION THERAPY TO CONTROL HIV OUTBREAK AMONG PEOPLE WHO INJECT DRUGS IN TAIWAN, 2005-2018

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BACKGROUND: Data on effect and cost-effectiveness of needle-syringe programs (NSPs) and opioid substitution therapy (OST) to control HIV outbreak are sparse. Taiwan launched a national NSPs and OST in 2005 to control a nationwide injecting-drug-use-transmitted (IDUT) HIV outbreak. We aimed to assess its effect and cost-effectiveness.

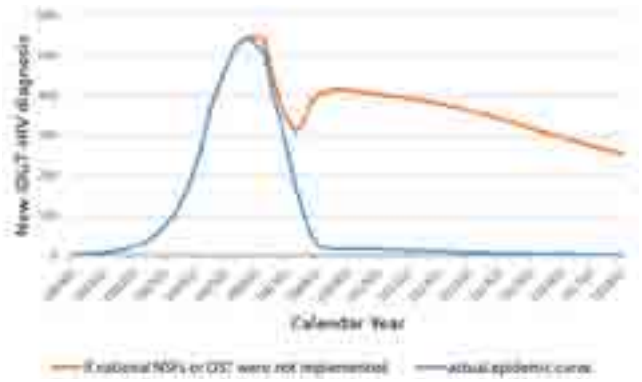
METHODS: We conducted a modelling study to compare the counterfactual scenario (in which national NSPs and OST were never implemented) with the actual epidemic curve from 2005 to 2018. We assessed the cost-effectiveness of natural NSPs and OST during the 14-year time period (2005-2018), using the actual government expenditure data from a payer's perspective. Taiwan National Health Insurance (NHI) provides universal access to antiretroviral therapy and medical care for citizens.

We estimate the lifetime medical cost per new IDUT-HIV case using actual NHI expenditure data with extrapolation of survival curve and the associated medical cost to 50 years after diagnosis, taking a 3% annual discount rate.

RESULTS: National NSPs and OST averted 10,930 IDUT-HIV cases in Taiwan during 2005-2018 (Figure), with a total gain of 146,983 QALYs. National NSPs and OST cost 2.9 million US dollars annually, but averted HIV-associated medical cost up to a total of 1.35 billion US dollars, and therefore are highly cost-effective with a cost-saving ratio of 38.9 per dollar invested (range: 19.4 to 77.8, by sensitivity analysis, see Table).

	Annual cost of NSPs and OST (thousand US dollar)	Total lifetime medical cost (million US dollar)	Averted cases	Total QALYs gained (thousand QALYs)	ICER	Cost-saving ratio
Best estimate	2,987	1,352	10,930	146.9	Dominated	38.9
One-way sensitivity analysis						
Cost of NSPs and OST (50%-200%)	1,449-5,794	1,352	10,930	146.9	Dominated	19.4-77.8
Lifetime medical cost (50%-200%)	2,897	676-2,704	10,930	146.9	Dominated	19.4-77.8
Number of averted cases (±5,000)	2,897	1,352	5,930-15,930	146.9	Dominated	21.0-56.7
QALYs gained/ averted cases (2.3-26.4)	2,897	1,352	10,930	25.6-289.0	Dominated	38.9

[Table. Estimates for incremental cost-effectiveness ratio (ICER) and Sensitivity analysis]



[Figure. Effect of NSPs and OST]

CONCLUSIONS: NSPs and OST, when scaled up to national level, could be highly effective in controlling IDUT-HIV outbreak and highly cost-saving in term of public expenditure.

PEE1374

COST-EFFECTIVENESS OF THE HEALTH RESOURCES AND SERVICES ADMINISTRATION'S RYAN WHITE HIV/AIDS PROGRAM AND THE PROJECTED IMPACT OF THE UNITED STATES' ENDING THE HIV EPIDEMIC INITIATIVE

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BACKGROUND: With an annual budget of $2.3 billion, the Health Resources and Services Administration's Ryan White HIV/AIDS Program (RWHAP) is the third largest source of public funding for HIV care and treatment in the United States. The RWHAP is a key player in the Administration's Ending the HIV Epidemic in the U.S. (EHE) initiative.
Given the complexity of the RWHAP comprehensive system of care, there is little economic modeling to estimate the cost-effectiveness of the current RWHAP or the projected impact of the expanded role of the RWHAP with the EHE Initiative.
METHODS: Using an agent-based, stochastic model, we estimated projected health care costs and health outcomes (a) in the presence of the RWHAP relative to a scenario where the RWHAP was not available over a 50-year time horizon, and (b) under the EHE Initiative with increased diagnosis, linkage to care, re-engagement, and viral suppression compared with the current RWHAP over a 10-year time horizon.
RESULTS: Over a 50-year time horizon, the RWHAP is associated with a 25 percentage point increase in viral suppression, an 18% decrease in new HIV infections, and a 31% decrease in the number of deaths. Compared to the non-RWHAP scenario, the number of quality-adjusted life years (QALYs) would be 2.7% higher, and cumulative health care costs would be 25% higher, yielding an incremental cost-effectiveness ratio of $29,573/QALY. Under the 10-year period of the EHE Initiative, over 700,000 people with HIV are projected to be served by the RWHAP, approximately 200,000 more than the current RWHAP. Decreases in new HIV infections and deaths and increases in viral suppression are primarily driven by activities to re-engage people with HIV who were previously lost to care.
CONCLUSIONS: This agent-based, stochastic model of HIV care in the United States can serve as a template for the use of large-scale and diverse datasets to model complex, national systems of HIV care. The RWHAP plays a critical and cost-effective role in the United States' public health response to the HIV epidemic. This cost-effective model of a comprehensive system of HIV care and treatment can be applied to other global contexts.

PEE1375

THE COST OF COMMUNITY-BASED ART INITIATION AND RESUPPLY IN SOUTH AFRICA AND UGANDA: EVIDENCE FROM THE DO ART STUDY

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BACKGROUND: Community-based HIV programs increase ART uptake and retention by simplifying access to HIV care. However, programs that deliver ART closer to clients may incur additional costs compared to clinic-based programs.
METHODS: We conducted a microcosting study at one site in Uganda (UGA) and two sites in South Africa (SA-SW and SA-NE) participating in the Delivery Optimization for Antiretroviral Therapy (DO ART) Study. Participants initiated ART at a community location and received refills at one month and then quarterly for 12 months. ART was delivered by nurses, who received standardized Ministry of Health (MOH) training. We estimated the annual per-client ART cost from the MOH perspective. We categorized costs as either fixed (personnel, start-up, equipment, vehicles, and overheads) or variable (drugs, lab tests, fuel, and consumables). To project costs under routine program administration, we used public sector salaries for personnel. In the "steady-state" scenario, we calculated costs assuming the steady state volume achieved during the study was maintained for 12 months. Last, in the "efficient" scenario, we used time-motion studies to estimate the increase in the number of clients that could be seen per day by field teams. All costs are reported in 2018 USD.
RESULTS: At steady-state using public sector prices, the annual per-client ART cost was $555 (UGA), $523 (SA-SW), and $446 (SA-NE). Costs were driven by personnel (32-50%), drugs (20-26%), and lab tests (6-13%). From time-motion studies, we estimated field teams could conduct a maximum of 7 (UGA), 13 (SA-SW), and 11 (SA-NE) client visits per day, due to site-specific differences in travel times and encounter lengths. Under this "efficient" scenario, the annual per-client ART cost was $217 (UGA), $312 (SA-SW), and $308 (SA-NE), with drugs (38-50%) constituting the majority of costs.
CONCLUSIONS: Community ART delivery was feasible but incurred higher costs with low client volumes compared to estimated costs from facility-based programs in Uganda ($270) and South Africa ($249). Increasing client volumes, lengthening the prescription interval and task shifting for refill visits would reduce per-client costs of community ART delivery. The cost-effectiveness of community ART will depend on both economies of scale and health outcomes compared to facility-based care.

PEE1376

WHAT WILL IT TAKE TO 'END THE HIV EPIDEMIC' IN THE US? AN ECONOMIC MODELING STUDY IN 6 CITIES

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BACKGROUND: The HIV epidemic in the US is a collection of diverse microepidemics. New targets have been proposed to 'End the HIV Epidemic' and reduce HIV incidence by 90% within 10 years. We aimed to identify the highest-valued combinations of evidence-based interventions to reach these targets in six US cities.

METHODS: Using a dynamic HIV transmission model calibrated on epidemiological and structural conditions for Atlanta, Baltimore, Los Angeles (LA), Miami, New York City (NYC) and Seattle, we assessed 16 evidence based interventions (HIV prevention, testing, ART engagement and re-engagement) to identify strategies providing the greatest health benefit while remaining cost-effective (23,040 total combinations). Outcomes included averted HIV infections, quality-adjusted life-years (QALYs), total costs and incremental cost-effectiveness ratios (ICERs) (healthcare perspective; 3% annual discount rate; 2018$US). We evaluated combinations of interventions for each city, delivered at previously-documented (drawn from best available evidence) and ideal implementation (90% target population coverage) from 2020 to 2030, compared to the status quo (access to care held constant at 2015 levels) with outcomes evaluated until 2040.

RESULTS: Optimal strategies implemented at previously-documented scale-up included between nine (Seattle) and thirteen (Miami) interventions, and resulted in incidence reductions of 30.7%(95%CI: 19.1%-43.7%) (Seattle) to 50.1%(41.5%-58.0%) (NYC) by 2030, at ICERs ranging from cost-saving in Atlanta, Baltimore, and Miami to $95,416/QALY in Seattle. Implementing the optimal strategies at previously-documented scale-up would entail present-valued savings of $474M[$214M-$895M] in Miami to incremental expenditures of $1.06B[$0.56B-$1.51B] in NYC over the 20-year time horizon, peaking in 2023-25 (an additional $15M annually in Seattle to $179M in NYC).

The costliest strategy on the health production function was not optimal for any city and, in Miami, the absolute costliest strategy produced only 30.1% of the health benefits of the optimal strategy, at an incremental cost of $0.99B.

Under ideal implementation, Atlanta, Baltimore and Miami approached incidence reduction targets (74.4%[67.0%-80.7%], 83.6%[70.8%-87.0%] and 78.3%[51.5%-86.9%] respectively) with LA, NYC and Seattle reaching 41.5%[30.5%-56.1%], 58.1%[48.1%-66.9%] and 39.5%[26.3%-53.8%] incidence reductions, respectively (weighted average of 63.5% across cities).

CONCLUSIONS: Evidence-based interventions can provide good value; however, addressing social and structural barriers to HIV care will be necessary to reach new targets.

PEE1377

A COST CONSEQUENCE ANALYSIS OF THE INCORPORATION OF DOLUTEGRAVIR/ RILPIVIRINE INTO THE CURRENT HIV TREATMENT ENVIRONMENT IN CHINA

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BACKGROUND: While still not curable, progress in antiretroviral treatment (ART) has transformed HIV infection to a chronic condition. Dolutegravir/rilpivirine (JULUCA®) is the first NRTI-sparing dual antiretroviral regimen approved for the maintenance therapy of HIV-1 infection in adults who are virologically suppressed on a stable antiretroviral regimen for at least 6 months and with no history of virologic failure. Its adoption into a resource limited setting such as China has the potential to fill an unmet need by mitigating the effects of long-term toxicity and further improving compliance in HIV-infected patients. By addressing these toxicity concerns, the Chinese healthcare system stands to gain from decreased number of healthcare visits and overall costs.

The objective of the current model is to evaluate the cost consequence of introducing dolutegravir/rilpivirine into the current standard of care (SOC) for HIV infection treatment in China, where resources for HIV treatment are limited.

METHODS: The cost-consequence of switch to dolutegravir/rilpivirine in the Chinese treatment environment over the course of a 100-week period was evaluated. Model parameters such as HIV prevalence and ART/dolutegravir/rilpivirine efficacy were taken from clinical trials and literature. Other inputs such as costs, market distribution, and treatment/diagnosis inputs were obtained from a multi-hospital network survey conducted in China and an HIV burden of illness study within Shanghai.

RESULTS: The cost-consequence analysis showed that dolutegravir/rilpivirine had an overall beneficial cost-consequence on the Chinese healthcare system when it was introduced into the HIV treatment environment. Over the course of 100 weeks, the dolutegravir/rilpivirine scenario with a market share of 14% had an overall cost of approximately ¥66,800,000 while the standard of care scenario without dolutegravir/rilpivirine had an overall cost of approximately ¥69,400,000. This change in cost (¥2,600,000 or 3.74%) was primarily driven by a reduction in drug, AE, complication, and clinical monitoring costs.

CONCLUSIONS: The introduction of dolutegravir/rilpivirine represents a cost-effective alternative for HIV therapy. While our cost-consequence model is populated in the context of the Chinese market, the model is built to characterize the cost drivers for consideration in other resource limited settings as well.

PEE1378

ANCILLARY BENEFITS OF CONTINUING EMERGENCY DEPARTMENT OPT-OUT HIV TESTING

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BACKGROUND: Persons who access an emergency department (ED) for health services are disproportionately affected by HIV. This includes active drug users, homeless, persons with STDs, and untreated mental illness. While limited start-up funding was available for HIV testing, a case can be made from both an economic and public health standpoint for continued HIV testing and for nominal costs to be absorbed by the hospital.

DESCRIPTION: Near the conclusion of a Gilead-funded ED HIV testing program, the benefits of continued opt-out HIV testing were assessed. Two percent of the 4th generation tests performed were reactive, consistent with HIV prevalence in the community; <0.4% incident cases were identified, which is also consistent with estimates of undiagnosed HIV in the community, of 16-24%. More frequently, staff are available to reengage HIV-positive persons out of care, and connect them to housing, mental health, and other social services that support consistent engagement in care and reduce non-reimbursable emergency room visits. In addition, persons requesting post-exposure prophylaxis (PEP) can be referred to outpatient PEP/PrEP services for follow-up and ongoing care. Also, opt-out testing identifies HIV-positive individuals with limited or no current risk factors.

LESSONS LEARNED: Data on costs for laboratory testing and provider time reduces "frequent flyer" visits to the ED to a comparable cost point. From a public health perspective, this type of non-targeted tested helps to identify incident cases of HIV, including six acute infections over the course of four years. Low opt-out rates (<1%) and automated ordering contribute to a 1400% increase in the number of tests performed, year over year. Once automated testing is in place, providers and administration are more likely to support ongoing testing as a community benefit and an aid in medical decision making.

CONCLUSIONS/NEXT STEPS: Automated HIV testing was implemented as part of the rollout of new electronic medical record software, the algorithms were beta-tested in the rollout site and will later be available to over thirty hospitals in the network. In addition, the State of California was able to use lessons learned from this opt-out testing program to inform recommendations to the legislature for the expansion of opt-out testing throughout the state.

PEE1379

OUT-OF-POCKET HEALTH SPENDING WAS NOT ASSOCIATED WITH MISSED APPOINTMENTS FOR ADULTS ON ANTIRETROVIRAL THERAPY IN CÔTE D'IVOIRE

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BACKGROUND: HIV epidemic control in West Africa has been suboptimal. Although this challenge is multifactorial, the region has some of the world's highest out-of-pocket (OOP) health expenditures, and user fees are common in the public sector. In Côte d'Ivoire (CI), the government provides free antiretroviral therapy (ART) but charged user fees for HIV treatment until early 2019.

METHODS: From March-May 2019, we used an interviewer-administered survey to evaluate OOP spending in a convenience sample of 400 adults receiving HIV treatment at 10 public health facilities in urban and rural CI. Eligibility criteria included being on ART for ≥ 1 year and missing ≥ 1 appointment in the past year. Data were analyzed using descriptive statistics, simple linear regressions, and bootstrapped confidence intervals.

RESULTS: 365/400 participants (91%) reported HIV-related OOP expenditures. 136 (34%) reported direct costs (median $2 USD/year [IQR: 1-41]), such as payments for medication, tests, hospitalization and/or supplies. No participants reported paying user fees. 349 (87%) reported indirect costs (median $17 USD/year [IQR 7-41]), primarily payment for transportation and lost wages. Excluding hospitalization costs, the median total cost (direct + indirect) was $14 USD (IQR: 5-43) per year. 15% of participants reported that they spent > 10% of their household income on HIV services.

Participants reported a median of two missed appointments in the past year (IQR: 2-3). Total OOP expenditure was not associated with the number of missed HIV appointments in a simple linear regression (95% CI -0.0004 to 0.0043). The most commonly reported reasons for missing appointments were that participants were travelling or away from home (35%); unable to leave work, school or home (26%); forgot their appointment (21%); or had transportation issues (13%). Only 7% cited OOP expenditures as a reason for missed appointments and only 5% cited costs as their primary reason for missing an appointment.

CONCLUSIONS: Almost all respondents reported OOP spending for HIV services and most of these costs were indirect; transportation was the most common expense. Although OOP spending has been associated with loss to follow up in other studies, it was not associated with missed appointments in this sample of adults retained in ART care.

PEE1380

REACHING PARTNERS THROUGH SECONDARY DISTRIBUTION OF HIV SELF-TESTING IN MALAWI: A COST ANALYSIS OF A PRAGMATIC CLUSTER-RANDOMIZED TRIAL

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BACKGROUND: As countries achieve 90-90-90 targets, identifying the remaining undiagnosed people living with HIV (PLHIV) requires innovative and affordable approaches. Here we assess costs of secondary HIV self-test (HIVST) kit distribution through antenatal clinic (ANC) attendees, including "Index" (newly diagnosed) HIV patients, as part of randomized controlled trial in Malawi.

METHODS: Full and incremental (only direct) costs of a three-arm pragmatic trial randomizing 27 government primary clinics were estimated using ingredients-based costing. Standard of care (SoC) invited partners to attend HIV testing services. In HIVST arms, ANC/Index clients received HIVST kits. HIVST+incentive offered partners US$10 to confirm their HIVST result at the clinic regardless of the HIVST result. HIVST interventions were integrated and delivered by un-incentivized government staff. Unit cost per kit/invitation letter distributed and per partner-tested were estimated for each arm.

RESULTS: Uptake of partner-testing increased substantially across arms: from 38.6% SoC to 77.1% and 62.9% in the HIVST-only and HIVST+Incentive arms, respectively. Costs were higher in the HIVST arms (Table 1) but with reach to substantially more partners. To test one partner required distribution of 2.6 letters in SoC, and 1.3 and 1.6 kits, respectively, in HIVST-only and HIVST+Incentive arms. Incremental unit costs per letter/kit distributed were: US$1.79 SoC, US$5.16 HIVST-only and US$5.06 HIVST+Incentive arm. While incremental unit costs per reported partner testing were: US$5.62 SoC, US$6.57 HIVST-only and US$19.08 HIVST+Incentive (linkage) arm (Table).

Cost Item	Numbers and Full Unit Costs (US$) per ANC/Index partner tested*			Numbers and Incremental Unit Costs (US$) per ANC/Index partner tested		
	SoC	HIVST-Only	HIVST+ Incentives	SoC	HIVST-Only	HIVST+ Incentives
Number Kits/Letters distributed	1,550	1,609	1,829	1,550	1,609	1,829
Number (%) Partners HIV-testing	599 (38.6%)	1,241 (77.1%)	1,151 (62.9%)	599 (38.6%)	1,241 (77.1%)	1,151 (62.9%)
Annualized Training (US$)	$2.51	$1.33	$1.85	$2.51	$1.33	$1.85
Personnel & Per Diems (US$)	$3.89	$10.92	$11.00	$0.43	$0.36	$0.44
Test Kits (US$)	$1.00	$3.32	$4.07	$1.00	$3.20	$4.07
Other (US$)	$1.30	$3.16	$3.18	$1.68	$1.68	$1.68
Uptake incentives (US$)**	-	-	$11.04	-	-	$11.04
Total (US$)	US$8.70	US$18.73	US$31.14	US$5.62	US$6.57	US$19.08

[Table. Scenario Analysis: full and incremental costs of HIV Self-Test Integration]

* 3 years annualization of capital costs

** includes incentive administration

CONCLUSIONS: Reaching the remaining undiagnosed PLHIV requires innovative strategies and investment. HIVST secondary distribution can increase partner-testing substantially when fully integrated into existing government services. A linkage intervention (incentivized partner return) increased costs considerably.

SUPPORTING EFFECTIVE LINKAGES BETWEEN MATERNAL AND HIV SERVICES

PEE1381

ELIMINATION OF MOTHER TO CHILD TRANSMISSION OF HIV AND SYPHILIS IN MALDIVES: A SMALL ISLAND NATION EXPERIENCE

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BACKGROUND: Maldives an Island nation with low prevalence of both HIV and Syphilis, high level of ANC coverage and institutional deliveries attended by a skilled birth attendant, was validated as a country eliminated mother to child transmission of HIV and Syphilis in 12 June 2019, this paper highlights the process and findings from the data audit, strengths in the existing system and challenges in maintaining the elimination status.

DESCRIPTION: Maldives has eliminated communicable diseases such as malaria (2015), Measles (2017) and filaria (2016). The tiered health system has preventive services integrated. Universal access to antenatal care and screening for syphilis and HIV is ensured through an extensive network of public sector clinics and hospitals, maintains a high coverage of HIV and Syphilis testing among ANC attendees. A national validation committee lead the process of validation, to verify the data a national level data audit of the program, laboratory services, program data was conducted. A mixed method strategy; primary and secondary sources, quantitative and qualitative methods were used for data collection.

LESSONS LEARNED: Annual rate of new HIV infections has ranged from 0-2 cases per 100,000 population and new cases of syphilis have fluctuated from 0-9 per 100,000 population. No cases of MTCT of either HIV or syphilis were detected in the last many years. The audit confirmed the confidence level on universal ANC attendance in years 2016/ 2017 and 100% screening for both HIV and syphilis. The findings established that the impact and process indicators for validation meet and well surpassed the minimum criteria set by the WHO. No case for either vertical infection reported during the last two years and one case of maternal HIV was detected (acquired through blood transfusion in 2014).

CONCLUSIONS/NEXT STEPS: To maintain the elimination status an integrated computerized individual patient ANC record keeping system such as DHIS2 is proposed to strengthen the verification of status sustainability. A post elimination plan with a multi-stakeholder consultative approach is essential, and country wide access to ANC testing for both local and expatriate migrants, through an affordable universal health care system is essential to maintain the high levels of ANC and testing coverage.

PEE1382

ASK-BOOST-CONNECT-DISCUSS (ABCD): FEASIBILITY AND ACCEPTABILITY OF A PEER-DELIVERED M-HEALTH TOOL TO IMPROVE MENTAL HEALTH AMONG PREGNANT AND POSTPARTUM ADOLESCENT GIRLS AND YOUNG WOMEN LIVING WITH HIV

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BACKGROUND: Programmatic data from sub-Saharan Africa documents worse health outcomes among pregnant and postpartum adolescent girls and young women living with HIV compared to adults. Qualitative research has highlighted the psycho-social and mental health needs of this highly vulnerable population.

METHODS: Ask-Boost-Connect-Discuss (ABCD) was designed to build capacity among young peer supporters living with HIV to provide psycho-social support for pregnant and postpartum peers in low resource settings. A m-Health application for smart phones was developed as a platform for delivery of care to screen ("Ask"), support ("Boost") and refer ("Connect") young mothers, with embedded supervision ("Discuss"). ABCD was driven by young peer supporters who were engaged across from programme design to evaluation. The Boost component was adapted from the World Health Organization's evidence-based Thinking Healthy Program, a cognitive behavioural therapy intervention for non-specialist delivery in resource-limited contexts. From May 2018 to October 2019, 20 trained peer supporters implemented ABCD for 18-24-year-old young mothers in 15 health facilities across Malawi, Tanzania, Uganda and Zambia., supported by four technical assistants and health workers.

RESULTS: Data included real-time quantitative data via the app (young mothers' attendance and session ratings), as well as five post-hoc qualitative focus groups (n=15 peer supporters) and in-depth interviews (n=16 supervisors and health workers). Attendance rates of the young mothers (n=147) varied from 75% to 88% across sites. Eighty-three percent of young mothers attended at least two-thirds of sessions.

Peer supporters reported that ABCD increased maternal mental health awareness among young mothers, effectively linked them to necessary services and demonstrated the scale of unmet mental health needs to health facility staff. Implementation challenges related to stigma, logistics and recruiting of younger adolescent participants.

CONCLUSIONS: Compared with similar programming for vulnerable adolescent mothers, attendance was high, and ABCD was reported to be feasible, acceptable and responsive to young mothers' needs. The promising findings indicate that mobile technology can equip peer supporters to deliver psycho-social services for young mothers. Outcomes also highlighted the value of partnering with young people to produce feasible and engaging interventions for young populations.

PEE1383

IMPROVING RETENTION AND VIRAL SUPPRESSION AMONG HIV POSITIVE PREGNANT WOMEN IN NAMPULA, MOZAMBIQUE: RESULTS FROM A QUALITY IMPROVEMENT COLLABORATIVE

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BACKGROUND: Although Mozambique has reduced mother-to-child transmission (MTCT) of HIV by achieving high testing and antiretroviral therapy (ART) coverage among pregnant and breastfeeding women (PBF), its MTCT rate remains amongst the world's highest. Approximately 15% of infants born to HIV-positive mothers acquire HIV by the end of breastfeeding largely due to suboptimal retention in care and failure to achieve viral load suppression (VLS) <1,000 copies/mL.We describe results of a quality improvement collaborative (QIC) designed to improve retention and VLS in this population.

DESCRIPTION: In collaboration with Mozambique's Ministry of Health, the U.S. Centers for Disease Control & Prevention, and the Health Resources & Services Administration, ICAP at Columbia University designed and implemented a QIC at 30 health facilities (HF) in Nampula Province. Over a 10-month period (October 2018-July 2019), participating HF aimed to improve 3-month retention and VLS from baseline to 90% among PBF enrolled in antenatal care (ANC). Teams at each HF used the same targets and indicators, conducted root cause analyses, designed and prioritized change ideas, used QI methods and tools to conduct rapid, iterative tests of change, received monthly supportive supervision (SS) visits, and convened quarterly to share results and best practices.

LESSONS LEARNED: QI teams at the 30 HF tested 44 change ideas and received 327 SS visits. Three-month retention rates among all PBF improved from 55% to 74% and VLS improved from 55% to 70%. Among PBF newly diagnosed with HIV, 3-month retention rates improved from 51% to 72% and VLS rose from 55% to 68%. Among the PBF on ART at ANC enrollment, 3-month retention improved from 61% to 76% and VLS improved from 55% to 72%. Five HF (17%) achieved both aims. Successful interventions included linking PBF with nearby mentor mothers, modification of VL results management systems, and in-service training on adherence counseling skills.

CONCLUSIONS/NEXT STEPS: The QIC led to robust improvement in 3-month retention and VLS amongst PBF, although only five HF achieved the aims of 90% retention and VLS. Focused support, empowerment of teams to develop and test local solutions and use of QIC methodology to accelerate the diffusion of innovations were critical to success.

PEE1384

EFFECTIVENESS OF A SIMPLE POST TEST ASSESSMENT TOOL (SPAT) ON HIV TESTING SERVICES IN NAIROBI, KENYA: A LONGITUDINAL STUDY

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BACKGROUND: We evaluated the effectiveness of a simple post test assessment tool (SPAT), in efficiently identifying pre- test and post-test services to facilitate linkage to treatment, care and other support services for newly diagnosed HIV positive individuals compared to standard care in Nairobi, Kenya.

METHODS: 222 newly diagnosed HIV positive clients (both men and women) were recruited into the longitudinal study from 10 health facilities. Participants in the intervention (n=108) and comparison arm (n=114) were followed prospectively for 2 months. In-depth interviews (n=16) were conducted with providers in the intervention sites where SPAT was implemented.

The intervention comprised the use of the SPAT checklist in following key steps addressed at every stage of HTS from when the HIV test is done to referral, and linkage to HIV care services (including pre-test and post-test counselling and support).

RESULTS: Pre-test counselling information on sharing HIV results (I: 96.3% vs. C: 88.6, p=0.003), modes of HIV transmission (I: 93.5% vs. C: 74.6, p=0.000) and window period for HIV infection (I: 78.7% vs. C: 63.2, p=0.000) was higher in the intervention arm. Elements of post-test counselling such as couple testing, prevention of HIV transmission of HIV and condom use increased significantly in the intervention group (p<0.05). Confirmatory HIV testing was higher in the intervention arm (I: 85% vs. C: 25%; p=<0.001). There were no differences between the two groups on referral, linkage, privacy and confidentiality. However, the mean score of ART knowledge significantly increased in the intervention (1.59 to 4.01; p<0.001) than in the comparison arm (from 1.43 to 1.62; p=0.120). Discussion on risk factors for loss to follow up (i.e. alcohol and substance abuse, disclosure, sexual relationships, gender-based violence, sexually transmitted infections, and support groups, P<0.001) was higher in the intervention arm. Providers narratives showed that the SPAT ensured quick action was taken on potential challenges in HTS and the continuum of HIV care.

CONCLUSIONS: The SPAT checklist was effective in enhancing pre-test and post- test counselling, confirmatory testing, knowledge of ART and discussion on risk factors for loss to follow up. The SPAT offers a practical tool to enhance HTS across the continuum of care.

PEE1385

STRENGTHENING COMMODITIES/SUPPLIES MANAGEMENT SYSTEMS AT LOWER LEVEL GOVERNMENT HEALTH CENTERS (HC IIS) POSITIVELY IMPACTS PERFORMANCE OF PMTCT INDICATORS

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BACKGROUND: Despite national progress towards elimination of mother to child transmission of HIV, PMTCT indicators specifically HIV testing at ANC1 and ART initiation among HIV positive pregnant women in the East Central (EC) region remained low by end of 2017 at 87.1% and 72% respectively. Program data review for 11 EC districts showed gaps at HC IIs with HIV testing at ANC1 at 54.6% and ART initiation at 44% vs >95% and >75% respectively at higher-level facilities. Over 66% of health facilities in the region are HC IIs with 33% of the HC IIs accredited to provide PMTCT services. Non-accredited HC IIs do not routinely receive HIV testing kits and ARVs as per the national Essential Medicines List. On average, 35% of women receive ANC services at HC IIs and over 20% of positive pregnant women are identified at HCIIs. To improve PMTCT performance, we strengthened commodities/supplies management systems at HCIIs.

DESCRIPTION: With District leadership support, HCIIs providing ANC were twinned with higher level ART sites that became the distribution points for testing kits and ARV starter packs. Monthly reporting tools were designed to enable reporting by HCIIs. The monthly reports were submitted by the HCIIs to the higher-level ART sites to facilitate accurate ordering and reporting. We analyzed program data at the end of 2019 to assess the impact of strengthening commodities/supplies management systems at HCIIs on regional PMTCT indicators specifically HIV testing and ART initiation.

LESSONS LEARNED: HIV testing at HC IIs improved from 47.5% to 54.6% to 64.4% to 87% in 2016, 2017, 2018 and 2019 respectively leading to a regional improvement from 82.4% in 2016 to 95.3% in 2019. ART initiation improved from 72% in 2017 to 84% in 2019 with ART initiation at HCIIs improving from 44% to 59%. ART initiation at higher-level facilities was >90%. Gaps in provision of testing kits and ARV starter packs at the HC IIs affected performance.

CONCLUSIONS/NEXT STEPS: Provision of PMTCT services at HC IIs is key in achieving the last mile in PMTCT. Strengthening commodities/supplies management systems at these facilities positively impacts PMTCT and their Supply chain management systems should be supported.

APPROACHES TO EFFECTIVE HIV/SRH INTEGRATION

PEE1386

THE BURDEN OF HIV/HCV IN CANADA: MAPPING THE PROGRESS IN SASKATCHEWAN INDIGENOUS COMMUNITIES (2010-2018)

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BACKGROUND: To address alarming rates of HIV/HCV in Saskatchewan (SK) indigenous communities on reserves (IC) have undertaken numerous culturally grounded and destigmatizing measures as part of a multidisciplinary robust response, including community driven integrated STBBIs programs termed "Know Your Status" (KYS). Partnership with IC, have received international recognition for the effective outcomes in Canada.

METHODS: To assess SK's progress since 2010, an environmental scan was conducted in 9 areas like investments, community-driven, patient focused KYS programs, health outcomes, epidemiology, treatment outcomes, and use of technology.

RESULTS: The reported new diagnosis rates of HIV (year 2018: 32.1 per 100,000) and HCV (year 2018: 198 cases per 100,000) have remained disproportionately high in SK IC. Access to testing has improved significantly from only 2 rural communities in 2010 to 72 in 2018 (a 53% increase in HIV testing volume since 2014). With a 4 times increase in STBBI funding in 2018/19, SK IC have 27% fully* and 67% partially** implemented KYS programs.

In 2018, SK (909090) specific estimates were 77% for the 2nd 90 and 75% for 3rd 90 respectively. From 2014 to 2018, linkage to HIV care improved from 56% to 100% respectively, the majority being linked to care within one month. Between 2009/10-2018/19, about 1,600 and 1,200 people living with HIV and HCV respectively had received medication coverage. 19 Targeted KYS on site-HIV clinics decreased the HIV rate by 49%. The use of portable technology and telehealth has made a difference in timely starts of ARVs.

HIV-HCV co-infection rates in 2018 remains high (52% of new HIV diagnoses) with injection drug use as the major risk factor (70% of the HIV-HCV co infections). Currently, there are 38 harm reduction sites in 2019 across IC that serves 67% of the population, a significant increase from 2 sites in 2010. There are HCV micro elimination projects underway in two communities. Partner communities receive regular local epidemiological trends and HIV public health case reviews.

CONCLUSIONS: Canada attributes the progress made in SK to Indigenous partnership, multidisciplinary and community lead approaches. The outcomes of KYS have inspired many IC to launch similar response that aims towards healthy outcomes and zero transmission.

PEE1387

RETENTION OF PREGNANT WOMEN LIVING WITH HIV IN PREVENTION OF MOTHER-TO-CHILD TRANSMISSION SERVICES BEFORE AND AFTER PATIENT FEEDBACK SURVEYS IN ESWATINI

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BACKGROUND: Negative interactions with healthcare providers may impact retention in prevention of mother-to-child transmission (PMTCT) services. We conducted an intervention to improve retention using anonymous patient feedback surveys to assess satisfaction with providers completed by pregnant women attending antenatal care (ANC) at two health facilities in Manzini, Eswatini. Survey data were incorporated into feedback sessions with facility staff to identify rapid quality improvement approaches and improve PMTCT retention.

METHODS: We retrospectively analyzed electronic medical records to compare retention among two cohorts of women living with HIV (WLHIV) newly enrolled in PMTCT during two periods before and after survey implementation (January–February 2017: period 1; January–February 2018: period 2). We compared demographic information, HIV status at the first ANC visit, gestational age, and 3-month and 6-month retention after the first ANC visit (within a 1-month window before/after the anticipated 3-month or 6-month visit). Proportions of women retained at 3 and 6 months were compared using chi-square tests.

RESULTS: In the period 1 cohort (n=102), 60 (58.8%) knew their HIV-positive status at first ANC visit, 42 (41.2%) had a new HIV diagnosis, and 90 (88.2%) had an antiretroviral therapy (ART) start date. In the period 2 cohort (n=124), 77 (62.1%) knew their HIV-positive status, 47 (37.9%) had a new diagnosis, and 109 (87.9%) had an ART start date. Median age was 30 years in both periods; median gestational age at PMTCT entry was 20 weeks in period 1 and 19 weeks in period 2. In period 1, 80.4% of participants were retained at 3 months and 69.6% were retained at 6 months, compared to 83.1% (p=0.60) and 72.6% (p=0.62), respectively, in period 2. Among newly diagnosed women, 85.1% and 76.6% were retained at 3 and 6 months, respectively, compared to 81.8% (p=0.64) and 70.1% (p=0.43) among women with known HIV status.

CONCLUSIONS: We observed high retention rates among pregnant women newly diagnosed with HIV and non-significant differences of PMTCT retention following implementation of patient surveys and healthcare worker feedback sessions. In the Eswatini setting, baseline retention was already high; the intervention may be more successful in countries with lower baseline retention.

PEE1388

IMPACT OF AN INTEGRATED MODEL OF COMBINATION HIV PREVENTION, CARE AND RESEARCH: EXPERIENCE OF THE GOOD HEALTH FOR WOMEN PROJECT IN KAMPALA, UGANDA, 2013-2019

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BACKGROUND: Integrated models combining HIV, Sexual and Reproductive Health (SRH) and other health care services are an effective tool for promoting cost-effective and acceptable HIV interventions for key populations. We report the experience and impact of the Good Health for Women Project (GHWP), which has been providing integrated HIV/SRH services to female sex workers (FSWs) in Kampala, Uganda.

DESCRIPTION: The GHWP was set up as a closed (2008-12) then open (2013-19) cohort of women at high-risk of HIV-infection in Kampala. The clinic enrolled approximately 800 women per year, who were provided with comprehensive HIV/SRH check at enrolment and at quarterly visits, including: HIV counselling and testing, condom distribution, sexually transmitted infections (STI) screening, hepatitis B testing and vaccination, family planning, elimination of mother to child transmission (EMTCT) services, intimate partner violence (IPV) and harmful alcohol consumption prevention. Women were encouraged to bring sexual partners for HIV/STI testing and care.

LESSONS LEARNED: Overall, 6664 women were recruited over 10 years, and 5637 women from the open cohort (2013-19). HIV incidence was 6.0/100 person years in 2008, 4.5/100 in 2009 and 3.0/100 in 2010. In the open cohort, incidence reduced from 4/100 person-years in 2013-14 to 2.7/100 in 2016-17.

In its first year, 355 (26.5%) of 1338 currently enrolled HIV-negative women have initiated pre-exposure prophylaxis (PrEP), with zero incident HIV, 270 male sexual partners (including 36% HIV-positive) have also been followed-up at the clinic. Overall, 100% of participants have accepted HIV testing; 1734 (36%) tested positive, of whom 1233 (71%) have initiated anti-retroviral therapy (ART); and among those with at least 12-months follow-up, viral load suppression was 97%. Condom use increased from 52% to 71% after 12 months in the project while reports of intimate partner violence reduced from 45% to 9%. Baseline STI prevalence (chlamydia, gonorrhoea, active syphilis) among women <25yr is 27%; all received same day STI treatment. Overall, 23% (842/3664) were tested for Hepatitis B infection; of 514 eligible for vaccination, 93% started the vaccination regimen.

CONCLUSIONS/NEXT STEPS: The programme has demonstrated the scalability, uptake and effectiveness of HIV prevention and care services for this population when integrated with SRH and other health care services.

PEE1389

AN INITIATIVE TO INCREASE UPTAKE OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN LIVING WITH HIV AND BUILD THE CAPACITY OF PROVIDERS IN CERVICAL CANCER SCREENING

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BACKGROUND: Women with HIV have a four times higher risk of developing cervical cancer if HPV infected compared with women who do not have HIV when infected with HPV. Although screening using visual inspection with acetic acid (VIA) and treatment of pre cancer lesions can help with secondary prevention of cervical cancer, the service is not widely available in Malawi more so among women living with HIV. A major challenge preventing the availability of VIA services at a national scale is that the service is provider-dependent and demands continued mentorship to ensure service quality. And hence a cervical cancer screening week was introduced.

DESCRIPTION: The screening week was conducted from March to May 2019 at high-volume facilities in Mangochi, Salima and Phalombe districts. Community sensitization was conducted prior to and during the screening week. Health talks at the antiretroviral therapy (ART) clinic were given and women linked to the screening services. Any identified pre cancer lesions were treated immediately with thermal coagulation. HIV testing services were provided to women with unknown HIV status. A library of cervical images was used to assess knowledge and skill levels before and after the screening week.

LESSONS LEARNED: A total of 2,016 women were screened with VIA (Mangochi 496, Salima 514, Phalombe 1006). Sixty-six (3.3%) were VIA positive. Among those who were VIA positive, 57 (86.3%) were treated with thermal coagulation on the same day or the day after while 9 (13.6%) were referred for Loop Electrosurgical Excision Procedure. The VIA positivity rate was 5.3% in women with HIV compared to 2.4% in those without HIV. Six (0.3%) women had lesions suspicious of cervical cancer. HIV testing was offered to 952 women and 23 (2.4%) tested HIV positive. The mean pre- and post-intervention scores were 66.2% (range 47.5% - 89.0%) and 76.8% (range 65% to 90%), respectively.

CONCLUSIONS/NEXT STEPS: The initiative strengthened the linkage between ART/VIA clinics and HIV testing services and increased the service demand . Importantly, the initiative demonstrates that it's possible to create demand for cervical cancer screening services and that making such services available at national scale through provider capacity building should be a policy priority.

APPROACHES TO EFFECTIVE HIV/TB SERVICE DELIVERY

PEE1390

PREDICTORS OF INITIAL LOSS TO FOLLOW UP AMONG HOSPITAL-DIAGNOSED HIV-INFECTED TUBERCULOSIS PATIENTS IN CAPE TOWN, SOUTH AFRICA

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BACKGROUND: In South Africa, tuberculosis (TB) remains the most common opportunistic infection for 7,5 million people living with HIV (PLHIV). Estimated TB incidence among PLHIV was 177,000 in 2018. In South Africa, hospital-diagnosed TB patients are referred to primary health care (PHC) facilities for continued clinical care and registration. TB patients not registered are defined as "initial loss to follow up" (ILTFU). We aimed to determine predictors of ILTFU among hospital-diagnosed HIV-infected TB patients in Cape Town, South Africa.

METHODS: Utilizing the Provincial Health Data Centre (PHDC), we identified all patients routinely diagnosed with TB in 2 sub districts, in the Western Cape Province (WCP) during October 2018- June 2019. The PHDC integrates multiple sources of routine health data resulting in single patient records. We stratified TB patients by place of TB diagnosis (PHC vs. hospital), with analysis restricted to HIV-infected TB patients diagnosed at hospital level. A multivariable logistic regression model identified factors associated with ILTFU.

RESULTS: Overall, 942/3561 (26%) patients diagnosed with TB in hospital were HIV-infected; 536/942 (57%) started TB treatment in hospital. 73/942 (8%) died within 14 days of their TB diagnosis. Of 869/942 (92%) eligible for PHC TB registration, 280/869 (32%) were ILTFU (Table 1). Factors associated with ILTFU included starting TB treatment in hospital vs. no TB treatment in hospital (aOR 6.12 95% CI: 4.06-9.24) and not being on ART (aOR 2.28 95% CI:1.44-3.60).

		Diagnosed with TB in Hospital (n=869)	Started TB Treatment in hospital (n=498)	% started TB Treatment in hospital (57%)	Not registered at a PHC facility (ILTFU) (n=280)	% not registered at a PHC facility (ILTFU) (32%)
Sex	female	495	268	54%	151	31%
	male	374	230	61%	129	34%
Age	<15 years	51	28	55%	14	27%
	≥15 years	818	470	57%	266	33%
ART Status	HIV+ no ART	135	84	62%	66	49%
	HIV+ on ART	734	414	56%	214	29%
Site of Disease	Extra-pulmonary TB	386	228	59%	112	29%
	Pulmonary TB	214	74	35%	6	3%

[Table]

CONCLUSIONS: In the WCP, South Africa, ILTFU among HIV-infected patients diagnosed with TB in hospital is high. Patients who start TB treatment in hospital were at significant risk of ILTFU. This requires further investigation, but may be due to severity of disease. Patients on ART were less likely to be ILTFU, possibly indicative of prior and ongoing attendance at PHC services. Improved registration of hospital-diagnosed TB/HIV patients is critical.

PEE1391

IMPROVING UPTAKE OF ISONIAZID PREVENTIVE THERAPY AMONG PLHIV IN COMMUNITIES SERVED BY MILITARY HEALTH FACILITIES IN UGANDA

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BACKGROUND: Globally, TB remains the leading cause of death among People Living with HIV (PLHIV). In Uganda, approximately 40% of TB patients are HIV co-infected, representing a TB incidence of 80/100,000. Although Isoniazid preventive therapy (IPT) is effective in preventing active TB in PLHIV, its uptake remains low. URC-Department of Defense HIV/AIDS Prevention Program implements interventions to improve IPT uptake in Uganda's military setting. We describe strategies and processes used to improve INH uptake in a military setting.

DESCRIPTION: We implemented interventions that included training, onsite mentorship of health workers, provided job aids, strengthened stock management, obtained daily and weekly reporting of INH initiation, supervised all 28 supported military health facilities and implemented differentiated INH service delivery. Data on INH initiation from IPT registers in 28 military health facilities between October 2018 to August 2019 was analyzed.

LESSONS LEARNED: In less than a year we registered 86.5% increase in the numbers of clients initiating INH from 178 in October 2019 to 7,068 in August 2019. IPT uptake improvement requires; dedicated personnel responsible for tracking patients initiated, not started, and those completed treatment. In addition, monitoring stock availability, setting facility level targets, data utilization to improve quality of services and kitting available INH into 6 months courses enhances quality of services offered. The main barrier to INH uptake was commodity stock out.

CONCLUSIONS/NEXT STEPS: This multi-pronged strategy demonstrated an exponential increase in uptake of INH in a military setting. Differentiating IPT delivery is essential in improving uptake among deployed troops. Interventions to address INH supply chain are vital for sustained IPT coverage.

PEE1392

LEVERAGING ZIMBABWE'S COMMUNITY ANTIRETROVIRAL GROUPS (CARGS) TO DELIVER TB PREVENTIVE TREATMENT IS FEASIBLE AND ACCEPTABLE: FINDINGS FROM A MIXED METHODS STUDY

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BACKGROUND: TB preventive treatment (TPT) coverage for HIV-positive Zimbabweans is suboptimal. As stable patients on antiretroviral therapy (ART) are shifted into less-intensive differentiated service delivery models (DSDM), opportunities to expand TPT coverage and completion may emerge. ICAP and the Zimbabwe Ministry of Health and Child Care (MoHCC) assessed the feasibility and acceptability of integrating TPT into community antiretroviral refill groups (CARGs).

METHODS: We conducted 25 "central-level" key informant interviews (KII) with MoHCC staff, implementers, and clinicians; 20 KII with CARG leaders; 16 focus group discussions (FGD) with 136 CARG members (half of whom had received TPT); and 8 field-based observations of CARG meetings. CARG leader KIIs, FGDs, and CARG observations were conducted at 4 urban and 3 rural health facilities. KIIs and FGDs were transcribed and analyzed using DedooseÔ software with thematic coding and content analysis. Closed-ended questions from KIIs and FGDs and the field-based observations were analyzed using STATA.

RESULTS: 96% of central-level informants and 85% of CARG leaders described providing TPT via CARGs as a "good" or "very good" idea. When presented with hypothetical models for TPT delivery, all cadres strongly preferred approaches that included multi-month TPT dispensing, fewer clinic visits, and monitoring for side effects and incident TB symptoms by both CARG leaders and clinicians rather than the current standard of monthly clinic visits at which one months' worth of TPT is dispensed. Perceived advantages of this model included convenience and access to the ongoing adherence and psychosocial support provided by CARGs. Participants also noted that this approach would require additional training and supervision of CARG leaders. During field-based observations, 2/8 CARG leaders (25%) asked every CARG member if s/he had TB symptoms despite 17/20 (85%) mentioning TB screening as one of their main roles in interviews. 7/16 (44%) had received additional training since becoming CARG leaders in the last 2-3 years.

CONCLUSIONS: Stakeholders agreed that provision of TPT via CARGs would be a feasible and acceptable approach to increasing TPT coverage and completion in Zimbabwe. The perceived need for additional training and supervision of CARG leaders was reinforced by the observation that only 25% screened CARG members for TB symptoms.

PEE1393

TB HIV JOINT RESPONSE IN HUMANITARIAN EMERGENCIES: BRAC EXPERIENCE

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BACKGROUND: Access to health care is more important than ever in humanitarian emergencies such as refugee crisis. There is an influx of Mynmar nationals in Bangladesh from September, 2017. As part emergency response to FDMN (Forcibly displaced Mynmar nationals), BRAC with the support of National Tuberculosis Control Programme (NTP) and National AIDS and STD Programme (ASP) started TB control activities and HIV screening for TB patients for FDMN. People living with HIV are at increased risk of developing TB disease and TB remains the leading cause of death among people living with HIV despite the existence of effective prevention and treatment interventions.

DESCRIPTION: BRAC established 15 laboratories for both TB and HIV services in FDMN. Services include quality microscopy and HIV screening. Health workers from BRAC and other NGOs visit households and screen TB presumptive. Microscopy was done at the laboratories. Gene Xpert & X-ray are referred to government facilities if needed. TB patients are registered at Government centres. DOT is done by community leaders (Majhi) and family members. HIV screening is done for all TB patients and other high risk group. If anybody found positive, referred to Government centre for confirmation followed by registration and ART. Investigation and nutritional support including transportation cost were offered to patients.

LESSONS LEARNED: From September, 2017 to December, 2019, total 6,521 TB patients are diagnosed among FDMN. Among them, 6,090(93%) are bacteriologically confirmed, 188(3%) clinically diagnosed, 116(2%) extra pulmonary and 127(2%) relapses. Also 146 child TB and 5 DR TB is diagnosed among them. HIV screening is done for 5,511 TB patients and 412 high risk group. Total 28 patients found positive among TB patients and 16 became positive among high risk group.

CONCLUSIONS/NEXT STEPS: As TB is the world's leading killer among infectious disease, quality controlled TB diagnosis and free treatment facilities should be provided to emergency situation. In such humanitarian crisis TB and HIV programme should be closely coordinated. Establish and strengthen mechanism for delivering TB HIV collaborative activity should be implemented which will reduce the dual burden of TB and HIV in emergency crisis management.

PEE1394

UPTAKE, YIELD AND LINKAGE TO CARE AFTER HOME-BASED HIV COUNSELLING AND TESTING AMONG HOUSEHOLD CONTACTS OF TUBERCULOSIS PATIENTS IN UGANDA

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BACKGROUND: In Uganda, 81% of people living with HIV (PLHIV) know their HIV status, and 40% of TB patients are co-infected with HIV. Few studies document yield of HIV testing from integrated community-based HIV-TB activities. With support from PEPFAR, we evaluated uptake, yield of home-based HIV counselling and testing (HBHCT), and linkage to antiretroviral therapy (ART) among household members of TB patients in a rural Ugandan district.
METHODS: We prospectively enrolled index TB patients from 1st October-2017 to 30th September-2018 and conducted home visits. Household members were screened for TB and HIV following national guidelines. Those at risk for HIV were offered HBHCT and tested by routine counselling and testing volunteers (RCTs) using rapid HIV tests. HIV-exposed infants (HEIs) not enrolled in early infant diagnosis (EID) program were referred for HIV-DNA-PCR testing. Newly diagnosed PLHIV were referred for confirmatory HIV testing and ART initiation. We analysed data to describe the HBHCT cascade (eligibility, uptake and yield, linkage and ART initiation) among household members.
RESULTS: We identified 459 index TB patients of whom 38.5% (165/429 with HIV status available) were co-infected with HIV. We identified 1692 household members (57.8% female, median age 19years) of whom; 33.6% (569/1692) were children of index clients, 21.9% (371/1692) siblings, 9% (153/1692) partners, (102/1692)6% parents, 21.6% (365/1692) other relations and 7.8% (132/1692) unknown relations. Over half (56.0%, 883/1578) self-reported being HIV negative, 5.5% (87/1578) HIV positive and receiving ART, and 39% (608/1578) unknown HIV status. Five hundred thirty five household members with unknown HIV status were eligible for and offered HBHCT, of whom 93.3% (499/535) accepted testing. Of those tested, 2% (10/499) tested HIV positive; 100% (10/10) of identified positives initiated ART. Two members (0.4%) had indeterminate HIV results, one retested negative but one declined retesting. All the identified HEIs (9/9) tested negative by HIV DNA PCR.
CONCLUSIONS: Uptake of HBHCT is high among household members of TB patients. Though HIV positivity yield was low, HBHCT should be designed to optimise testing high-risk household members as an opportunity for successful linkage of PLHIV and HEIs into care.

PEE1395

INTEGRATING TB SERVICES IN HIV/AIDS PROGRAM TARGETING FEMALE SEX WORKERS (FSWS). EXPERIENCE OF GLOBAL FUND PROGRAM IN MALAWI

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BACKGROUND: In Malawi it is estimated that 60 percent of FSWs are estimated to be HIV positive. The TB prevalence study has shown that there are 1041 TB cases per 100 000 people and 50 percent of cases remain undetected. HIV/AIDS is fueling a continued increase in TB cases among FSWs. From 2019 the Joint HIV/TB Global fund program is targeting female sex workers with prevention, diagnosis and referral HIV/AIDS and TB services in 11 districts.
DESCRIPTION: To improve TB/HIV integration among FSWs the program established 150 hotspots in the target districts. A total of 200 peer educators and 80 Peer Navigators were trained in TB prevention, screening and referral and were deployed to the hotspots. The PEs and PNs were tasked to offer TB information, screening and referral services. The Peer Navigators offered services to HIV positive FSWs only. FSWs with suspected TB were referred for diagnosis and treatment at a nearest health facility. TB data was tracked monthly using standardized data tools.
LESSONS LEARNED: A total of 5402 FSWs were screened for TB against a target of 4994 representing 108 percent. 301 (5.6%) had signs and symptoms of active TB and only 289 (68 %) were referred for diagnosis. A total of 28 FSWs (8.7 %) were diagnosed with TB. Among HIV positive FSWs, 822 received TB prevention information representing 107%. A total of 786 FSWs were screened for TB, 84 were suspected to have TB representing 10.9 percent. A total of 13 (15.4%) FSWs were diagnosed.
CONCLUSIONS/NEXT STEPS: The integration of TB screening in HIV/AIDS program targeting FSWs has proved to effective with the with Peer educator/navigator model. TB positivity rate was also noted to be higher among HIV positive female sex worker. Although promising results were observed, there is need to ensure that quality of service delivery is observed at service delivery points in all districts. There is also a need to strengthen coordination especially at district and community levels for proper integration of services.

PEE1396

REGULAR TUBERCULOSIS SCREENING OUTREACHES IMPROVE CASE NOTIFICATION RATE IN A REFUGEE CAMP: AN EXPERIENCE AT KYANGWALI REFUGEE SETTLEMENT IN UGANDA

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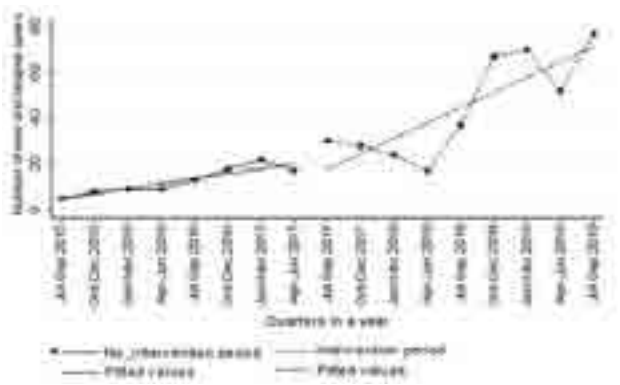
BACKGROUND: Reports have shown that Tuberculosis (TB) prevalence among refugee communities is relatively higher than the general population. However, facility-level aggregated program data at Kyangwali HCIII which serves 132,000 refugees in Uganda, indicate a TB notification rate comparable to the national average of 128 per

100,000 populations. We set out to determine the incremental value of, PEPFAR supported, targeted screening outreaches on TB case notification rates (CNR) documented for this settlement

DESCRIPTION: We abstracted data from DHIS2 on TB CNR for the period July 2015-September 2019 for Kyangwali HCIII. We reviewed PEPFAR supported facility TB program reports to establish the baseline TB CNR for the period July 2015-June 2017. We used patient addresses in the TB register, to map TB hotspots and trained health workers on key TB screening processes, data capture, sample collection and handling procedures. Additionally, we engaged other key stakeholders, and mobilised community members for quarterly TB screening using community-based peers for the period July 2017 to September 2019. Health workers identified presumed TB patients in the community, collected and transported sputum samples to the facility for GeneXpert testing. Facility teams delivered results to persons diagnosed with TB with support of community-based peers. We used a modified Poisson model with robust standard errors to compare the mean difference of TB case notification in the pre and post intervention periods.

LESSONS LEARNED: The TB case notification in the post intervention period was associated with a 3.54 higher mean ratio compared to the pre intervention period (mean ratio = 3.54; CI= 2.84 - 4.40) (see trend figure below).



[Figure. Trends of new TB cases post and pre-intervention for the period July 2015 to September 2019 - Kyangwali HCIII]

CONCLUSIONS/NEXT STEPS: Regular targeted TB screening in refugee hot spots improved TB CNR. We recommend that besides the TB screening done at entry into the refugee camps, regular targeted TB screening in hot spots be strengthened and supported to control spread of TB in this population.

PEE1397

LESSONS LEARNED FROM TRANSGENDER WOMEN PEERS OFFERING HIV-SELF TESTING AND ASSISTED PARTNER NOTIFICATION SERVICES IN MALINDI, KENYA

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BACKGROUND: Transgender women (TGW) are a newly emerging key population in Kenya, with a high burden of undiagnosed HIV, often not engaged in the HIV prevention and care response. We assessed whether HIV self-testing (HIVST) and assisted partner notification services (APNS) (the first 90), facilitated by TGW peer educators from LGBTQ Community-Based Organizations (CBOs), would enable testing LGBTQ members, and link newly HIV infected peers into care.

DESCRIPTION: In April-August 2019, 10 TGW peer educators, trained on confidentially, referring and linking their peers into care, extended HIVST kits (Ora-quick) to LGBTQ members in Malindi. After HIV status confirmation of mobilised participants at the research clinic, indexes' sexual partners were contacted by the TGW peer educators and HIV testing discussed. TGW used their knowledge of LGBTQ sexual networks (i.e. bars, private meeting places, and time of day that peers gather) as entry points to contact sexual partners. Partners were referred to the clinic for HIV testing, and offered immediate ART when infected.

LESSONS LEARNED: Out of 379 HIVST distributed, 290 LGBTQ members reported for confirmatory testing with median age 27 years (interquartile range (IQR): 23-33). Twelve participants (4.1%) were newly diagnosed, of whom 11 immediately initiated ART after a median of 1 (IQR 0-14) days. Sixteen participants, including 4 sexual partners became index participants for APNS. A total of 65 sexual partners (20 females; 36 males; 9 TGW) were identified. For 20 partners (30.5%) no lead or contact details were available, hence they could not be traced. Of the remaining 45 traced partners, 18 (15 males and 3 females) were known HIV positive, and 2 females were newly diagnosed. A total of 14 (7 males and 7 female) tested HIV negative, while 3 TGW were known HIV positive and 6 TGW tested HIV negative. One male and 1 female refused HIV testing.

CONCLUSIONS/NEXT STEPS: Within an interconnected community, TGW peer-led HIVST followed by APNS identified undiagnosed HIV-infection. TGW's understanding of sexual network characteristics of the LGBTQ community, and efforts reaching out to peers helped to inform, fine-tune, and amplify the potential effectiveness of HIVST and is a promising strategy to further optimize APNS.

PEE1398

CONFRONTING TB/HIV COLLABORATIVE CHALLENGES IN HARD-TO-REACH CONFLICT AREAS IN MYANMAR

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BACKGROUND: Northern Myanmar is facing prolonged internal armed-conflicts, poverty, widespread drug use and a high HIV and TB burden. HIV prevalence among people who inject drugs (PWID) is as high as 61% and during 2017 up to 16% of TB deaths in Myanmar were among people living with TB and HIV co-infection. In the remote hard-to-reach areas, people live without knowing their HIV and TB status and have limited access to services provided at public health settings.

DESCRIPTION: AHRN operate nine clinics/drop-in-centers (DICs) and one TB active case finding (ACF) team in Kachin State. Since 2017 AHRN harm reduction cascade integrate innovative TB/HIV point-of-care (PoC) services. The ACF team, equipped with a portable digital X-ray machine, sputum microscopy and HIV testing service (HTS) is covering remote shooting galleries and other hard-to-reach areas, to find missing TB cases. Once TB diagnosed, HTS is offered and TB DOTS providers are assigned for each patient, making monthly home visits and provide accompanied referral to ART centers. They give emotional support, educate and counsel on the importance of ART and anti-TB treatment.

LESSONS LEARNED: TB/HIV collaborative activities have significantly improved after the introduction of this innovation. Patients trust, awareness of the importance of treatment and adherence significantly increased. From 2015 to 2018 1,578 TB patients were diagnosed and among them 512 (32.4%) were TB/HIV co-infected. Annual data shows TB patients with HIV results has increased from 68.4%, 81.9%, to 92.4%, 95.8% with the HIV positivity rate of 35.2%, 25.1%, 39.5% and 46.1% respectively. The percentage of TB patients living with HIV receiving co-trimoxazole preventive therapy has increased from 76.7%, 86.8% to 96.5%, 94.8% and ART from 28.9%, 39.7% to 56.3%, 70.1%.
CONCLUSIONS/NEXT STEPS: Integration of point-of-care HTS into clinics/DICs and ACF substantially increases testing uptake and referral linkages to treatment and care. Community-based DOTS provider plays a critical role in ensuring adherence to anti-TB treatment and uptake of ART improved significantly. The outcomes suggest to expand this strategy to other hard-to-reach areas and scale up ART coverage among TB-HIV co-infected cases.

PEE1399

MOBILIZING LOCAL ORGANIZATIONS TO MAKE A GREATER CONTRIBUTION TO ACHIEVING EPIDEMIC CONTROL: AN EXPERIENCE OF DEVELOPMENT AID FROM PEOPLE TO PEOPLE ON A CDC-FUNDED HIV/AIDS PROJECT IN ZAMBIA

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BACKGROUND: The local Zambian NGO Development Aid from People to People (DAPP) and the Provincial Health Office (PHO) of the Zambian Ministry of Health (MoH) are jointly implementing a four-year (2019-23) project to reach HIV epidemic control in seven districts of Eastern Zambia through implementation of optimal community HIV services. The project is implemented by DAPP and the PHO with funding and technical assistance from the U.S. Centers for Disease Control and Prevention (CDC) and strategic leadership from the Government of the Republic of Zambia (GRZ). Programmatically, the project aims to increase uptake of targeted HIV testing in Eastern Zambia. Strategically, the project aims to demonstrate how international donors (such as CDC), governments (such as GRZ), and local organizations (such as DAPP) can cooperate to assist a country to reach its 95-95-95 targets and achieve epidemic control in a country-led and cost-effective way and as a model for replication.
DESCRIPTION: On the intervention, local Health Center staff link already-identified people living with HIV – known as "index clients" – with DAPP's community-based Field Officers (FOs). The FOs elicit from index cases lists of sexual contacts. FOs locate the sexual contacts and offer HIV screening and testing, facilitating immediate ART initiation for those testing positive. The project aims to elicit at least 3 contacts per index client, test a minimum of 70% of eligible contacts, achieve a positivity rate of 30%, and successfully link to treatment at least 95% of people testing positive.
LESSONS LEARNED: From March to September 2019, 7,962 index clients provided contact information for 19,110 sexual partners (2.4/client). 17,390 partners (91%) were successfully traced, of whom 15,079 (87%) did not know their HIV status and agreed to be tested. 3,670 were diagnosed HIV+, constituting a 24% yield rate. High participation among index clients and partners is a result of the project's non-judgmental communications. High HIV yield is explained by frequency of unprotected sex with multiple, concurrent partners.
CONCLUSIONS/NEXT STEPS: The project's strong performance demonstrates the capacity of local organizations – with modest funding, targeted technical assistance, and government leadership – to make a significant contribution to epidemic control in the most HIV-burdened countries.

SUPPORTING RESILIENT HEALTH SYSTEMS

PEE1400

EFFECTIVE HIV COMMUNITY PLAN. THE ROLE OF COMMUNITY ORGANIZATIONS IN BUILDING RESILIENT HEALTH SYSTEMS TO DELIVER AND LINK HIV AND HARM REDUCTION SERVICES TO PEOPLE WHO INJECT DRUGS IN UGANDA

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BACKGROUND: PWIDs (People Who Inject Drugs) have a probability of HIV transmission through injection use which is estimated at 0.0100 compared to 0.0009 through heterosexual sex. (Baggaley et. al., 2004) In Uganda HIV prevalence among PWIDs is estimated at 16.7% compared to 6.2% in general population and with 6% of 42,000 new HIV infections in 2018.(UNAIDS 2018) PWIDs are a hidden and hard to reach key population due to punitive laws, stigma, discrimination and violence in their communities. Scaling up HIV and harm reduction services to this key population is possible when community organizations support public health systems to build resilience by filling critical gaps through providing supportive services that buttress clinic-based care or extend the reach of services to PWIDs. For example the implementation of the HHRCI (HIV and Harm Reduction Community Initiative) which supported PWIDs on HIV treatment, care, retention and education.
DESCRIPTION: Project: HIV/TB (UGA-C-TASO) and Health Systems Strengthening-HSS (UGA-S-TASO) 2017-2018.
Under this project community organizations built advocacy capacities for PWIDs and their access to quality health services was promoted including within policy design, legal frame work review and their participation in national and regional policy debates to fight against stigma, discrimination and other human rights violations. Implementation of community-based service delivery system which designed peer outreach programs for example condom distribution,voluntary HIV testing and counselling and implementation of the HHRCI in which PWIDs leaving with were given treatment, support and care.Carried out community sensitization meetings with PWIDs about the dangers of sharing injecting needles in relation to the spread of HIV and other blood borne diseases.
LESSONS LEARNED: This project reached 112PWIDs with 38 being females which developed a good practice guide for health system for PWIDs. The HHRCI increased the number of PWIDs on HIV treatment from 42 to 94 with 33% being females .It also increased the visibility PWIDs' issues and improved the quality of their health care at various health centers.
CONCLUSIONS/NEXT STEPS: Transformation of how community-based HIV services are linked and work with health systems through improved linkages and synergies. Emphasize on other resilient HIV prevention methods like behavioral change communication and addiction treatment.

PEE1401

IMPROVING TURNAROUND TIME OF VIRAL LOAD RESULTS AT SELECTED HIGH VOLUME SITES IN NINE DISTRICTS OF NORTHERN UGANDA: A QUALITY IMPROVEMENT PROJECT

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BACKGROUND: Turnaround time (TAT) is a critical indicator for monitoring the quality of laboratory services. Viral load (VL) testing in Uganda is majorly centralized at one national reference laboratory. In June 2019, data from 30- PEP-FAR - supported facilities in northern - western Uganda showed an increase in TAT ranging from 30 to 54 days versus a national recommendation of 14 days. A quality improvement project was initiated to establish the root causes of delayed TAT and develop interventions to correct the anomalies.
METHODS: A retrospective cross sectional study was conducted to determine causes of long TAT at the study sites between June and September 2019. A continuous quality improvement package with real time monitoring and appropriate action on identified gaps was implemented. The key stakeholders (Laboratory personnel at facility CPHL and clinical team) were engaged.
Baseline TAT data was collected to inform setting realistic targets for each step in the testing cascade. Thereafter, TAT data was collected daily, analysed weekly using Microsoft excel and feedback provided to key stakeholders to take respective corrective actions.
The testing cascade included specimen collection, transportation (district reference (hub) and national molecular testing laboratory); posting results at the national viral load dash board, printing of results and transmittance to requesting facilities.
RESULTS:

[Figure. Trend analysis of turn around time along the viral testing cascade across the selected high volume facilities in West Nile region, July - Sept 2019]

The overall regional TAT from test requisition to receipt of results improved from an average of 29 - 19 days. Transportation of specimens from requesting to testing laboratory consumed 34% of the total TAT; processing to release of results 60% and transmittance of results to requesting sites, 6% of the total TAT.
CONCLUSIONS: Routine monitoring of turnaround time at each phase of the testing process and collaboration with key stakeholders involved in the testing cascade is critical to identifying root causes of long TAT and effecting appropriate respective corrective actions to inform prompt clinical decision.

PEE1402

FACTORS RELATED TO CARE SEEKING BEHAVIOR FOR HYPERTENSION FOR INDIVIDUALS WHO ARE ON ANTIRETROVIRAL THERAPY

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BACKGROUND: Hypertension is highly prevalent in Malawi; the majority being undiagnosed and hence untreated. Poor health seeking behavior, unhealthy lifestyles and poor access to health care remain key challenges to the prevention, control and management of hypertension. We sought to identify factors related to care seeking behavior for hypertension among adults on antiretroviral therapy (ART).
METHODS: Between January and April 2019, in-depth interviews (IDIs) were conducted with individuals ≥18 years, on ART and hypertension treatment. We recruited from 3 hospitals in central Malawi that deliver ART and hypertension care as non-integrated outpatient services. Interview questions focused on barriers and enabling factors to care seeking and individuals' perceived risks and benefits to health care utilization for hypertension. Andersen's behavior model for health services utilization was used as an organizing framework. Data were analyzed through constant comparison methods, using Atlas.ti 8, applying both deductive and inductive techniques using a modified grounded theory approach.
RESULTS: We performed 30 IDIs (21 females): mean age 57.5 (IQR: 52-63); median years on ART 8 (IQR:4-11); median years on antihypertensives 4 (IQR:2-9). Three the respondents had severe hypertension on their most recent clinic visit. Fifteen respondents were taking first-line hypertension therapy (hydrochlorothiazide). The most common barriers for care seeking included financial challenges (transport money, money for antihypertensives, lost wages from time away from work), managing multiple medical problems, poor health and medication side effects. At the health system level, participants reported that lack of integrated care, lack of available hypertension medications, long waiting times, and poor quality of care were major challenges to care seeking. Respondents understood the risks of untreated hypertension and benefits of treatment, and this motivated individuals to properly manage their hypertension, despite barriers to care.
CONCLUSIONS: Among our participants on ART with hypertension there was a high level of knowledge about the risks of hypertension and high motivation for treatment, but individuals faced significant challenges to care seeking. Patient barriers could be reduced through integration of hypertension treatment within ART clinics, free or low cost access to antihypertensives, improvements in the supply chain for hypertension medication, and support services (counseling or other) for patients with multi-morbidity.

PEE1403

ROADMAP TO LABORATORY ISO 15189 ACCREDITATION UNDER THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM (SANAS): A CASE STUDY FROM ENTEBBE REGIONAL REFERRAL HOSPITAL IN UGANDA

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BACKGROUND: Globally, countries rely on accreditation of laboratories to determine their competences. In Africa, fewer than 60% of clinical decisions are based on laboratory results. Uganda had only 5 accredited laboratories as of November 2016. The Uganda Ministry of Health (MOH) recommended 16 laboratories to fast-track for international accreditation to ISO 15189 standard under SANAS, of which Entebbe Regional Referral Hospital Laboratory was among. Here we present the experience and lessons learnt in the process of acquiring the SANAS accreditation for Entebbe Regional Referral Hospital Laboratory, a PEPFAR supported Public Hospital in semi-urban Uganda.
DESCRIPTION: After launching the 16 laboratories to accreditation journey in 2016, targeted facility based mentorships and trainings were organized by MOH to ensure Entebbe Regional Referral Hospital Laboratory staff are competent and comply to ISO 15189 requirements. In the year 2017-2019, Mildmay Uganda and A Global Healthcare Public Foundation resident mentors supported the facility staff in implementation of the ISO 15189 Standard. Eight laboratory and top management staff underwent training. The laboratory staffing level was increased from 3 in 2016 to 10 staff in 2019. This was done to support the implementation activities and laboratory structural improvements (sample accessioning and reception area) made to ensure compliance to the international standard.
LESSONS LEARNED: Entebbe Regional Referral Hospital Laboratory was recommended for accreditation for Malaria, CD4, Full Haemogram, Hepatitis B, Human Chorionic Gonadotropin, Cryptococcal Antigen, Tuberculosis GeneXpert, Syphilis, HIV, ABO Blood grouping tests. There was an improvement from 82 Nonconformities at baseline audit to 62 nonconformities in mock audit and finally to 7 nonconformities in the final assessment leading to accreditation.
CONCLUSIONS/NEXT STEPS: With trainings, mentorships, staffing and hospital management involvement in public laboratories foster improvement in Quality management systems and this enables them to meet the requirements for accreditation.

PEE1404

AN INTEGRATION APPROACH TO INVENTORY STOCK VISIBILITY: MEDICAL ACCESS UGANDA LIMITED INTEGRATED FACILITY DATA MANAGEMENT SYSTEM

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BACKGROUND: Real-time data visibility within the health supply chain is needed to inform public health responses in Uganda. The introduction of RxSolution into Uganda's Health Systems has greatly improved data management, quality and reporting of logistics data. However, RxSolution implementations have remained siloed, limiting insights into supply chain performance. In 2018, Medical Access Uganda Limited (MAUL), with support from the CDC and PEPFAR, developed and adopted an integrated early warning system and dashboard, called the Integrated Facility Data Management System (iFDMS), and a lightweight electronic Logistics Management Information System (eLMIS)-based integrator, called the Facility Data Integrator (FDI). The main objectives of this intervention was to create real-time visibility, provide early warning mechanisms to avert stock-outs and expiry of health commodities and support targeted technical assistance.
DESCRIPTION: iFDMS was piloted at five health facilities across Uganda before rollout in >115 health facilities by December 2018. As part of the roll-out process, MAUL strengthened the national rollout of RxSolution, the Ministry of Health-approved eLMIS, in 157 health facilities and trained 180 health facility staff through targeted regional workshops conducted across the country. FDI was deployed at 130 health facilities to track and transmit, in real-time, stock status changes and stock levels at the health facility level to the central warehouse.
LESSONS LEARNED: RxSolution adoption improved by over 90%. Stock status visibility and traceability was greatly improved, with reductions in reported expired drugs (14.94%) and stock-outs (16%), partially due to using real-time early warning mechanisms (SMS and e-mail alerts) and stock top-up/lend-out reports that advise supply chain technical support teams on inter-facility commodity transfers, based on stock levels, expiration analysis, and min-max levels. Completeness and accuracy of RxSolution data increased from 84% in 2018 to 93% in 2019 across all linked health facilities. Implementation challenges included limited access to the internet (21%) and limited work force at health facilities (45%).
CONCLUSIONS/NEXT STEPS: Implementing iFDMS increased data visibility and improved efficient service delivery in health facilities and central warehouses. Continued onsite supervision and mentorship and additional system/infrastructure enhancements, including internet connectivity, could further enhance iFDMS performance.

PEE1405

HEALTH SYSTEM RESPONSIVENESS: LESSONS FROM THE SOLTHIS-EMPOWER PROJECT END LINE SURVEY OF EXPERIENCES OF PATIENTS RECEIVING CARE IN SIERRA LEONE

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BACKGROUND: Health system responsiveness, its ability to respond to the needs and expectations of patients, should be considered as an intrinsic goal of health service delivery. It is measured across eight domains themed on aspects of health systems related to the rights of patients as human beings.
This study aimed to investigate the end-project responsiveness at 12 facilities supported by the three-year EMPOWER project in Sierra Leone which pursued a human rights based approach towards a) empowering people living with HIV (PLHIV) to demand for and receive quality health services, and b) capacity building of health workers at the facilities.
DESCRIPTION: The cross-sectional and explanatory study investigated 2080 outpatients (1048 PLHIV and 1032 non-PLHIV) selected using convenience sampling method. Respondents were randomly

selected for both patient groups. Standard responsiveness questionnaire applied at baseline was used for data collection. Data analysis was done applying descriptive statistics, Pearson Chi-square tests, and SPSS 16 at significance level of 0.05 to compare baseline and endline results.

LESSONS LEARNED: Favorability across most domains at endline was higher for PLHIV (Table 1). Composite indices showed generally improved favorability at endline from those at baseline. Significantly, at end line, communication was reported as "the most important domain" by both patient groups (26.9% of PLHIV v 24.2% for non-PLHIV).

Domain	Indicator	PLHIV [n=1048] (%)	Non-PLHIV [n=1032] (%)	Pearson Chi-square Tests
Autonomy	Opinion asked when making decisions	80.7	69.5	P=.00
	Permission asked before tests	80.7	67.5	P=.00
	General experience on autonomy	89.3	79.6	P=.00
Choice	Choice of healthcare provider	65.5	69.7	P=.04
	Skills of healthcare provider	98.1	97.4	P=.23
	Ability to change healthcare provider	28.5	37.9	P=.00
	General experience of choice	90.6	95.8	P=.00
Communication	Clarity of explanations	98.8	97.0	P=.05
	Time to ask questions	89.9	84.2	P=.00
	Patients being listened to	97.8	97.3	P=.45
	General experience of communication	98.7	97.9	P=.16
Confidentiality	Privacy of consultations	97.3	94.1	P=.00
	Personal records being kept secret	95.4	92.0	P=.00
	General experience of confidentiality	97.8	94.4	P=.00
Dignity	Respect of intimacy	99.0	96.6	P=.00
	Being shown respect	99.2	97.1	P=.00
	Whether or not treated badly	98.8	98.3	P=.34
	General experience of dignity	98.6	97.1	P=.02
Prompt attention	Waiting time at the clinic	87.3	74.0	P=.00
	Operating hours of the clinic	94.3	86.0	P=.00
	Waiting time for test results	76.4	77.7	P=.70
	Get care as soon as wanted	90.1	80.2	P=.00
	General experience of prompt attention	92.2	81.9	P=.00
Environment	Adequacy of medical equipment	97.7	92.8	P=.00
	Availability of drugs	94.3	75.6	P=.00
	Cleanliness of the facility excluding toilets	96.7	95.7	P=.27
	Space in the waiting and examination rooms	94.6	91.4	P=.00
	General experience of environment	97.3	95.0	P=.00
Social support	Spoken to by provider about social support	26.1	8.1	P=.00
	Social support clearly explained	31.2	9.5	P=.00
	General experience of social support	30.8	9.4	P=.00

[Table 1.]

CONCLUSIONS/NEXT STEPS: The EMPOWER project improved the responsiveness for PLHIV and non-PLHIV patients at the facilities. We recommend sustained resource allocation to capacity building of health workers in the non-clinical aspects of care of both PLHIV and non-PLHIV for desired uptake of health services.

PEE1406

IMPLEMENTATION OF LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS) FOR EARLY INFANT DIAGNOSIS AND VIRAL LOAD IN MALAWI

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BACKGROUND: Malawi started to advance in Early Infant Diagnosis (EID) activities for HIV exposed infants in 2010. At that time, the country did not have any formal system to manage the data and information for blood samples, testing process, and test results. This lack of proper system to manage EID testing process also made it impossible for the Ministry of Health and Population (MoHP) and stakeholders to have access to the information for decision making as well as to the overall visibility of the initiative.

DESCRIPTION: The project began in 2011 in 2 laboratories with the plan to setup and improve data management system for Early Infant Diagnosis (EID) and Viral Load (VL) in all molecular laboratories in the country. The activities completed during the project include system development, implementation, trainings and continuous user support.

The system has expanded and is currently running in 10 Molecular laboratories. It has also been integrated to other systems and interfaced with diagnostic machines in the laboratories.

LESSONS LEARNED: Throughout the project, we used periodic system reviews to unearth areas of improvement and ensure the system would be user-friendly. Support from MoHP leadership was crucial for the sustainability of the system since the intent is to transition the system to the MoHP, but there is often a lack of resources to absorb all the work needed to design, develop and implement computer systems. Consistent stakeholder engagement and collaboration provided new challenges in timely system implementation due to differences in working styles, cultures and work priorities.

CONCLUSIONS/NEXT STEPS: The finding sets out new approach to computer system development for health service delivery. Implementation should revolve around understanding the needs of the MoHP and being flexible to accommodate new requirements as testing protocols in laboratories change in response to program changes. The MoHP to take control and leadership of the development process, having continuous system reviews with users in order to improve the system and continuously make it user friendly and having a dedicated technical team in order to provide timely technical support to users.

MAKING HEALTH SYSTEMS WORK FOR ADOLESCENTS

PEE1407

GROUP ANTENATAL CARE FOR IMPROVING RETENTION OF ADOLESCENT AND YOUNG PREGNANT WOMEN LIVING WITH HIV IN KENYA

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BACKGROUND: Pregnant and breastfeeding adolescents and young women with HIV (AYWLH) have lower retention in prevention of mother-to-child transmission (PMTCT) services compared to older women yet PMTCT services are not usually adolescent-friendly.

METHODS: We implemented group care, as a differentiated service model for AYWLH at seven health facilities in western Kenya from December 2017 to March 2019. All pregnant AYWLH <25 years receiving antenatal care (ANC) attended group ANC visits which included health education, self-care (measuring own weight, blood pressure, etc.) and mentor-led group counseling sessions.

Monthly group visits were conducted by health facility nurses following Kenya's national standards of care. ART register data were used to compare six-month ART retention among newly enrolled pregnant AYWLH in two periods, the pre-intervention period (January-December 2016) and the intervention period (December 2017-January 2019). Time on ART was calculated using first ANC date and last

month of ART pick-up. Kaplan-Meier estimators and log-rank test were used to estimate retention; women with documented transfer, death, or stopped ART were censored at last ART pick-up.

RESULTS: In the pre-intervention period, 353 AYWLH enrolled in ANC and 223 (63.2%) had an ART start date. Of those missing ART start data, 54(41.5%) were indicated as on ART at other facility, 20(15.4%) documented as declined ART and 56(43.1%) lacked information. In the intervention period, among 388 AYWLH enrolled in ANC, 260 (67.0%) had an ART initiation date. Of those missing data, 100 (78.1%) were indicated as on ART at another facility, 5 (3.9%) were documented as declining ART and 23(18.0%) lacked information. The median age in both periods was 22 years (interquartile range 20-23); in the pre-period 21.1% were <20 years and median gestation at first ANC was 22 weeks(IQR:16-26), in the post-period 13.5% were <20 and median gestation was 19 weeks(IQR:12-26). Six months after first ANC among AYWLH starting ART, 87.6%(95%CI:83.5,91.7) were retained in care in the post-period compared to 84.0%(95%CI:79.2,88.9) in the pre-period(p=0.21).

CONCLUSIONS: Six-month retention among pregnant AYWLH who started ART was higher in the post-intervention, however the difference was not statistically significant. High proportions of pregnant AYWLH were not documented as starting ART which requires enhanced attention.

PEE1408

ACADEMIC-PUBLIC HEALTH PARTNERSHIPS FOR DATA DRIVEN IMPLEMENTATION SCIENCE RECRUITMENT OF YOUTH LIVING WITH HIV IN FLORIDA

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BACKGROUND: Youth living with HIV are at high risk for drop off at each point of the cascade. Thus, traditional recruitment in academic health centers in the US is not sufficient for real-world implementation trials as the highest risk youth are missed. Florida is suffering from an unusually severe HIV epidemic with only two clinics in the state actively involved in our current youth research network. The purpose of this project was to develop academic-public health partnerships to utilize available data to identify where youth living with HIV are served in Florida and develop appropriate recruitment strategies to support a youth-focused state-wide research network for significant public health impact across the state.

DESCRIPTION: Florida Youth SHINE (Sexual Health Implementation Network for Equity) is a newly developed community-based research network. The first step was to analyze public health records and data from the OneFlorida Clinical Research Consortium, a statewide medical records database, to determine where youth with HIV have received services in the previous year. The second step was to develop a Youth Advisory Board with members from each target area. The third step was to develop formal collaborations with county health departments, medical providers, and social service agencies in the target areas.

LESSONS LEARNED: Public health and clinical research records can be leveraged to develop a targeted research network, and we will present data maps to demonstrate this approach. Support at the highest levels within the public health sector is necessary to fully engage county health departments and the organizations they fund. Community-engagement is critical with multiple stakeholder involvement including youth, public health officials, providers, and researchers, and findings from a collaborative agenda setting process will be presented.

CONCLUSIONS/NEXT STEPS: The next steps are to develop new implementation science studies with community engagement at all levels of the research process and to create developmentally tailored recruitment materials. We will continue to utilize these big data initiatives as pragmatic outcomes in our implementation trials. Florida Youth SHINE will integrate with the Adolescent Trials Network for HIV/AIDS to increase access to implementation science studies for all youth with HIV to end the epidemic in Florida.

PEE1409

IMPROVING HIV VIRAL SUPPRESSION AMONG ADOLESCENTS 10-19 YEARS USING SELF-SELECTED TREATMENT BUDDIES; LESSONS FROM EAST-CENTRAL UGANDA

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BACKGROUND: In 2018, HIV suppression among adolescents (10-19 years) was only 67.8% compared to 88.3% among adults ≥20 years. This has been attributed to; poor adherence due to stigma and poor psychosocial support that is not tailored to adolescent needs. To improve treatment adherence among adolescents in order to achieve the UNAIDS "third 95" target on viral suppression, the USAID funded Regional Health Integration to Enhance Services project in East-Central Uganda supported health facilities to improve viral suppression rates among adolescents by assigning self-selected treatment buddies.

DESCRIPTION: Working with district and health facility teams, file audits were done to identify adolescents with unsuppressed viral load at four high-volume sites in the region. These had remained unsuppressed viral load for over a year despite consecutive intensive adherence counselling (IAC) sessions. These were allowed to select treatment buddies of their choice; any trusted friend, relative or school mate, a shift from the routine practice of the adolescents' parent/guardian being the default treatment supporter. The selected buddies were trained and given weekly reminders to support the adolescents to adhere to their medicines. This was implemented in addition to routine monthly IAC at the health facilities. Program data was collected and analyzed for the cohort of adolescents with unsuppressed viral load and overall suppression rates at the three sites after 10 months of implementation.

LESSONS LEARNED: At the start of January 2019, there were 106 adolescents with unsuppressed viral load, 63% were females. After continuous support from their self-selected buddies in addition to IAC sessions, a total of 75 (71%) adolescents had achieved viral suppression after re-testing by October 2019. This led to an overall improvement of viral suppression rates from 85% to 91.2% at the three implementation facilities.

CONCLUSIONS/NEXT STEPS: In order to meet the UNAIDS "third 95" target for viral suppression, treatment adherence among HIV infected adolescent can be achieved through allowing self-selected treatment buddies in addition to other psycho-social interventions like intensive adherence counselling. The next steps for the project will be to cascade the implementation self-selected treatment buddies, not only for adolescents with unsuppressed viral load but all adolescents at other supported sites.

COMMUNITY PARTICIPATION IN SYSTEMS FOR HEALTH

PEE1410

APPLYING THE RE-AIM FRAMEWORK TO EVALUATE A DRIED BLOOD SPOT TESTING PILOT WITHIN AN INDIGENOUS COMMUNITY CONTEXT

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BACKGROUND: As one of three constitutionally recognized Indigenous groups in Canada, Métis communities experience higher rates of HIV and STBBI compared to non-Indigenous Canadians. Métis service providers in Alberta (AB), Canada identified dried blood spot testing (DBST) as an approach to potentially increase access to testing for sexually transmitted and blood borne infections (STBBI) for Métis people. In September 2019, the Métis Nation of Alberta through Shining Mountains Living Community Services launched the first provincial pilot of DBST for HIV, HCV, HBV and syphilis.

METHODS: Drawing upon community-based and Indigenous methodologies, survey, gathering circle and interview instruments were developed in partnership with the Métis community. Surveys were administered to self-identifying Métis recipients of DBST at two Métis community events in AB. Four gathering circles with DBST recipients were held, and three semi-structured interviews were conducted with individuals who provided DBST at the events to obtain testing providers' perspectives. Supplemental data including minutes and researcher notes from meetings with stakeholders and policy decision makers was collected. Gathering circles and interviews were audio recorded and transcribed. Data was thematically analyzed. The RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, Maintenance) was applied to facilitate evaluation.

RESULTS: 30 Métis individuals received testing at Métis community events; of those 26 completed surveys and 19 participated in a gathering circle. 73% of survey participants self-identified as female. 96% of survey participants indicated they agreed or strongly agreed their testing experience was positive. Key emergent themes from the application of the RE-AIM framework include: the need to reach men with testing services (Reach), comparable sensitivity/specificity to venous blood tests (Effectiveness), ability to be led by community (adoption), and pilot support from decision makers (implementation/maintenance).

CONCLUSIONS: Results suggest that DBST was an acceptable form of testing among Métis community members who participated in DBST within community event settings. Participants were supportive of DBST being offered at future events, particularly in rural/remote Métis communities, to increase access to STBBI testing. Application of the RE-AIM framework identified barriers and facilitators to the implementation and adoption of DBST in Indigenous communities which will be useful for future implementation efforts.

PEE1411

A COMMUNITY ART MODEL AND CLIENT-CENTRED ART SERVICES FACILITATE HIGH ART ADHERENCE AND CLIENT RETENTION IN ZAMBIA

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BACKGROUND: A key mandate of the USAID DISCOVER-Health Project (DISCOVER) is to improve access to and utilization of quality and integrated HIV, FP/RH, and MNCH services in under-served communities in Zambia. With approximately 1.2 Million PLHIV, the Zambian health system faces severe challenges coping with an increasing HIV care and treatment burden, with most clients: traveling long distances to ART facilities with high transport costs; experiencing long wait-times (3-6 hours) at health facilities due to congestion; and bearing high opportunity costs. Funded in 2015, DISCOVER responded by designing and implementing a community ART model, in collaboration the MOH, which expanded the range of services (adding ART/other services) provided in Health Posts (lowest-level community-based facilities ordinarily offering basic first-aid), and establishing non-conventional community-based health service delivery sites, in partnership with churches.

DESCRIPTION: In 2019, DISCOVER provided ART services in 242 health posts and non-conventional facilities, and in two mine hospitals. DISCOVER ensured that ART and other services met quality standards, which bred confidence among PLHIV to access care/ART from the sites and sustain use. The ART program grew by 97%, almost doubling from 29,002 in Sep-18 to 57,014 in Sep-19. With 26,570 newly-initiated and 1,734 transfer-outs, overall addition of 28,012 ART clients signifies high transferring-in from other facilities and sustained care/ART.

LESSONS LEARNED: 1. PLHIV will access and utilize quality and client-centred community ART programs and sustain ART use.

2. Where higher-level health facilities' ART programs are congested, quality community ART programs serve as decongestion-points, providing faster ART point-of-care with clients spending less time (< 1hour) at facility.

3. Client-centred community ART programs reduce the burden of accessing ART on clients, reducing travel distance, transport costs and opportunity costs.

CONCLUSIONS/NEXT STEPS: Decentralizing ART services to the community can respond to the needs of the health system and under-served communities, but must be of good quality for clients to access them and sustain use. DISCOVER ART sites: are increasingly the point-of-care of choice for catchment-area clients, mitigating transport and opportunity costs in a challenging economy; decongest higher-level facilities with health system-wide benefits; enable client continuity care and retention on ART, helping to maintain momentum towards HIV epidemic control.

PEE1412

HOW TO ENGAGE PRIORITY POPULATIONS THROUGH A REPRESENTATIVE WORKFORCE

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BACKGROUND: A known barrier for priority populations in San Francisco (e.g. Latinx and African American MSM and Trans People of Color) accessing HIV and STI treatment and prevention services is a shortage of providers representative of those communities. People are more likely to access services, especially HIV/STI testing and treatment, when their providers look and sound like them and have shared backgrounds and experiences.

A lack of compensated opportunities designed to train and educate individuals from priority communities in sexual health service provision results in a workforce that is often exclusively comprised of people who maintain the highest levels of privilege (such as the ability to work without pay). This can cause people from marginalized communities to not access services which ultimately leads to higher rates of HIV and STI acquisition within these communities.

DESCRIPTION: San Francisco AIDS Foundation (SFAF) created a Clinical Assistantship Program at the health center Strut that utilizes community connections, often created through social event programming, to recruit exclusively from priority populations. This paid program mentors new leaders by providing hands-on, comprehensive training on how to deliver sexual health and social support services.

Since the fall of 2017, SFAF has recruited and trained 12 Clinical Assistants from Trans and Non-binary, Black, Latinx, API, Youth, and First Nation communities. By rotating through a variety of departments, participants emerge from the program ready to enter the workforce with skills in HIV testing and counseling, mobile testing, syringe access services, community-centered event production, and program administration operations and logistics.

LESSONS LEARNED: More than half of the people who participated as Clinical Assistants are currently working full time in programs that promote wellness efforts in their communities. Creating tailored, on-the-job training opportunities and removing the monetary barrier of unpaid internships/volunteering increases the possibility of marginalized communities to become health care professionals.

CONCLUSIONS/NEXT STEPS: Entry level positions into prevention organizations should be more widely available with specific support, including compensation, for the highest priority populations. Career paths for Queer and Trans People of Color in management and executive level leadership in HIV and AIDS organizations need to be created.

PEE1413

BEYOND ENGAGEMENT AND PARTICIPATION: COMMUNITY-LED MONITORING TO BRIDGE GAPS IN HIV CARE CONTINUUM SERVICES AMONG PEOPLE WHO INJECT DRUGS (PWID) IN INDIA

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BACKGROUND: Nirantar programme, under (PEPFAR) – (CDC), in India considered community monitoring imperative to broaden HIV service reach, engage KPs to facilitate better health, improve access to healthcare and overcome stigma, discrimination; community scorecard is a systematic and sustained approach to strengthen community led responses. Through the score card, Nirantar established community-monitoring system for providing feedback, helping to reorient and improving quality of health services. Real-time monitoring of health services makes them need-based with better utilization.

METHODS: Participatory action research was conducted in India. Community scoring was done in 72 focus group discussion with 447 PWID community members and 446 health care providers (HCP), for quality of services, availability and accessibility of commodities, access to services, forms of stigma and discrimination and attitudes of staff towards PWID. Structured questionnaire was used to score for both baseline and endline (after 3 months) for three quarters. Findings of baseline were shared with HCP.

RESULTS: Increased quality of services of HIV prevention programme (from mean score 6.3 at baseline to 8.1 at endline), reduction in stigma and discrimination (2.8 to 0.4), reduction in bad attitude of HCPs (2.1 to 0.6) were observed significantly ($p<0.05$). Stigma and discrimination reduction among HCPs showed improvement (2.8 to 2.1) significantly ($p<0.05$). Availabiliy and access to services also increased, with hospital services showing improvement in reduction of the stigma and discrimination (2.8 to 2.1) ($p<0.05$).

CONCLUSIONS: HCP are the frontline to service delivery to PWID, however are yet not prepared socially and have internal moral conflicts to serves drug users. Considering that community monitoring is imperative to broaden HIV service reach, engaging KPs to facilitate better health, improve access to health care and overcome stigma, discrimination; community scorecard is a systematic and sustained approach to strengthen community led responses.

PEE1414

EFFECTS OF TRANSITIONING FROM DONOR SUPPORT TO CENTRAL SUPPORT ON COMMUNITY HIV SERVICES AT SUB-NATIONAL LEVEL IN UGANDA

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BACKGROUND: Globally, declining funding for HIV/AIDS response and subsequent transition of support from donor to country ownership has necessitated a critical review of measures to stabilize service provision amidst these changes. Moreover uncertainties persist in light of the country's ability to fully embrace the financial resources to meet the cost of these changes and systems response in order to sustain the successes as well as increase on the dividends already realized. At the time when the HIV response is moving towards biomedical ART-based prevention, strengthening the community component to actively maintain clients in care is critical if the intended clinical outcomes are to be realized. This paper analyses the practitioner's understanding of transition from donor support to national ownership and how this shapes the services that they deliver.

METHODS: A longitudinal case study was conducted in Uganda with qualitative interviews conducted among health workers, facility managers, district health managers, implementing partners and focus group discussions with the beneficiaries receiving HIV services at the time of the transition. Data was collected using audio recorders , transcribed and analyzed using Atlas.ti where emerging themes informed the results.

RESULTS: Overall results reflect discontent on rationale and process for transition characterized by minimal preparation of sub national level implementer was expressed by respondents. Different approaches were adopted to cope with the spectrum of community HIV services offered. Although structures remained, innovative community approaches and services for active engagement of clients were recalled to the facilities such as mentor mothers' structures, ART linkage facilitators and RCT volunteers who offered psycho social support. Specialized services were instead integrated into routine HIV care. For sensitization and other HIV awareness activities were co-opted into general community outreaches while the intensity of client tracing for those lost to follow-up were reduced to the minimum.

CONCLUSIONS: Complexities in system response required adequate planning and preparation for innovative approaches to transition service provision. Where no immediate resources would be leveraged upon services were terminated, integrated into ongoing activities or recalled to be offered from the facility reflecting the need to configure service requirements to existing resources.

PEE1415

INCREASE IN HIV SERVICE UPTAKE AMONGST CHILDREN, ADOLESCENT AND YOUNG WOMEN THROUGH INVOLVEMENT OF FAITH LEADERS: THE MIYA NGIMA PROJECT

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BACKGROUND: Homa Bay County in Kenya has a HIV prevalence of 20.7%, 4.5 times higher than the national average, with the highest number of children under 14 years living with HIV, and contributed 10.5% of new HIV infections in youth (15-24 years) in 2017 (Kenya HIV Estimates, 2018). Recognizing religious leaders have profound influence within communities, World Vision Kenya partnered with Gwassi Association of Pastors (GAPA) to implement "Miya Ngima" a 3-year project funded by Positive Action for Children Fund (PACF) targeting Children, Adolescent and Young Women (CAYW) in Suba sub county from 2017-2020.

DESCRIPTION: The project aimed to increase uptake of HIV interventions among CAYW through strengthening faith communities collaboration with community structures on HIV prevention and response, increasing knowledge, promoting HIV testing and counseling (HTC)

A total of 51 faith communities, 20 schools and 9 support groups, were engaged in organizational capacity building, catalyzing workshops, formation of congregational hope action teams (CHAT), training on HIV, stigma, target groups and resilience strategies such as savings schemes and entrepreneurship.

LESSONS LEARNED: 40 faith leaders were trained on World Vision's Channels of Hope HIV model[1], which then facilitated training for 240 (120 female, 120 male) CHAT members. CHAT members reached 5239 people (610 children and adolescents girls, 302 children and adolescents boys, 2371 young women, and 1956 men) through community outreach with standardized HIV prevention interventions. CHAT-led efforts on advocacy increased access to HIV Testing and Counseling from 76% to 90% among adolescents & young women with more emphasis on elimination of mother to child transmission. 1140 mothers received HTC at antenatal care, of which 167 HIV positive women were enrolled on ARVs. ARV treatment among pregnant women increased from 312 in 2017 to 517 in 2018 (DHIS 2017/18). Total direct and indirect project beneficiaries were 15534, 31,176 respectively.

[1] http://www.wvi.org/church-and-interfaith-engagement/channels-hope-hiv

CONCLUSIONS/NEXT STEPS: Community members who belong to faith congregations trust their faith leaders. They are responsive to HIV messages and prevention strategies when shared to them by their faith leaders. To achieve notable success in HIV programming, faith leaders must be involved.

PEE1416

SAFE ACCESS FELLOWSHIP: LEVERAGING COMMUNITY PARTNERSHIP MODEL TO IMPROVE ACCESS TO NON-DISCRIMINATORY AND STIGMA-FREE HEALTHCARE SERVICES FOR LGBTQ+ COMMUNITIES ACROSS INDIA

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BACKGROUND: In India, the LGBTQ+ communities have been historically marginalized via section 377, which criminalized homosexuality till September 2018. In our survey, 53% of respondents were fearful of approaching healthcare providers for sexual health because of prior negative experiences of homophobia and abuse. 82% of respondents could not think of healthcare providers they could trust to disclose gender identity or sexual orientation, which could lead to misdiagnoses, delays in healthcare and negative health outcomes. The medical fraternity, especially in tier-2 and tier-3 cities are not equipped to understand the needs and challenges of the community.

DESCRIPTION: Safe Access Fellowship helps local community members, organizers, and activists to become LGBTQ+ health champions. We recruited 20 local queer activists and allies from 16 cities of 12 states across the gender and sexuality spectrum. The fellows received in-depth training on LGBTQ+ health disparities and challenges. As part of the fellowship, they identified and sensitized healthcare providers and on-boarded them at our website where community members can locate healthcare providers, and rate and review their experiences for shared trust.

LESSONS LEARNED: Sensitization and on-boarding of local healthcare providers worked best when the local community members were empowered through training due to cultural and language affinity. In-person sharing of lived experiences played an important role in making healthcare providers into our allies. A robust mix of online and on-ground outreach worked as the communities in tier-2 and tier-3 cities are still learning how to navigate the internet. Trust in Safe Access web platform was established since the on-boarding of health service providers was done by a local community member.

CONCLUSIONS/NEXT STEPS: The fellows are now known as LGBTQ+ health champions in local communities, and a bridge between the community and sensitized healthcare providers have been built. Our network of 75+ sensitized healthcare providers spread across 16 cities have taken a pledge to provide non-discriminatory and stigma-free services to the LGBTQ+ communities. To meet the demand for in-depth LGBTQ+ healthcare training, we plan to launch detailed online modules that our network of healthcare providers could access to increase their capacity to become an LGBTQ+ affirmative provider.

PEE1417

THE ROLE OF NGOS IN THE CONTROL OF THE HIV EPIDEMIC IN MEXICO THROUGH THE DEVELOPMENT OF COMMUNITY HIV DETECTION CENTERS (2016-2018)

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BACKGROUND: During 2016 to 2018, the Mexican Government financed the development of strategies for the timely detection of HIV in which NGOs participate with the creation of community diagnostic centers (CCDs) that referred cases to specialized AIDS care centers (CAPASITS). This work aims to analyze the characteristics of CCD participation as part of public policy for HIV/AIDS prevention in key populations such as men that nave sex with men, sex workers and transgender persons.

METHODS: A Qualitative transversal study (2016-2018) was carried out in 20 states of Mexico. There were 63 interviews with CCD key actors and 25 interviews with directors of CAPASITS. We explored the characteristics of CCD, relationship with health care services and prevention activities and their linkage to health services. Information on the views of CCDs was also obtained from the perspective of local health service providers.

RESULTS: The NGOS that participated in the CCD strategy had experience and adequate infrastructure to develop HIV prevention, diagnosis and linkages to care services. CCD staff had a profile that facilitated the development of outreach strategies with populations and it also contributed to generate spaces free of stigma and discrimination. These strategies include outreach activities, promoting their activities and applying rapid tests on points and meeting times of key populations. Collaboration between CCDs and CAPASITS strengthened local health care systems and services and allowed for faster linkages to services in order to initiate with treatment. The strategy to implement CCDs achieved several goals and represented important changes in diagnosis and linkage to treatment, especially in relation with key populations. This becomes more relevant because the HIV epidemic in Mexico is concentrated precisely in key populations.

CONCLUSIONS: This strategy helped to improve collaboration between CAPASITS and CSOs by recognizing their complementarity, different areas of action and the benefits of coordinated work. I also recognize that NGOs are a valid and fundamental partner, and play a key role in the control of the AIDS epidemic. It is important that the current government in Mexico recognizes and accepts the importance of cross-sectoral collaboration with civil society in the definition and development of HIV combined preventive strategies.

PEE1418

ASSESSMENT ON THE EFFECTIVENESS OF COMMUNITY ENGAGEMENT IN HIV PLANNING IN THE ERA OF 'ENDING THE EPIDEMIC'

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BACKGROUND: Effective, inclusive, and efficient HIV prevention and care planning is essential to advance local Ending the HIV Epidemic initiatives. However, many planning bodies are not positioned to assess the effectiveness of their existing HIV planning bylaws, policies, and procedures. Jurisdictions are being charged to leverage existing planning bodies and community engagement activities for Ending the HIV Epidemic planning, thus, having structured, effective HIV planning processes is more important than ever.

DESCRIPTION: In 2019, HealthHIV developed and fielded a first-of-its-kind HIV planning body assessment. The mixed-method assessment involved analysis of quantitative data (anonymous online survey) and qualitative data (key informant interviews, documents review). HealthHIV piloted the assessment tool with four state and local HIV planning bodies to determine the applicability and impact of the assessment tool for a diverse group of HIV planning bodies. Then, presented a report of aggregate data, implications, and key recommendations to the HIV planning body for discussion. The findings and implications from each assessment, when presented in an engaging format, provided the opportunity for members to develop specific, actionable strategies and solutions to the identified challenges.

LESSONS LEARNED: HealthHIV sought to develop a process through which HIV planning bodies could better understand how their effectiveness is defined, measured and tracked. Some areas for improvement identified were: membership recruitment; unconscious bias; monitoring and evaluation; goal setting and follow through; and, meeting facilitation.

CONCLUSIONS/NEXT STEPS: Providing the external, third-party assessment accelerated improvement of processes impacts on the local HIV epidemic. This session will review components of the assessment and application for planning bodies.

DELIVERING PAEDIATRIC HIV SERVICES

PEE1419

IMPROVING HIV CARE FOR HIV-EXPOSED CHILDREN THROUGH THE PREVENTION MOTHER-TO-CHILD TRANSMISSION (PMTCT) CASCADE FOR TIMELY PMTCT-FINAL OUTCOME AT SELECTED USAID-FUNDED SITES IN HAITI: CHALLENGES, MITIGATION AND LESSONS LEARNED

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BACKGROUND: In Haiti, paediatric HIV-prevention/care remains a challenge despite the work put into prevention mother-to-child transmission of HIV/AIDS(PMTCT). Particularly, regarding follow-up for HIV-exposed children aged 0-24 months, there is a misunderstanding of the HIV-final-outcome indicator(PMTCT-FO) by providers and data officers. Additionally, ordering the required blood tests according to the National HIV-paediatric-guidelines is often delayed. And the high lost-to-follow-up rate hinders timely results leading to unknown PMTCT-FO. We will present the interventions that helped improve PMTCT-FO for HIV-exposed-children.

DESCRIPTION: HIV-exposed-children register was overlooked by providers, which delayed follow-up particularly for required HIV-blood tests(PCR/HIV-rapid tests). Data validation showed no reporting of HIV-exposed-children as contacts of index-patients(ICT). In collaboration with Haiti National AIDS Control Program(PNLS), we conducted trainings on paediatric HIV-prevention/care for 61 physicians/nurs-

es. We collaborated with National Public Health Laboratory(LNSP) to ensure timely delivery of PCR-results via user-friendly unique electronic-portal. During technical assistance (TA) visits, we clarified the meaning/reporting of PMTCT-FO for the staff who learned to timely order PCR/HIV-rapid tests and monitor results in HIV-exposed-children-register. To better capture the HIV-exposed-children as contacts, PNLS recommended using HIV-Testing-register with the code PEE (Pédiatrie Enfants Exposés), which was implemented at 27 sites to document HIV-rapid tests performed on those children and to report them as contacts tested for HIV. Moreover, appointments' dates were discussed with parents/caregivers and tracking through phone calls/home visits conducted for missed appointments/lost-to-follow-up. We reviewed HIV-exposed-children register to ensure that children aged 18-24 months had a known PMTCT-FO.

LESSONS LEARNED: HIV-exposed-children aged up-to 24-months with unknown PMTCT-FO has significantly decreased from 304 (FY18) to 192 (FY19). Consequently, the proportion of HIV-exposed-children with known HIV-negative status as PMTCT-FO improved from 209 (FY18) to 292 in FY19. Furthermore, HIV-exposed-children under 5-years-old reported as contacts tested significantly improved from 23 (FY18Q4=July-September2018) to 135 (FY19Q4= July-September 2019). The training and ongoing coaching, helped strengthen providers' skills and confidence in their ability to ensure standardized follow-up of HIV-exposed-children for effective PMTCT.

CONCLUSIONS/NEXT STEPS: Our interventions led to an improvement from 53% in FY18 (N=566 HIV exposed-children) to 36% in FY19 (N=531 HIV exposed-children) regarding HIV-exposed-children with unknown HIV-final status (PMTCT-FO). Data managers should always consult registers for accurate reporting on HIV-exposed-children. Monitoring and coaching are instrumental for sustainable improvements of PMTCT-FO.

PEE1420

RAPID ANTIRETROVIRAL THERAPY INITIATION AND THE RISK OF MORTALITY AND LOSS TO FOLLOW-UP IN CHILDREN WITH HIV IN EAST AND SOUTHERN AFRICA: A RETROSPECTIVE COHORT STUDY

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BACKGROUND: In 2017, WHO recommended rapid antiretroviral therapy(ART) initiation in people living with HIV following demonstration of retention, viral suppression and survival benefits in adults. However, data on these benefits in Children living with HIV (CLHIV) are scarce. We determined the association between rapid ART initiation in CLHIV and 24-month all-cause mortality and loss to follow-up (LTFU).

METHODS: We pooled data of a cohort of CLHIV (0-14 years) who initiated ART between 2014-2017 at seven Baylor clinics in Botswana, Eswatini, Lesotho, Malawi, Tanzania(2 clinics) and Uganda. Rapid ART initiation was defined as initiating ART on the same day or within 2-7 days of entry into care. Those who initiated within 8-90 days were the comparison group. The outcomes were all-cause mortality and LTFU(≥90 days late for the last clinic appointment). Follow-up time accrued from ART initiation date to the earliest of LTFU, death, transfer-out, 24-months follow-up or database closure date(31-December-2017). Considering death and LTFU as competing events, we determined the association between rapid ART initiation, and mortality or LTFU using sub-distribution hazard regression, adjusting for known risk-factors of mortality and LTFU.

RESULTS: Of the 3,299 participants (50% girls; 40% aged <2 years), 46% initiated ART within 8-90 days, 20% within 2-7 days and 24% on the same-day. Over 57,153 person-months, 254 (7.7%) died, 306 (9.3%) children were LTFU, 315 (9.6%) transferred care and 2424 (73.5%) remained in care. The adjusted sub-distributional hazard ratio (asHR) of mortality was similar between the study arms(table 1). However, the asHR of LTFU was 1.86 times higher in children who initiated ART on the same day and 1.83 times higher in those who initiated within 2-7 days, compared to those who initiated within 8-9 days (table 1).

Timing of ART	Mortality				Loss to follow-up			
	Events (n/N)	CIF (%) 95%CI	Unadjusted sHR (95%CI)	Adjusted§ sHR (95% CI)	Events (n/N)	CIF (%) 95%CI	Unadjusted sHR (95%CI)	Adjusted§ sHR (95% CI)
8-90 days	110/1516	7.85 (6.50, 9.35)	1	1	88/1516	6.83 (5.52, 8.31)	1	1
2-7 days	79/1004	8.32 (6.67, 10.20)	1.09 (0.81, 1.45)	1.05 (0.77, 1.43)	117/1004	13.29 (11.12, 15.66)	2.05 (1.56, 2.71)	1.83 (1.38, 2.43)
same-day	65/779	9.91 (7.67, 12.49)	1.21 (0.89, 1.65)	1.10 (0.79, 1.54)	101/779	16.32 (13.43, 19.47)	2.60 (1.95, 3.45)	1.86 (1.39, 2.49)

§ Adjusted for age, immune suppression, Hemoglobin level, period of ART initiation and country income level. WHO clinical stage was adjusted for in mortality analysis only; CIF- cumulative incidence function

[Table 1: Unadjusted and Adjusted all-cause mortality and loss to follow-up sub-distributional hazard ratios for the first two years of antiretroviral therapy, by the timing of ART.]

CONCLUSIONS: Our findings suggest no survival benefit of rapid ART initiation in CLHIV but higher risk of LTFU. Strategies to reduce LTFU are required when implementing Rapid ART initiation in children.

PEE1421

TIME TO ART INITIATION AMONG NEWLY-BORN HIV POSITIVE INFANTS IN 10 HEALTH FACILITIES IN THE INNER CITY OF JOHANNESBURG, SOUTH AFRICA: RESULTS FROM A RETROSPECTIVE ANALYSIS OF ROUTINE DATA

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BACKGROUND: Worldwide, 1.4 million new HIV infections among children (<15 years) have been averted since 2010, however in 2017 only half of HIV-positive children were on antiretroviral treatment (ART) as such, linkage and retention on ART still lag behind. In July 2015, the Pediatric and Adolescent Scale-up Plan (PASP) targeted HIV exposed children in the inner City of Johannesburg in ten health facilities with strategies such as Kids-Alive training and tracing previously diagnosed children, however there is no information on PASP's effect in improving time to ART.

METHODS: We analysed routine infant data from Tier.Net (ART client management system) at pre (January - June 2015) and post (July 2015 - March 2019) PASP implementation irrespective of age at HIV diagnosis. We calculated time to ART using date of birth and ART start date, and used Chi-squared test to assess associations between ART initiation and PASP. Logistic regression models were built for the outcome variable (ART initiation) and odds ratios reported at 95% CI with p-values significant at ≤ 0.05.

RESULTS: 444 ART initiated infants were included in the analysis. Table 1 shows an overall improvement in time to ART at post-implementation. Infants who were less likely to be initiated late (>90 days) were those born at 18 (OR 0.24, CI=0.073 – 0.75), 24 (OR 0.16, CI=0.04 – 0.54), 36 (OR 0.30, CI=0.09 – 1.0), and 45 (OR 0.24, 0.08 – 0.97) months post implementation.

Time to ART (Days)	Pre-implementation	6 months post-implementation	12 months post-implementation	18 months post-implementation	24 months post-implementation	30 months post-implementation	36 months post-implementation	42 months post-implementation	45 months post-implementation	Total
≤ 90	12	30	22	22	15	26	23	39	15	204
> 90	5	24	27	39	38	23	31	31	22	240
Total	17	54	49	61	53	49	54	70	37	444
% of ART clients	3.83 %	12.16 %	11.04 %	13.74 %	11.94 %	11.04 %	12.16 %	15.77 %	8.33 %	100%

[Table1: Time to ART initiation for HIV-positive infants]

Sixty-three infants diagnosed in the post-implementation phase were not initiated on ART at these facilities and 79% of them were diagnosed in two hospitals. Twenty-nine (46%) of these infants were transferred to other facilities, 28 (44.4%) lost to follow-up, 2(3.1%) died and 4 (6.3%) had undocumented outcomes.

CONCLUSIONS: Time to ART initiation improved significantly post-implementation of PASP, but hospitals had more infants not linked to ART. Immunization services provide a critical opportunity to initiate children who were missed from hospitals, and should be considered as one of the pediatric ART strategies.

PEE1422

LONG-TERM SURVIVAL OF HIV-INFECTED CHILDREN TREATED WITH ANTIRETROVIRAL THERAPY IN EASTERN AND SOUTHERN AFRICA: 2006-2017

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BACKGROUND: Despite providing antiretroviral therapy (ART) for >10 years, data on long-term survival of children living with HIV (CLHIV) receiving ART in resource-limited settings are limited. We describe 10-year survival and risk factors for early mortality (2 years) among CLHIV receiving ART.

METHODS: We conducted a retrospective cohort study of CLHIV (0-14 years) who initiated ART between 2006-2017 at seven Baylor centers of excellence in Botswana, Eswatini, Lesotho, Malawi, Tanzania(2 clinics), and Uganda. Time to death was measured from ART initiation date, and right-censored at the earliest of either loss to follow-up (≥90 days late for last clinic appointment), transfer out, 10-years follow-up or database closure date (Dec 31, 2017). Kaplan-Meier analysis was used to compute 10-year survival and Cox proportional hazard regression to identify independent risk factors for mortality.

RESULTS: Data from 18,010 CLHIV (50% girls; median age, 4.5 years) contributed over 85,140 person-years (PY) of follow-up. Median follow-up was 4.34(IQR: 1.69-7.47) years. Half of the deaths occurred within 6-months of ART. At 10-years, survival (95%CI) was 83.7%(82.5%-84.8%) in children aged <2 years; 91.9%(90.7%-93.0%) in 2-4 years, 92.6%(91.5%-93.6%) in 5-9 years and 88.8%(87.2%-90.2%) in 10-14 years(p<0.01). 10-year survival was 91.7%(89.1%-93.7%) in Botswana,90.7%(89.6%-91.6%) in Uganda,89.8%(88.1%-91.2%) in Eswatini,86.9%(85.2%-88.4%) in Lesotho, 86.5%(84.9%-88.0%) in Malawi, and 5-year survival in Tanzania(COEs started in 2012) was 89.5%(88.0%-90.9%) (p<0.01). Age<2 years[adjusted Hazard Ratio(aHR) 95%CI:1.41:95% CI:1.11,1.79], WHO stage 3(aHR: 1.36: 95%CI: 1.06-1.73) or stage 4(aHR 2.95:95%CI 2.33,3.73) , moderate immune-suppression(aHR: 2.64:95%CI 1.90,3.66), severe immune-suppression(aHR 6.71:95%CI 5.29,8.52), and severe underweight(-3sd WAZ) (aHR 1.84:95%CI:1.48,2.29) were independently associated with a higher risk mortality in the 1st 6 months, and after 6 months of therapy. Factors associated with lower risk of mortality were: Initiating ART with PI regimen(aHR 0.67:95%CI: 0.49,0.91), Initiating ART in 2014-2017 compared to 2006-2009 (aHR: 0.77:95%CI 0.62,0.96).

CONCLUSIONS: Long-term survival among CLHIV receiving ART is good; however, mortality is highest in the first 6-months of therapy and the risk of death is higher in younger children and those with advanced disease at ART start. Our findings re-emphasize the need for early infant diagnosis and treatment and close monitoring at therapy start as measures to reduce mortality in CLHIV receiving ART.

PEE1423

WHERE ARE THE CHILDREN? A GEO-SPATIAL LOOK AT CHILDREN LIVING WITH HIV AND ON TREATMENT IN NIGERIA

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BACKGROUND: About 1.7 million children were estimated to be living with HIV globally in 2018. In West and Central Africa, there were 58,000 new infections of which Nigeria accounted for about 41%. As at December 2018, Nigeria has an estimated 140,000 Children Living with HIV (CLHIV) with about 36% identified and were on ART. We describe the spatial pattern of HIV burden and ART coverage among children aged 0 -14 years in all the states in Nigeria.

METHODS: The 2019 Spectrum-generated estimates for the 36 states plus FCT in Nigeria were triangulated with the 2018 National HIV routine programme data and the projected population of children from the 2006 census were used to map the burden of CLHIV and ART coverage sub-nationally. Dorling cartogram was developed using the children population, CLHIV and ART coverage as a percent to show a comprehensive view of paediatric populations by state. With a spatial weight of 407Km, local indicator spatial autocorrelation analyses were performed to identify hot and cold-spots.

RESULTS: The median paediatric population living with HIV was 2,703 (IQR: 1,747-5,037) and paediatric ART coverage was 32.1% (IQR: 20.6%-52.4%). There was significant clustering of paediatric ART (PART) coverage in Nigeria (Moran's I index=0.1, p-value=0.023). The hot-spots (clusters of states with significantly higher paediatric ART coverage, compared to their adjacent states) comprised of four states, located in North-Central region (FCT and Nasarawa state), and North-East region (Bauchi and Taraba states). Lagos and Bayelsa states formed cold-spot clusters for PART. However, there was no significant spatial autocorrelation for burden of paediatric HIV children (Moran's I index=0.05, p-value=0.087). The multivariate Dorling cartogram shows that ART coverage of CLHIV is not determined by the population size or the burden of CLHIV.

CONCLUSIONS: Paediatric ART coverage is still sub-optimal in Nigeria. This study offers evidence for a wide geographic variations in paediatric ART coverage in the country, therefore, there is an urgent need for a programming shift, focusing on the geographical inequity and putting in place geographically sensitive programmatic actions on to prevent, find cases, initiate treatment and ensure retention in order to reach 95-95-95 UNAIDS target for CLHIV by 2030.

PEE1424

EXPERIENCES OF CAREGIVERS ADMINISTERING LOPINAVIR/RITONAVIR PELLETS AS PART OF FIRST LINE ANTI-RETROVIRAL THERAPY FOR HIV INFECTED CHILDREN BELOW THREE YEARS OF AGE IN UGANDA

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BACKGROUND: Lopinavir/ritonavir (LPV/r) pellets were included as the preferred LPV/r formulation for the 0-<3-year-old patient population in the 2016 National HIV Guidelines and were rolled out country-wide in 2017. This study was conducted to explore the perspectives of caregivers administering LPV/r pellets to children with the aim of identifying any existing barriers to their uptake.

DESCRIPTION: The study was conducted from July-August 2019 in 30 health facilities across 16 districts in Uganda. Facilities with a high number of eligible children (<3 years of age) and those that had a regular supply of LPV/r pellets over the June-December 2018 period were purposefully selected.

Responses from 133 caregivers of children ≥3 months to <3 years were collected either through one-on-one interviews or focus group discussions depending on the number of interviewees available. Responses were analyzed thematically.

LESSONS LEARNED: 86% of caregivers reported correct methods of administration, mostly adding the pellets to milk, porridge or water and immediately administering to the child. However, 14% of mothers reported incorrect administration methods including crushing, grinding, attempting to dissolve pellets and administering unopened capsules.

Care givers who reported incorrect administration techniques mostly reported negative experiences such as unpalatability of the medicine and side effects such as vomiting after administration. Changing caregivers and frequent switches between LPV/r tablets and pellets due to drug stock outs contributed to these incorrect administration practices. Overall, there was high acceptability of LPV/r pellets amongst caregivers with 93% of them answering in the affirmative when asked if they would recommend LPV/r pellets for another child who is HIV positive.

CONCLUSIONS/NEXT STEPS: Although a majority of caregivers are administering pellets well, there is still a significant percentage of caregivers (14%) who deployed poor administration practices and mostly negative experiences with the medicine. To address this gap, the national program is going to develop, translate and disseminate caregiver literacy materials including videos, posters and brochures. In addition to this, the program is emphasizing the need for cross checking pellets administration at every clinic visit and demonstration of pellets administration in cases of a new caregiver or of one reporting incorrect practices.

PEE1425

PREFERENCES FOR TUBERCULOSIS PREVENTIVE TREATMENT (TPT) AMONG CHILDREN WITH HIV IN ESWATINI: A DISCRETE CHOICE EXPERIMENT

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BACKGROUND: Tuberculosis (TB) prevention in children with HIV is a priority for protecting their health and well-being but isoniazid preventive therapy initiation and completion rates are suboptimal. Shorter TB preventive treatment (TPT) regimens have demonstrated safety and efficacy but are not widely used in high TB/HIV-burden countries. Children's preferences regarding TPT regimens' characteristics and service delivery models are key to developing services aimed at improving TPT uptake and completion.

METHODS: We conducted a discrete choice experiment from August through December 2019 to examine TPT preferences among children with HIV attending clinics monthly to collect antiretroviral therapy in Eswatini. We enrolled children aged 10-14 years from 12 healthcare facilities in the Manzini Region. Drug regimen and service delivery characteristics included pill size and formulation; dosing frequency; medication taste; duration of treatment and visit frequency; cost; clinic wait time; and clinic operating hours. An unlabeled, binary choice design was used; data were analyzed using a fixed effects logistic regression model to estimate main effects parameters.

RESULTS: Among 150 children, median age was 12 years (interquartile range 11-13), 49% were female. Children were willing to make trade-offs, with medication taste, cost, and wait time statistically significant characteristics driving preferences. The most important preferred characteristic was medication taste, with children being more than twice as likely to choose a regimen if the taste was palatable compared to medication that was bitter (OR=2.2; p<0.001). Free services were preferred to services costing $0.70 (OR=1.5; p=0.001), while a service fee of $5.60 decreased preferences compared to a fee of $0.70 (OR=0.5; p<0.001). A wait time of 15 minutes compared to 45 minutes was preferred (OR=1.3; p=0.022), while a wait time of 3 hours decreased preferences compared to wait time of 45 minutes (OR=0.8; p=0.045). Other attributes had no significant influence on preferences.

CONCLUSIONS: Participants' preferences in this study indicate that medication palatability, low cost and reduced wait time are more significant drivers of choice than decreased duration or dosing frequency of TPT regimens. These characteristics are important to consider in the design of TPT services for children aimed at improving uptake and adherence.

APPROACHES TO MINIMIZING LOSS IN THE PREVENTION/TREATMENT CASCADE

PEE1426

A QUALITY-IMPROVEMENT COLLABORATIVE APPROACH FOR INCREASING PEOPLE WITH HIV CURRENTLY ON TREATMENT BY TARGETING HIGH-VOLUME HEALTH FACILITIES, WESTERN PROVINCE, ZAMBIA – 2019

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BACKGROUND: It is estimated that Zambia has 1,200,000 people living with HIV (PLHIV) of whom 87% are diagnosed, and, of the 78% were currently on treatment (CoT). The Western Province has low rates of diagnosis and poor retention for Current on Treatment. We sought to increase the proportion of all PLHIV aged >15 years that are CoT in the western province from 60% to 81% using Quality Improvement (QI) collaboration in the first nine months of 2019.

DESCRIPTION: We focused on the 10 high-volume treatment sites that were supported by PEPFAR through the U.S. CDC, which was 10% of these sites and represented 45% of the provincial total CoT, defined as having had at least one HIV treatment visit in the last six months. QI collaboration was implemented in facility-based teams that examined drivers of barriers and potential solutions, with analyses conducted on a weekly basis, both case identification and retention were emphasized. Interventions included after-hours services for men, index challenge mop up this included obtaining a list of clients found positive in the last three months not indexed and initiate a daily follow up of clients, moonlighting and intensified appoint register this included provision of a phone and airtime at facility, daily appointment register generation, and call-in of patients prior to clinical or pharmacy appointment, implementation of DSD (Differentiated Service Deliver models such as MMS (Multi-month Scripting).

LESSONS LEARNED: To aid data collection for accurate reporting, we used a dual system with both Smartcare, an electronic health record system, and hard copy registers. The number of PLHIV who were CoT in the Western Province increased from 62,308 in January 2019 to 73,533 in September 2019, which was 63% and 81% of all PLHIV, respectively. The most effective interventions were focusing on the high-volume facilities, improving daily appointment registers, and calling in patients who missed appointments.

CONCLUSIONS/NEXT STEPS: Our use of QI collaboration contributed to the increase of ART coverage in Western Province, Zambia, in nine months from 63% to 81% through enhancing case finding and addressing key drivers of attrition. Immediate call back of patients after a missed appointment was a critical intervention, along MMS.

PEE1427

TREATMENT OUTCOMES OF PATIENTS ENROLLED ON ANTI-RETROVIRAL THERAPY: A COMPARISON AT TERTIARY AND PRIMARY LEVELS OF THE HEALTH CARE SYSTEM IN BOTSWANA

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BACKGROUND: HIV/AIDS remains a significant public health problem in Botswana with a prevalence of 18.5%. Anti-Retroviral therapy (ART) has led to a significant reduction in morbidity and mortality associated with HIV/AIDS. Currently, about 370 000 persons living with HIV (PLWHIV) in Botswana are receiving ART and decentralization of ART has improved access to treatment. The objective of this study was to compare treatment outcomes of patients enrolled on ART at tertiary and primary levels of health care.

METHODS: This was a cross-sectional study. We conducted a retrospective analysis of secondary data obtained from the Ministry of Health and Wellness data warehouse for patients who were enrolled on ART in the selected health facilities from January 2017 to December 2018 at tertiary and primary levels of care. Variables included were demographic profile, date of diagnosis, date of ART initiation and viral load at 12 months. The capacity of the facilities to offer HIV/AIDS testing and treatment services was also assessed. Data analysis was done using Statistical Analysis Software (SAS).

RESULTS: Nine hundred and sixty(960) patient's records were included in analysis. More than half (63%) of patients were enrolled at primary care level while 37% were at tertiary level. Sixty one percent (n=587) were females while 39 % (n=373) were males. The median age was 38 years old. There was no statistically significant differences in viral load suppression after 12 months of treatment between patients enrolled at tertiary and primary levels of care, $\chi 2$ =0.75, p value = 0.56. Time to initiation was longer at tertiary (median = 126 days) compared to primary care level (median = 18 days) and the difference was statistically significant, p<0.001. The facilities under study demonstrated a satisfactory capacity to provide comprehensive ART services.

CONCLUSIONS: Treatment outcomes for patients on ART were the same at both tertiary and primary levels of care. However, decentralization of ART services to lower levels of health care reduces significantly the time taken to initiate ART thereby increases number of patients initiated on treatment.

PEE1428

FEASIBILITY AND EFFECTIVENESS OF THE SOCIAL NETWORKING STRATEGY IN IDENTIFYING NEW HIV POSITIVES IN RURAL UGANDA

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BACKGROUND: UNAIDS aims to end the AIDS epidemic by 2030 through the 95-95-95 strategy. By 2018 Uganda had identified 84% Persons Living with HIV(PLHIV), 87% were on treatment and 88% were virally suppressing (UNAIDS 2019). With HIV prevalence of 5.7%(UNAIDS 2019), Uganda needs effective and efficient HIV testing innovations to identify the remaining cases.

With funding from PEPFAR/CDC Infectious Diseases Institute implemented a social networking strategy(SNS), in which HIV positive clients and high-risk HIV negative individuals (KPs/PPs) identify those within their social networks at risk of HIV infection and recommend them for HIV testing. We assessed the feasibility and effectiveness of SNS for identifying new PLHIV in rural Uganda.

DESCRIPTION: We sensitized and engaged leaderships in eight rural districts in Midwestern(MW) Uganda about SNS; and co-developed Standard Operating Procedures, data collection and reporting tools in alignment to national policies and guidelines.

Between October 2018 and September 2019, we implemented SNS at 40 purposively selected facilities. At facility level Health workers formed SNS teams which were trained to offer counseling and support, elicit social contacts and their information, and use SNS customized data tools. SNS teams explained and offered SNS to index PLHIV and at-risk HIV negative persons. They elicited social contacts and their information from individuals who accepted SNS, and invited contacts for HIV testing. Testing was done at facility or home depending on willingness and convenience of contacts.

LESSONS LEARNED: 13,232 contacts were elicited from 3,619 informants: 3,438(95%) informants were index PLHIV and 181(5%) at-risk HIV negative contacts. 97%(12,876/13,232) disclosed contacts were notified and 98%(12,626/12,876) notified contacts tested. Out of 12,626 contacts tested, 1,470(11.6%) were newly identified PLHIV. A positivity rate of 11.6%(1,396/11,995) was realized from contacts of index clients; and 11.7%(74/631) from contacts of at risk HIV negatives. The positivity rate of 11.6% was higher than 3.2% reported by MW region in October 2018 to September 2019 (DHIS2). 1,334(91%) PLHIV identified were linked to care.

CONCLUSIONS/NEXT STEPS: SNS is a feasible and effective strategy for identifying new PLHIV and linking them to care. Its critical to integrate SNS into existing HIV programs as the pool of unidentified PLHIV dwindles.

PEE1429

INCREASING ART TREATMENT OUTCOMES IN HIV PATIENTS USING COMMUNITY BASED PEER NAVIGATORS IN MALAWI DEFENCE FORCE HIV SETTINGS

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BACKGROUND: For its HIV program Malawi Defence Force (MDF) adapted recently UNAIDS 90 90 90 recommendations of HIV viral load testing (6 months initially then 12 months.However). Despite notable achievements in the first 90 through index testing scale up and improved linkage rates, the second and third 90 indicators such as retention in care, routine VL testing and VL suppression rates have been recently suboptimal with significant performance gaps in MDF health settings.

DESCRIPTION: We sought to adopt the IHI QI framework to devise a targeted approach to bring LTFU clients back into care to increase Tx Current from 71.6% to 95% and improve routine VL monitoring that could increase VL coverage from 69.9% to 95% in a period of 3 months through use of community based peer navigators.

LESSONS LEARNED: The change idea consisted of usingpeer navigators/expert clients to track LTFU clients and those due for VL collection through the Back To Care program and patients that had a high VL result to access IAC sessions and unsuppressed ARTclients with a follow up VL to second line regimen switch as appropriate.

In Back to Care QI initiative, out of 1,716 defaulters, 1165 (67.9%) were brought back to care, 257(14.9%) were confirmed to have died, 178(10.3%) had self-transferred themselves to other health facilities while 116 were untraceable (6.7%). The Tx Current rate increased by 36.5% through back to care and by 12.4% through new initiations. Out of 823 clients due for VL flagged on patient cards, 600 (72.9%) had their blood samples taken. Out of 61 clients with high VL, 52 were successfully switched to second line regimen during QI implementation.

CONCLUSIONS/NEXT STEPS: Use of peer navigators/expert clients within a QI approach to track clients who defaulted on ART and those due for VL blood sample collection through the BTC initiative needs to be enhanced. Identifying patients that have a high VL result to access IAC sessions and ART clients with a high F/U VL to alternate ART regimens needs to be strengthened using a similar QI approach to reduce the 90 90 performance gaps. Further cost-analysis needs to be conducted to assert cost-efficiency of such approaches.

PEE1430

CLINIC STAFF MEMBERS' PERCEPTIONS OF BARRIERS TO HIV CARE IN THE RURAL SOUTHERN UNITED STATES

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BACKGROUND: A majority of new cases of HIV in the United States are now diagnosed in the South, including a substantial number in rural areas. Many rural areas of the South lag behind other regions in proportions of persons living with HIV (PLWH) who are retained in care and achieve viral suppression, despite extensive, multifaceted

efforts to reach out-of-care PLWH in the region. Improved understanding of the problem and new strategies to foster reengagement and retention are needed. As formative research for Project Reengagement and Adherence Mobile Program (RAMP), a study pilot-testing a field-based HIV care delivery intervention for persistently out of care PLHW, we conducted interviews with clinic providers and staff to tailor patient interview and intervention design.

METHODS: All clinic staff members from a publicly-funded HIV clinic serving a large, predominantly rural catchment area in North Carolina were invited to participate in individual in-depth interviews regarding barriers and facilitators to re-engaging patients in HIV care. Interviews were conducted in person at the clinic and ranged in length from 21 to 47 minutes. All data were coded independently by two experienced coders in Dedoose and thematically analyzed.

RESULTS: Ten clinic staff members (50% male, 50% female) with roles of nurse, nursing assistant, physician, social worker, bridge counselor and peer educator were interviewed. The following themes emerged as barriers to care: the critical need for transportation resources, lack of mental health services, financial and insurance challenges, and issues with medication adherence. Identified facilitators included creating a more welcoming environment, offering telehealth services or home visits, offering financial incentives or assistance, providing more flexible clinic hours, increasing patient education on the importance of HIV treatment, offering mental health resources, and providing transportation assistance.

CONCLUSIONS: The large number and diverse types of barriers to HIV care, and the need for multipronged approaches to facilitate reengagement were common refrains from the interviews. Staff members with different roles in the clinic tended to focus on different needs, highlighting the importance of involving a diversity of stakeholders in intervention design and policy change. Interviewees emphasized the significant unmet needs of out of care PLWH in the rural South.

PEE1431

"RIGHT UNDER OUR NOSE": A SIMPLE SCREENING TOOL TO IDENTIFY HIV-POSITIVE CHILDREN OUTSIDE OF THE PMTCT PROGRAM AT OUTPATIENT DEPARTMENTS IN MALAWI

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BACKGROUND: In Malawi, only 67% of HIV-infected children have been linked to treatment. Linkage of known infected children is high but there is a persistent challenge of identifying children who have dropped out of the PMTCT cascade or were infected postnatally. These children likely account for a large proportion of the remaining gap in pediatric treatment coverage. There are insufficient resources to conduct universal testing in high-volume entry points like facility outpatient departments (OPDs) and a lack of guidance for screening. Therefore, these children often remain undiagnosed until they have progressed to advanced disease, despite having frequent contact with the health facility. With systematic screening at the health facility, there is a unique opportunity to identify these "missed" children earlier and link them to life-saving care.

METHODS: Through a national taskforce, a screening tool was developed for use in facility OPDs. The tool was formatted as a simple checklist and screened children 2-12 years old, focusing on their mother's testing history instead of risk factors. Mothers without a documented HIV negative result at the end of breastfeeding were referred for HIV testing and, if positive, their children were also referred for testing. If the mother was not available, the child was screened in directly. The tool was piloted at 32 health facilities in Malawi from July-September 2019 and implemented by existing lay cadres.

RESULTS: 8811 screening slips were collected during the pilot period. The median age of children screened was 5.3 years (IQR: 3—7). 22.0% of available mothers were referred for testing (1827/8288) based on screening. Of those tested, 1.9% tested newly positive (28/1474). Overall, 8.3% of children were screened in for testing (658/7897). Of those who accepted testing, 3.9% tested newly positive (17/437). Screening was found to be feasible in OPDs through task-shifting to lay cadres.

CONCLUSIONS: Systematic screening of mothers and children leads to earlier identification of HIV infected children and more efficient testing within resource constraints, allowing for earlier linkage to care which is proven to improve children's health outcomes and chances of survival. These results will inform revisions to the screening tool for national adoption.

PEE1432

OFFERING STARTER PACKS OF ANTIRETROVIRAL DRUGS IMPROVES TREATMENT OUTCOMES AMONG HIV-INFECTED FEMALE SEX WORKERS IN NAIROBI, KENYA

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BACKGROUND: Female sex workers (FSWs) in Kenya remain disproportionately affected by HIV, yet have lower access to, uptake of, and retention on treatment than the general population. Their highly mobile nature and irregular hours are contributing factors. The PEPFAR/USAID-funded LINKAGES project led by FHI 360, working with Bar Hostess Empowerment and Support program (BHESP), sought to improve linkage to treatment for HIV-positive FSWs in Nairobi by offering starter packs during outreaches.

DESCRIPTION: BHESP provides comprehensive HIV services, including HIV testing, to FSWs at their drop-in center (DIC) or through outreaches to hot spots where FSWs congregate. All newly identified HIV-positive FSWs are referred for treatment at the DIC or other facility of their choice. As part of same-day antiretroviral treatment initiation, in May 2019, BHESP clinicians began offering five–14-day ART starter packs to those diagnosed during outreaches. The number of tablets offered corresponded to the number of days until the first appointment at the DIC or link facility. The FSWs were then followed up by peer navigators to ensure completion of linkage to treatment. Outcomes were analyzed using descriptive statistics.

LESSONS LEARNED: During five months, a total of 109 FSWs were newly identified as HIV positive. Their median age was 34 (IQR 29–41). Of these, 79 FSWs (73%) were diagnosed during outreaches, and all received starter packs with an average of 12 pills. Of women receiving starter packs, 86% attended their initial clinic visit as scheduled, with the majority (95%) accessing services at the BHESP DIC. Overall linkage to treatment improved from 76% (35/46 FSWs testing positive during seven months before intervention) to 100% (109/109 FSWs testing positive during intervention).

Of those eligible for viral load testing who had the test done and received a starter pack, 96% were virally suppressed at their six-month visit compared to 47% of all FSWs newly identified as HIV positive in the preceding year.

CONCLUSIONS/NEXT STEPS: Offering ART starter packs to FSWs diagnosed at outreaches provides an opportunity for same-day ART initiation, leading to improved treatment outcomes. The program will build on the success of this intervention by expanding it to all outreach activities.

PEE1433

POINT-OF-CARE (POC) DATA DRIVEN REVIEWS FOR IMPROVED RETENTION IN CARE: A CASE OF USAID RHITES N-LANGO PROJECT, NORTHERN UGANDA

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BACKGROUND: The Lango sub-region in northern Uganda has 2.4 million people, 80% are rural communities, 50% are below 15 years of age, HIV prevalence at 7.2%, above national average of 6.2%. The expected annual number of clients on antiretroviral therapy (ART) by the end of September 2019 was 87,278. By March 2019, only 62% and 69% of clients previously started on ART were still in care at 6 and 12 months respectively. The USAID supported RHITES-N, Lango project is committed to improving client access to and retention on lifelong ART.

DESCRIPTION: We conducted (POC) data-driven reviews and real-time client follow up in 44 facilities that provide ART. Data was retrieved from the national data system (DHIS2), reviewed, and used to select sites with poor retention, focusing on the six months' cohorts. Health workers and community volunteers (linkage facilitators) updated appointment registers, line listed the lost clients, developed a search list, and drew a client tracking plan. Client follow up was conducted by community volunteers and the tracking outcome was documented in the client registers at the facility. To reduce the increasing number of lost clients from care, daily tracking of missed appointments through phone calls and use of pre-appointment reminder messages were then instituted at all ART sites.

[Figure 1. Retention in care and lost to follow up among clients on ART in Lango subregion in Uganda]

LESSONS LEARNED: Findings indicate that six-month retention increased from 62% (October-September 2018) to 70% (July-September 2019) whereas number of lost clients decreased from 30% to 16%. Hence the total number of clients on ART increased from 73,595 (December 2018) to 81,776 in September 2019

CONCLUSIONS/NEXT STEPS: Point of Care data driven reviews and real time follow up significantly improved retention of HIV clients in care. Routine technical support to health facility teams ensure client tracking and follow up efforts are done in real time, an approach that is effective and can be adopted by similar HIV treatment programs.

PEE1434

IMPACT OF RAPID HIV ENGAGEMENT PROGRAM IN A SOUTHERN UNITED STATES CLINIC

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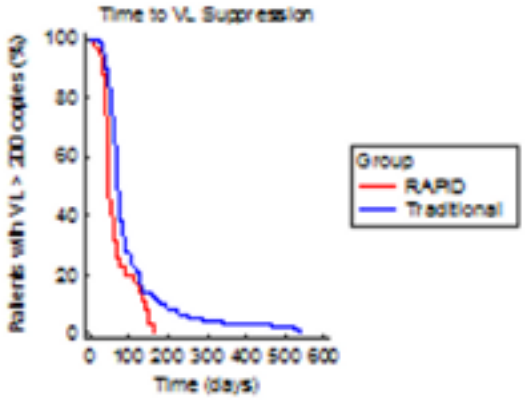
BACKGROUND: Recent data suggest that rapid initiation of antiretroviral therapy (ART) is associated with improved short-term adherence and virological suppression. Early HIV diagnosis and rapid initiation of ART are pillars of the end the HIV epidemic campaign. The purpose of this study is to evaluate the effectiveness of a Rapid Engagement program in a high prevalence, southern U.S. HIV clinic.

METHODS: In 10/2018 a Rapid Engagement program was initiated with the goal to start ART within 48 hours of diagnosis or return to care (off ART for >6 months). A retrospective analysis was performed comparing Rapid group of individuals entering care from 10/1/2018 to present and Traditional group of individuals entering care from 10/1/2017-9/30/2018. Data was extracted from the electronic health records. These results represent an interim analysis.

	Traditional (N= 107)	RAPID (N = 47)	P-value
Gender, n (%) M F MTF	 77 (72%) 27 (25%) 3 (3%)	 34 (72%) 13 (28%) 0	NS
Mean Age, year	34.9	38.2	NS
Race, n (%) Black White Other	 86 (80%) 12(12%) 8 (8%)	 38 (81%) 7 (15%) 2 (4%)	NS
Mean baseline CD4, cells/μL	267	301	NS
Risk Group, n (%) MSM Hetero Other	 45 (42%) 46 (43%) 17 (15%)	 19 (40%) 14 (30%) 14 (30%)	NS
Time to intake, days Mean Median Range	 13 7 0 – 174	 7 2 0 – 45	 0.0434 0.00859
Time to provider visit, days Mean Median Range	 35 27 0 – 344	 12 4 0 – 97	 0.0006 0.000002
Time to ART start, days Mean Median Range	 54 35 0 – 518	 19 8 0 – 111	 0.0021 < 0.000001
Time to VL suppression, days Mean Median Range	 102 72 26 – 542	 66 49 10 – 165	 0.0286 0.001156

[Table: Comparison of Traditional versus Rapid Groups]



[Figure]

RESULTS: 154 patients were included in this analysis, 47 in the Rapid group and 107 in the Traditional group. Comparison of the Traditional and Rapid groups are shown in the table. There was no difference in baseline characteristics. Rapid group had a shorter time to initial intake, provider visit, ART initiation and viral load (VL) suppression (viral load < 200 copies/ml). VL suppression occurred a mean of 102 days in Traditional group versus 66 days in the Rapid (Table, Figure).
CONCLUSIONS: Rapid engagement program is effective in decreasing the time from patient referral to first provider visit, ART initiation, and VL suppression. Impact on long-term outcomes, particularly retention in care and sustained viral suppression, will be assessed.

PEE1435

PREPARING A FINANCIAL INCENTIVE PROGRAM TO IMPROVE ADHERENCE TO ART FOR SCALE: USING AN IMPLEMENTATION SCIENCE FRAMEWORK TO EVALUATE AN MHEALTH SYSTEM IN TANZANIA

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BACKGROUND: Viral suppression is key to ending the epidemic, yet only 58% of people living with HIV (PLHIV) in sub-Saharan Africa are suppressed. Cash transfers are an effective strategy to improve adherence, but little is known about optimization of implementation; for example, designing effective programs that integrate into existing clinic workflows. We report on an implementation science study of an mHealth system within an effectiveness trial of cash transfers for adherence.
METHODS: We conducted an "effectiveness-implementation science" randomized controlled trial evaluating cash transfers conditional on visit attendance among Tanzanian PLHIV initiating ART. An mHealth system using fingerprint identification was used in pharmacies to automatically disburse mobile money to eligible PLHIV. With the goal of creating a program for future scale, we used Proctor's framework, defining implementation constructs for the mHealth system at multiple levels: PLHIV, provider, and organization. To assess these constructs, we conducted: surveys (n=100; Health Information Technology Usability Evaluation Scale (HITUES) and in-depth interviews (IDIs; n=25) with PLHIV; IDIs with clinic and pharmacy staff (n=10) and study research assistants (RAs; n=5); and structured observations in clinics (n=2348 visits).
RESULTS: PLHIV reported high scores (above 4.0/5.0) across HITUES domains (impact, usefulness, ease of use, user control) for fingerprinting and automated money. Pharmacists praised the efficiency of the system, but concerns about duplicative record-keeping arose. Clinic management staff voiced excitement for the system's potential to bring the cash program to patients and simplify workflows; yet concerns about multiple systems, staffing shortages, and intermittent connectivity tempered enthusiasm, highlighting structural issues beyond the program. Management emphasized the importance of training all staff on new systems. RAs were key in ensuring fidelity of use; also in lightening staff burden by helping with routine tasks when understaffed. Structured observations showed a steep learning curve; repeat fingerprint scans and manual entry declined precipitously over time
CONCLUSIONS: Despite praise by PLHIV, staff and clinic-level factors - staff shortages, access to resources and training - are crucial considerations for scale-up and sustainability. Understanding implementation science constructs at multiple stakeholder levels is essential in bridging the know-do gap and bringing effective programs to scale.

PEE1436

BELIEFS AND LACK OF KNOWLEDGE ABOUT METHADONE AMONG PWID LIVING WITH HIV PRESENT BARRIERS FOR SERVICE UTILIZATION IN KAZAKHSTAN

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BACKGROUND: Opioid Substitution Therapy (OST) has been introduced in Kazakhstan since 2008, offering methadone to people who inject opioid drugs (PWID), with people living with HIV (PLWH) in priority. However, while the estimated number PWID/LWH in the country is 7,473 (KSCDID, 2018), only 85 (1%) received methadone in 2019. More information is needed about attitudes toward OST and barriers to utilizing this treatment.
METHODS: Baseline assessments were conducted among 618 PWID/LWH recruited from 4 cities in Kazakhstan who participated in a longitudinal panel of an implementation science study focusing on improving HIV care cascade and recruited from the four cities in Kazakhstan in 2017 - 2019. Participants were asked about general knowledge and attitudes toward OST, including how they perceived its connection to criminal activities, risk of HIV transmission, adherence to antiretroviral treatment (ART), and illicit opioids consumption, and barriers to accessing OST.
RESULTS: The baseline survey results showed that only 23 (3.7 %) of PWID/LWH were currently on methadone and 41 (7.2 %) had ever received methadone. One third (34 %) of the respondents held the misperception that OST blocked the effects of heroin. Almost half (46 %) of the respondents believed that OST was just substituting one addiction for another. Less than a half agreed that OST reduced criminal activities and risk of HIV acquiring or transmitting. Most respondents did not know how OST changed adherence to ART (61 %) and HIV risk taking behavior (51 %). About half of the respondents did not know if OST reduced consumption of illicit opioids (49 %). In terms of reported barriers to participation in an OST program, the respondents reported the beliefs that dependence on methadone was greater than on some other drugs, concerns about the side effects of

medication, uncertainty if methadone would remain available. Only one third of participants would like to participate in an OST program if it's offered.

CONCLUSIONS: The lack of knowledge among PWID/LWH and their negative attitudes toward OST may be major barriers to expanding engagement into OST in Kazakhstan. More information about OST should be distributed among PWID communities.

PEE1437

EXPERIENCES IN LINKAGE AND RETENTION SERVICES AMONG PEOPLE LIVING WITH HIV USING EXPERT CLIENTS IN MALAWI

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BACKGROUND: There is a growing demand for proven, high impact interventions to achieve the 90-90-90 UNAIDS targets. Task shifting using lay health workers as a peer support model has been implemented to enhance linkage and retention to HIV services. There is limited evidence on the impact of lay health workers in HIV services.

DESCRIPTION: Expert Clients (ECs) model was introduced by mother2mothers (m2m) in 98 facilities in Malawi in April 2018. ECs were employed as facility based lay health workers who are open about their HIV positive status and show exemplary life style on adherence to HIV services. They were deployed in the general outpatient departments (OPD), maternal and child health departments and ART clinics. They create demand for HIV Testing Services (HTS); physically escort newly tested HIV positives to ART initiation and provide pre ART counselling; and physically trace clients who miss ART appointments. Data is captured on paper based registers and then exported into DHIS2. Data for clients accessing HIV services in 98 m2m supported facilities in Malawi from April to December 2019, was used to explore the role of ECs in linkage to ART and management of clients who miss ART appointments.

LESSONS LEARNED: In the OPD, ECs referred 262,087 clients to HTS of whom 9% (20729) tested HIV positive, 97% were initiated on ART, 42% of those not initiated on ART were traced, 11% were initiated on ART after tracing. 49579 HIV positive clients missed their ART appointments after 14 days, 82% (40747) were traced, 68% brought back to care, 25% lost to follow up, 5% transferred out, 1% died and 1% stopped.

Newly tested HIV positive clients refused ART due to religious beliefs, fear of disclosure to partner and HIV retesting whilst already on ART. Clients from long distances were not traced and some traced clients did not honor their promise to go back to ART care.

CONCLUSIONS/NEXT STEPS: While the EC model achieved optimal linkage to ART, return to care among lost patients need to be improved by routinely assessing risk of attrition from care and provide client tailored follow up.

PEE1438

COMMUNITY HEALTH VOLUNTEERS CONTRIBUTE TO REDUCED MISSED OPPORTUNITIES IN PMTCT THROUGH PROACTIVE IDENTIFICATION AND REFERRALS: TEMBELEA PROJECT IN TRANS NZOIA AND TURKANA COUNTIES, KENYA

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BACKGROUND: Kenya is currently off-track to achieve elimination of HIV mother-to-child transmission (MTCT); MTCT was 11.5% in 2017. Antenatal care (ANC) attendance remains low, leading to poor identification of HIV-positive mothers and linkage to treatment. EGPAF, with active engagement of Community Health Volunteers (CHVs), implemented and assessed the Tembelea project in two counties to increase access and utilization of ANC, identify and link HIV-positive pregnant and breastfeeding women (PBFW), and their infants, to PMTCT services

DESCRIPTION: Existing CHVs were recruited in November 2018 within each county, trained and began conducted household visits between December 2018 and March 2019. They identified, visited and referred pregnant women for ANC and skilled delivery services. Postnatally, women, infants, and children (age <2 years) were referred for family planning, immunization and early infant HIV diagnosis services. Clients received HIV testing, and HIV-positive women offered treatment. CHVs visited corresponding health facilities weekly to confirm linkage with subsequent home visits for unlinked clients. Enrolled HIV-positive PBFW were proactively visited to promote adherence; defaulters were returned to care. HIV-positive PBFW successfully referred were evaluated for utilization of services at linked facilities.

LESSONS LEARNED: First ANC attendance in Keiyo and Nakalale increased from 71 and 14 clients, respectively, in October 2018, to 161 and 64 in March 2019 (see Figure).

[Figure. 1st ANC. Know status (All) and HIV+ (All) by month and county]

During the study, 13 of 679 PBFW tested HIV-positive in linked facilities; of these, 7/13(53%) were newly diagnosed following CHV referrals; two newly diagnosed women had tested negative at initial ANC visit and seroconverted by delivery. CHVs also identified two known HIV-positive clients who had defaulted and were returned to care. All nine HIV-positive clients identified by CHV accessed treatment.

CONCLUSIONS/NEXT STEPS: CHVs contributed to identifying new PMTCT clients and defaulters. Integrating CHVs into mainstream PMTCT programs has the potential to contribute to reduced missed opportunities and ultimate reduction in MTCT rates.

PEE1439

REASONS FOR LOST TO FOLLOW-UP ON ANTIRETROVIRAL THERAPY AND TRACING OUTCOMES IN ETHIOPIA

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BACKGROUND: Anti-retroviral therapy (ART) scale-up in Ethiopia has increased access to care and reduced mortality but, could be improved if we understood reasons for lost to follow-up (LTFU) and linked patients back to care.

DESCRIPTION: In a community-based HIV care and treatment program, we partnered with eight local civic society organizations (CSOs) and received line lists and contact addresses of LTFU patients from health facilities on weekly basis. LTFU was defined as not being seen at the ART clinic for at least one month following patients' most recent planned clinic visit. Community Engagement Facilitators (CEFs) and Community Response Persons (CRPs) from CSOs traced them via house-to-house and by phone. Patients traced alive were asked about reasons for LTFU, and were re-engaged back to care if agreed. A mobile phone-based platform called CommCare was used for data management.

LESSONS LEARNED: 3,101 LTFU patients were identified between October 2018 and December 24, 2019. The majority (2,314, 74.6%) were from Addis Ababa, aged ≥30 years (2,021, 65.1%), and female (1,800, 58%). Current status of 1,856 (59.8%) LTFU patients was ascertained, no information was found for 512 (16.5%), and tracing is ongoing for 733 (23.6%). Of those successfully traced, 1,551 (83.6%) were linked to clinical care, 94 (5%) had self-transferred to another facility, 42 (2.3%) were on ART, 23 (1.2%) reportedly died, and 57 (3.1%) mentioned other reasons. Of the 1,551 linked to ART, 737 (47.5%) gave reasons for LTFU, including forgetfulness 281 (38%), being away from home 210 (28.5%), lack of family support 46 (6.2%), misunderstanding medical instructions 14 (1.9%), wanted to stop ART 14 (1.9%), and alcohol intake 8 (1.1%). Socio-economic reasons included lack of money for transportation 203 (27.5%), lack of food 103 (14%), resorting to traditional medicines 29 (3.9%), and inconvenient clinic appointment dates 20 (2.7%). Health systems-related reasons included long waiting times 72 (9.8%), insufficient counseling 14 (1.9%), and bad attitude of health-care providers 10 (1.4%).

CONCLUSIONS/NEXT STEPS: A variety of patient-, socioeconomic-, and health system-related factors are the most common reasons for patient LTFU. Innovative community-based LTFU tracing mechanisms are needed to improve retention in care and patient health outcomes.

PEE1440

THE LAST MILE OF PMTCT: A SIMPLE SCREENING TOOL FOR TARGETED RE-TESTING OF POSTNATAL MOTHERS AT OUTPATIENT DEPARTMENTS IN MALAWI

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BACKGROUND: Mother to child transmission (MTCT) of HIV is the primary means of infection among infants in Malawi. Currently, the national strategy focuses on identifying HIV-positive women at ANC and enrolling them and their exposed infants into follow-up through the end of breastfeeding. However, there is no systematic guidance for identifying mothers who are infected between ANC and the end of breastfeeding or mothers who drop out of the PMTCT cascade. As such, postnatal infection is the primary driver of MTCT, accounting for over 70% of new childhood infections in Malawi.

In lieu of costly universal postnatal maternal retesting, systematic screening could more efficiently identify mothers for targeted re-testing.

METHODS: Through a national taskforce, a tool was developed to screen breastfeeding mothers at outpatient departments. The tool was formatted as a simple checklist. All mothers who had not been HIV tested at delivery, had not been tested within the last 6 months, or had defaulted from the PMTCT program were referred for HIV testing. Infants of HIV-positive mothers were also screened for adherence to EID testing milestones. The tool was piloted at 32 health facilities in Malawi from July-September 2019.

RESULTS: Of the 10515 mothers screened using the tool, 44% (4584/10515) were referred for testing, 81% tested (3720/4584) and 0.7% tested newly positive (26/3720). Of the 95 infants screened in, 24% (23/95) were newly identified as exposed, 47% (45/95) were previously known as exposed but had missed a testing milestone and 27% (26/95) had unknown exposure but were screened in because the mother was deceased or had an inconclusive HIV result. 11.8% (2/17) of the exposed infants have been confirmed infected via DNA-PCR.

CONCLUSIONS: The tool effectively identified mothers who had defaulted from PMTCT, missed a testing milestone or seroconverted during breastfeeding, and linked them and their exposed infants into care. While a 44% referral rate may seem high, it is significantly more efficient than universal retesting.

If this posed a strain on testing volumes, the retesting interval could be extended (e.g. test every 12 months, rather than every 6). Further, saturating delivery ward testing could reduce the referral rate by upwards of 45%.

PEE1441

IMPLEMENTING A TRACKING SYSTEM TO IMPROVE LINKAGE IN CARE FOR PEOPLE DIAGNOSED WITH HIV IN SURINAME

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BACKGROUND: Suriname created a de-duplicated case-based registry system from HIV surveillance source data in 2013, which has enabled the creation of the HIV treatment cascade. Of the 3,136 HIV positive cases found from 2010 to 2015, 78% were found linked into care. To identify the issues behind this and to reduce the numbers not entering into care, the National AIDS Program implemented the tracking system.

DESCRIPTION: From the national HIV test database, all individuals that were tested positive in 2015 and 2016 and didn't have a CD4, Viral load test or a treatment pick-up on file, were classified not linked to care. Tracking consisted of the coordinator contacting the listed physician. The clinic personnel were asked to contact the person if found in their records. The tracking coordinator kept in touch with the clinic to obtain further information. All information obtained was entered in a database.

LESSONS LEARNED: From the 271 records shown as not linked in care, 219 (80.1%) were evaluated by the tracking coordinator. Removing duplicates, identified through code correction from the clinics, 217 persons are in this group. Of these 178 (82.0%) were untraceable due to lack of information and 26 (12.0%) were found to be linked in care. For 11 out of these 26 (42.3%), a coding error was found to be the reason for not being registered as linked in care. Also completing the process of speaking to the clinics took on average 2 years (0.8 – 3.5) while subsequent analysis shows that the mean time linking in care for individuals in this group is 1.4 years.

CONCLUSIONS/NEXT STEPS: The high percentage of not linked into care requires a routine system of following up with people diagnosed with HIV. Better registration of patient data would improve the result of data linkage. For people not linked, this type of retrospective tracking does not work. This highlights the need for a more proactive tracking system from the point of diagnosis.

PEE1442

EFFECTIVENESS OF A COMBINATION APPROACH AMONG HIV-POSITIVE INDIVIDUALS IN ESWATINI ON CONSISTENCY OF ENGAGEMENT IN CARE AND VIRAL LOAD SUPPRESSION

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BACKGROUND: Consistent engagement in HIV care is essential for achieving favorable outcomes among HIV-positive patients. The additional value of clinic visits beyond antiretroviral therapy (ART) pick-up for stable HIV patients and the subsequent effect on viral load suppression is unclear. We assessed the effectiveness of a combination intervention targeting the HIV care continuum on consistency of engagement in care and subsequent viral load suppression in Eswatini.

METHODS: Link4Health was a cluster-randomized controlled trial conducted in 10 clusters of HIV clinics in Eswatini, evaluating the effectiveness of a combination intervention strategy (CIS) compared to standard of care (SOC) on linkage and retention outcomes. The CIS package included point-of-care CD4+ testing at the time of HIV testing, accelerated ART initiation for eligible patients, mobile phone appointment reminders, care and prevention educational materials, and mobile airtime financial incentives. Adults at least 18 years newly testing HIV positive were eligible, and enrolled participants were followed for 12 months. Consistent engagement in care was defined as completing all scheduled visits within 5 days of the appointment, including a final clinic visit within 90 days of end of study. Viral load suppression was defined as a recorded HIV RNA < 1000 copies/mL at the 12-month visit. Multivariable random-intercept models employed in multi-level log-Poisson models with robust standard errors were used for all analyses.

RESULTS: Between August 2013 and November 2014, 2,197 adults enrolled. Of these, 1,321 initiated ART during follow-up, and 1,120 (592 CIS vs. 528 SOC arm) were on ART for at least 4 months. In the intent-to-treat analysis, CIS intervention had no effect on consistency of engagement in care (relative risk [RR] 1.22, 95% CI [0.74-2.03]) among participants on ART for at least 4 months. Consistency of engagement in care had no effect on viral load suppression even after adjusting for the intervention arm (adjusted RR = 1.15, 95% CI [0.94-1.39]).

CONCLUSIONS: Among a population of newly ART initiating individuals, consistent visit engagement beyond ART pick-ups is not related to viral load suppression. In the era of differentiated care services, the utility of frequent clinic visits among patients who may otherwise be adherent to ART should be reexamined.

PEE1443

PATIENT MOBILITY AND RETENTION AMONG ART USERS IN ZAMBIA: FINDINGS FROM A MULTISTAGE SAMPLING-BASED SURVEY

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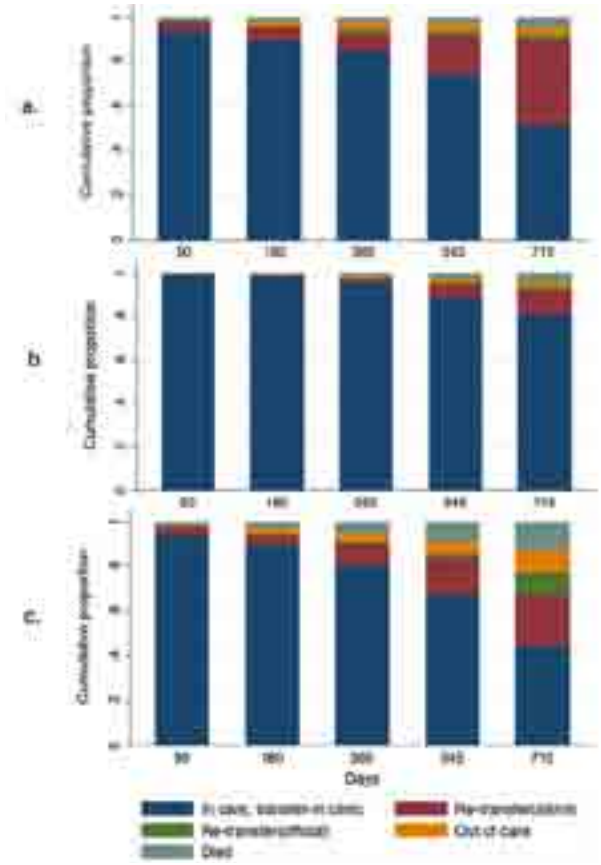
BACKGROUND: Although mobility is a recognized feature of life in many low and middle-income countries, it remains unclear how this mobility impacts on ART care and treatment outcomes. We explored the treatment experience and outcomes of patients who transferred between ART facilities in Zambia.

METHODS: We identified HIV positive adults who transferred into ART care at 64 facilities across four provinces during a two-year period (1 August 2013 to 31 July 2015). We traced a representative sample and established updated care states and reasons for re-transfer. We applied inverse probability sampling weights to competing risks analysis to generate revised retention estimates, and compared transfers to non-transfers who were: a) already established on ART or b) newly initiating ART at the facility. We additionally calculated medication possession ratios (MPR) up till 1 January 2018.

RESULTS: We identified 3,682 ART users as transferred into care during the two-year period. Median age was 36yrs (IQR: 30-43), 66% were female, median CD4 at transfer was 372 cells/ml (IQR: 228-547). ART was re-initiated at first visit for 59%, within 30 days for 81%, and all were re-initiated within four years. The median MPR was 100% (IQR: 81-100) in the first year after transferring into care and this was maintained for the following four years. At two years, 95% of transfers

(95%CI: 90-99%) were retained, this was comparable to non-transfers established on ART (94%; 95%CI: 93-95)) and greater than new ART initiates (79%; 95%CI: 73-84%). Transfers were however more likely to re-transfer (Figure 1) and cited structural reasons related to transport (27%), travel (36%) and work obligations (29%) as the primary reasons for re-transfer.



[Figure 1. Updated care states at two years among: (a) patients who transferred into care on ART, (b) patients already established on ART and (c) patients newly initiating ART during the study period]

CONCLUSIONS: Patient who transfer between ART facilities are highly likely to transfer again. Strategies that facilitate rapid ART re-initiation and support future re-transfer are needed for programs to effectively accommodate mobile populations and minimize treatment gaps.

GETTING POLICIES INTO PRACTICE

PEE1444

A CAPACITY BUILDING APPROACH FOR EARLY DETECTION AND MANAGEMENT OF CRYPTOCOCCAL MENINGITIS AMONG PEOPLE LIVING WITH HUMAN IMMUNE-DEFICIENCY VIRUS IN WESTERN UGANDA

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BACKGROUND: Cryptococcal meningitis (CCM) accounts for 30% of the deaths among HIV positive persons in Uganda. To improve the outcomes of patients with Cryptococcal meningitis, Uganda adapted the WHO 2016 guidelines recommending CD4 screening for all new patients and a serum cryptococcal antigen screening test (crAG) for all with CD4 less than 200. A review of the uptake indicated sub-optimal CD4 coverage at 23.2%.To increase early identification and management of patients at risk of developing CCM, a capacity building project was started to train and mentors health workers in the screening and management protocols for CCM.

DESCRIPTION: Health workers (nurses and clinical officers) from selected high volume health facilities were identified and trained in the screening and management of cryptococcal meningitis. Health workers were provided with mentorship, coaching skills and assigned health facilities to train, mentor and follow up other nurses and clinical officers attached to the HIV clinic and laboratory. Health facilities were trained for two days and followed up with one day mentorships, quarterly for nine months. The CD4 coverage and the serum crAg screening was tracked quarterly for 9 months. Clients that had a positive serum CrAG were followed up for treatment completion with fluconazole.

LESSONS LEARNED: The CD4 coverage increased from 23,2% to 58%, the clients screened for serum CrAg increased from 65% to 79% and the clients with a positive serum crAg completing treatment with fluconazole increased from 54.2% to 87.50%. The health workers gained knowledge and skill in the screening and management of patients with Cryptococcal meningitis. There was a reduction in the number of patients dying from CCM after initiation of treatment with fluconazole.

CONCLUSIONS/NEXT STEPS: Health workers that received the mentorship were able to identify patients at risk of CCM and follow up with the serum CrAg test. Follow up of patients with positive serum crAG tests on treatment improved with higher completion rates. Mentorship of health workers after training is critical in the translation of theory and policy in to practice. A capacity building approach can be used to improve all quality of care indictors for patients in HIV chronic care.

PEE1445

REVITALIZING PRIMARY HIV PREVENTION IN NIGERIA: A SURE PATH FOR ENDING AIDS BY 2030

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BACKGROUND: Delivering prevention at scale is essential to achieving fewer than 500 000 annual new infections by 2020, and ending AIDS by 2030. Global HIV Coalition (GPC) was established to strengthen political commitment for primary prevention. The coalition maintains accountability in member countries through country scorecard and poster for assessing progress in 4 primary prevention pillars (i.e. combination prevention for Adolescent Girls and Young Women (AGYW), Key Population (KP), condoms and PrEP). Nigeria used GPC HIV prevention score card and poster to review progress.

DESCRIPTION: Prevention Technical Working Group updated the scorecard and poster with data on Global AIDS Monitoring (GAM) indicators, surveys (DHS, NAIIS, MICS, IBBSS, population size estimates) and 2019 program data. Next, 2-days validation meeting was held to review score card and poster. 74 participants attended the validation meeting representing KPs, AGYW, CSOs, donors, private sector, policymakers including People Living with HIV (PLHIV). Participants were divided according to four pillars to discuss challenges

and recommendations. The groups identified enablers and systems to attain targets for each pillar and reported back in plenary session, inputs were made and next steps agreed on.

LESSONS LEARNED: Score card and poster showed state of Nigeria HIV prevention in 2019 and key messages. New HIV infections among adults rose by 8% from 2010-2018. Condom use among adolescents is poor (females 38%, males 62%). Also, programmes integrating HIV with Sexual and Reproductive Health among AGYW are insufficient. Sex workers (98%) use condoms with clients while condom use among MSM is low (51%). Condom use in general population with non-regular partner is low, but higher among males (65%) than females (36%). Only 41% PWIDs adopt safe injection practices. PrEP wasn't implemented in 2019, however, PrEP will be provided to KPs in 2020.

CONCLUSIONS/NEXT STEPS: In Nigeria, 1 million of 1.9 million PLHIV are on treatment, yet new infections is rising. To end AIDS, Nigeria must strengthen primary prevention (including PMTCT) in high burden and incidence locations and populations. Prevention programmes should be reviewed against prevention targets to measure progress and hold policy makers accountable. Fund allocation for prevention, needs to increase in line with globally recommended 'quarter for prevention.

PEE1446

OPTIMIZING TRANSITIONING TO TENOFOVIR/LAMIVUDINE/DOLUTEGRAVIR COMBINATION AS THE PREFERRED REGIMEN FOR HIV TREATMENT IN NIGERIA

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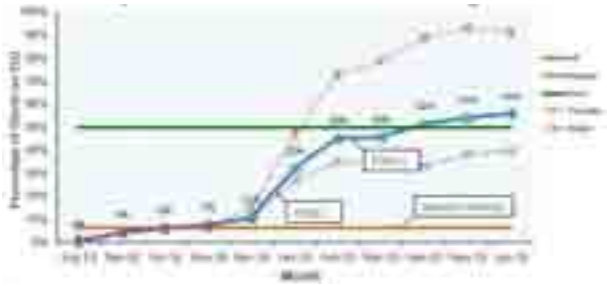
BACKGROUND: Tenofovir/Lamivudine/Dolutegravir (TLD) combination was adopted by Nigeria as the preferred first-line drug for HIV treatment in 2018. Because of the Initial fear of the use of Dolutegravir-based combinations in pregnancy, it was not recommended for use in women who could become pregnant. The nation planned to have at least 50% of its adult clients on first-line medications transitioned to TLD by mid-2019 starting from August 2018. By end of December 2018, only 11% of clients had been transitioned across 8 treatment sites in the state. The project aimed to ensure these sites achieve the national target by June 2019.

METHODS: A multi-disciplinary team conducted root-cause analysis using 5 whys, fish-bone diagram and Pareto Chart. These revealed that lack of facility commitment, low family planning uptake, and fear of commodity stock-out were the most important factors for slow transitioning. Interventions addressing the identified root-causes were implemented in two Plan -> Do -> Study -> Act cycles starting January 2019. First cycle included raising facility champions and demand creation for family planning uptake while the second cycle ensured commodity security and client tracking for transitioning.

RESULTS: During intervention, 1097 adult clients on first-line regimen were seen. Of these clients, 66% were females (n = 724) while 34% were males (n = 373). Of the women, post-menopausal women accounted for 15% (n = 109) while those on family planning were 16% (n = 116). A sharp rise in TLD transitioning following the first PDSA cycle up to 73% and 35% was seen among males and females respectively. This was followed by steady sustenance of improvement reaching a peak of 93% in males and 40% in females.



[Figure. TLD optimization percent in clients attending clinics]

CONCLUSIONS: Implementation of 2 PDSA cycles successfully led to TLD transitioning target achievement. This approach should be considered for future similar plans to bridge the gap between performance and targets.

PEE1447

IMPLEMENTING AN OPTIMAL ADVANCED HIV DISEASE (AHD) PACKAGE OF CARE: LESSONS LEARNT FROM NATIONAL SERVICE DELIVERY PLANNING IN MALAWI

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BACKGROUND: Since 2010, Malawi has tripled the number of people living with HIV (PLHIV) accessing antiretroviral therapy (ART) from ~250,000 to over 800,000 by 2019. Despite significant gains in ART coverage, HIV still claim 15,000 lives every year. A major driver of this mortality: patients still present to care with AHD and are more susceptible to deadly opportunistic infections like TB and cryptococcal meningitis (CM). With an aim to curb deaths, the Malawi Ministry of Health and Population (MoHP), with support from national partners, developed new set of AHD policy recommendations in line with World Health Organization guidance. These policies laid a strong foundation for potential AHD service delivery but required a well-coordinated and holistic implementation approach to ensure a sustainable national transition to the new package of AHD care.

DESCRIPTION: In 2018, Malawi MoHP included AHD management in the revised HIV treatment guidelines. To facilitate decision-making around implementation, a national taskforce was established and responsible for coordinating and leading a number of activities, including, but not limited to: quantifying commodity need, mapping and placing CD4 machines, leading consultative meetings with districts, defining AHD service-delivery and implementation approach, and developing AHD SOPs and training curriculum.

LESSONS LEARNED: Establishing a taskforce with HIV experts and partners was critical for ensuring a coordinated AHD implementation strategy. Phased implementation was identified as the best approach to ensure smooth introduction and allow for continuous improvement and sharing of lessons for onward rollout. A hub-and-spoke model was adopted to make AHD implementation feasible given the limited capacity of periphery sites. The adoption of the global AHD toolkit was an efficient way to adopt and tailor existing job aides, training curriculum, and SOPs to Malawi's needs. Ultimately, 108 health facilities out of 751 were selected for the first phase of implementation with more than 300 service providers trained to provide AHD services. Quantification, procurement, and distribution of focal AHD commodities were completed.

CONCLUSIONS/NEXT STEPS: Strategic preparation and coordinated stakeholder engagement has led to successful AHD rollout and Malawi will continue to monitor implementation. Countries that have yet to adopt and implement AHD management can learn from Malawi's implementation model.

PEE1448

COMPLIANCE WITH INFECTION CONTROL PROCEDURES IN MILITARY HIV/AIDS CLINICS IN UGANDA

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BACKGROUND: Compliance with infection control (IC) measures is a critical component of HIV care. In general, evidence on levels of compliance by health workers to IC standards is lacking in the Ugandan military health facilities. The URC-Department of Defense HIV/AID Prevention Program implements and provides technical assistance and material support for IC in military health facilities in Uganda. We assessed compliance to IC standards at 28 military ART sites in Uganda.

METHODS: A validated structured questionnaire and observational checklist were used to assess availability of IC items and compliance with IC measures. Key informant interviews were used to provide context. Descriptive statistics, chi-square test and logistic regression were used to analyze quantitative data. Qualitative data were analyzed using template and thematic analysis.

RESULTS: A total of 84 laboratory staff (7% female) were observed and interviewed. Slightly more than half (53%) of the respondents had a certificate of Medical laboratory technology, 35% had a diploma and only 12% had a bachelor's degree. 52% of the study participants exhibited good knowledge on infection control standard precautions. While 70% of infection control items were available at the health facilities, only 45% of interviewed staff were compliant with recommended IC measures. Factors significantly associated with compliance to infection control procedures were; higher level of education (AOR =3.22, 95%CI= 1.31-2.24), years of experience (AOR= 2, 95%CI=2.92-4.63), high military rank (AOR= 4, 95%CI= 1.15-3.10) and good knowledge (AOR=3.30, 95%CI=3.22-4.21).

Barriers to adherence to standard IC procedure were; lack of regular bio-safety training, lack of equipment and infrastructure, low commander involvement; inadequate prioritization of IC and human resource gaps.

CONCLUSIONS: Modifiable challenges to infection control within the military ART sites were identified. Interventions such as close supervision and targeted stakeholder engagement particularly the commanders, on importance of IC in public health and specifically in HIV care. Targeted training on IC procedures for lower cadres is needed to achieve universal IC standards.

PEE1449

SUCCESSFUL TRANSITION FROM EFAVIRENZ TO DOLUTEGRAVIR-BASED FIRST-LINE ART IN LIBERIA: STRENGTH OF A COLLABORATIVE APPROACH BETWEEN NATIONAL AIDS AND STI CONTROL PROGRAM AND IMPLEMENTING PARTNERS

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BACKGROUND: Liberia has approximately 40,000 people living with HIV (PLHIV). about 15,000 of whom are on antiretroviral therapy, including 73% on tenofovir, lamivudine, and efavirenz-600 (TLE-600). In June 2019, the country revised the national treatment guidelines to allow transition to tenofovir, lamivudine, and dolutegravir (TLD), as recommended by the World Health Organization. We present our experience with TLD transition through a collaborative effort between the country's health leadership and collaborating partners.

DESCRIPTION: The Ministry of Health's National AIDS and STI Control Program (NACP) led the technical working group to spearhead the transition to TLD, together with the USAID-/PEPFAR-funded and FHI 360-led LINKAGES/EpiC project, and Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM). The process included:

(1) developing and pretesting TLD literacy material for PLHIV, the general population, and clinical staff;

(2) conducting a facility preparedness assessment;

(3) implementing pharmaco-vigilance surveillance; and

(4) trainings of staff in high burden facilities and removal of nevirapine from service delivery points.

The transition started in September 2019 and should be completed by December 2020.

LESSONS LEARNED: During pilot testing of materials and preliminary staff training, PLHIV and some clinical staff were anxious to transition immediately rather than follow the phased strategy. Clear and motivational communication tailored to both audiences was critical to reduce their concerns and ensure compliance with the transition plan. Total number of PLHIV estimated to be transitioned to DTG by December 2020 is 13,971. So far by 31 December 2019, a total of 1,356 PLHIV were transitioned according to the following priority groups; 192 key population groups, PLHIVs on NVP-Based Regimen 691, newly PLHIV initiated 367, pregnant women 29, and other 77.

CONCLUSIONS/NEXT STEPS:

- Migration of both treatment-experienced and treatment-naïve patients to TLD on a national scale requires considerable planning and collaborative processes.
- National HIV programs should consider country-specific scenarios such as investing in public and health care worker awareness to minimize the risk of large-scale treatment failure among possibly stable patients who may otherwise be inclined to leave the previous regimen of TLE and rush for TLD.

PEE1450

INNOVATIVE NATIONAL STRATEGIES TO IMPROVE NATIONAL GENOTYPING NETWORK IN BRAZIL

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BACKGROUND: In 2015, the Ministry of Health of Brazil (MOH) started providing HIV genotyping exams countrywide and established a network of Genotyping Reference Doctors (GRD) to support prescribers in interpreting results. In addition, MOH implemented the National Genotyping System (SISGENO), an electronic system with genotyping results and reports with the feedback from GRD to support switch to adequate ART regimen based on these results. However, over the years use of SISGENO has been inconsistent and turnaround time between issuance of results and the feedback from GRD was high. The aim of this study was to describe strategies tackle those issues.
DESCRIPTION: In 2017, Brazilian Ministry of Health (MoH) reorganized the national genotyping network. Some of them were assigned to analyze specifically genotyping results from children. Paper-based systems were extinguished and only GDR who effectively used the electronic system were maintained as a reference doctor. In addition, GDR were periodically evaluated, a network of tutors were established to supervise new RDG, a network pediatric GDR was settled, and national and regional workshops for case discussions for RDG were conducted by MOH.
LESSONS LEARNED: From 2015 to 2019, there was an increase of 17% (7,916 to 9,264) in genotyping exams performed. However, a substantial decrease in the average amount of days between ART switch request and issuance of final decision by GRD of 97% was observed, from 681 to 20 days.
CONCLUSIONS/NEXT STEPS: Innovative national strategies to manage the National Genotyping Network in Brazil contributed to increase the request of genotyping tests and to drastically improve support to prescribers on a timely manner over the years. The next steps is maintain these strategies and reduce more the average time for issuance of genotyping reports.

PEE1451

USAID'S HIV LOCAL PARTNER TRANSITION: THE JOURNEY TO SELF RELIANCE IN THE ERA OF THE SUSTAINABLE HIV RESPONSE

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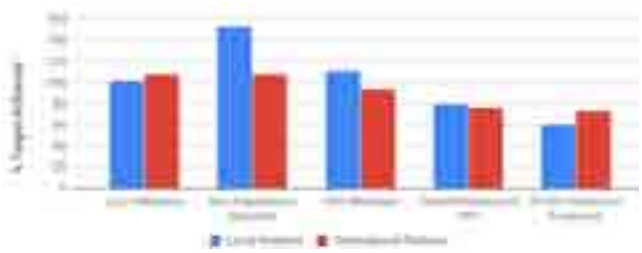
BACKGROUND: To advance HIV sustained epidemic control, in April 2018, Ambassador Deborah Birx announced that 70 percent of PEPFAR funds must go to local organizations as prime recipients of funding by the end of Fiscal Year (FY) 2020. For USAID, these efforts also support USAID Administrator Mark Green's vision of advancing partner countries on their Journey to Self-Reliance.
DESCRIPTION: In November 2018, 23 USAID PEPFAR field programs developed strategies to advance the local partner transition. At baseline and one year into the transition, USAID analyzed the funding trends, percentage of targets, quality of service delivery, and performance across key indicators of local partners compared to international partners. Data were pulled from PEPFAR reporting systems.
LESSONS LEARNED: In September 2018, USAID PEPFAR funding to local partners was 34 percent and by October 2019, 46 percent of PEPFAR funding was planned for local partners. Analyses of targets, quality, and performance data demonstrate that local partner performance is on par with international partners across all key PEPFAR indicators. Funding and targets have increased to local partners across critical technical areas. Performance data, as measured by percentage of achievement of key PEPFAR targets, are better for local partners in programs designed for key populations and OVC, and are close to the achievement of international partners in clinical cascade targets, such as testing and treatment. FY 2019 data will be presented at IAS.



[Figure 1. Comparison of USAID local partners vs international partners on key PEPFAR indicators (FY 2018)]

CONCLUSIONS/NEXT STEPS: In FY 2020, a further shift of resources to local organizations and governments is required to reach the PEPFAR 70 percent funding goal. There is a need to support program monitoring, ensuring the transition does not jeopardize performance and quality. This can be accomplished by careful monitoring and enhanced organizational capacity support. The aims of the transition will support the sustainability of the HIV national response beyond PEPFAR, especially pertinent as countries achieve epidemic control.

PEE1452

CLOSING THE GAP IN TENOFOVIR/LAMIVUDINE/DOLUTEGRAVIR (TLD) TRANSITIONING: AN EXPERIENCE OF MENTORSHIP AND COACHING IN NINE DISTRICTS IN RWENZORI REGION, MID-WESTERN UGANDA

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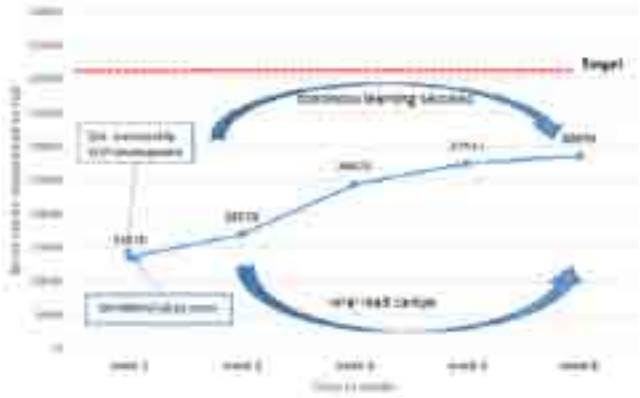
BACKGROUND: To achieve epidemic control and fast track progress towards the 95.95.95 UNAIDS goal, Uganda revised and rolled out new HIV care and treatment guidelines in 2018, recommending Tenofovir/Lamivudine/Dolutegravir (TLD), a potent regimen for viral suppression as the first line. All eligible clients were to be transitioned to TLD. A review of the uptake of TLD ten months after ART guideline roll out showed a regional TLD uptake of only 33% in mid-western Uganda. We set out to improve regional TLD uptake to 80% within an eight week period in mid-western Uganda.
DESCRIPTION: Trained regional and district mentors on TLD transition reached out and interviewed 55 health workers to elicit for barriers to TLD uptake using a standardized questionnaire across the 70 facilities in the region. Mentors were assigned specific health facilities and clinicians for follow up. Follow up schedules were deter-

mined by the mentor-mentee pairs biweekly. Identified barriers to TLD uptake included; missing standard operating procedures (SOPs) on TLD transition, low access to viral load services, knowledge gaps on the transition process and failure to track and identify newly eligible client on community Differentiated Service Delivery Models. (DSDM) We addressed the TLD transition barriers through; onsite mentorship and site based continuous learning sessions for health workers, development and display of SOPs on TLD transition in clinic rooms, conduct of viral load camps to increase access to viral load tests, use of stickers to identify in-eligible files and prompt assessment at every client visit. TLD uptake was assessed weekly using a standard dash board.

LESSONS LEARNED: 41,821 clients were eligible for TLD transition in the region by 30/10/2018. TLD uptake increased from 33% (13,610) to 69% (28,654) between 9/08/2019 and 16/09/2019.

CONCLUSIONS/NEXT STEPS:



[Figure 1. TLD uptake trend in Rwenzori region]

TLD uptake improved with concerted intervention initiatives. Site specific interventions need to be developed to overcome any barriers to uptake of TLD.

PEE1453

ACCELERATING RAPID ART IN JAKARTA, INDONESIA: FAST-TRACKING NATIONAL POLICY TO SYSTEMATIC PRACTICE

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BACKGROUND: In July 2018, the Indonesia Ministry of Health (MOH) issued updated national policy guidance that formalized the practice of Test and Treat All and introduced provisions for rapid antiretroviral therapy (ART) (same day – up to seven days). The Jakarta Provincial Health Office (PHO) immediately operationalized a rapid ART saturation strategy and, within a one-year implementation period, demonstrated the application of rapid ART services at all subdistrict health facilities across the capital city.

DESCRIPTION: Jakarta's rapid ART acceleration plan consists of intensive socialization of the benefits of rapid ART to health providers and people living with HIV (PLHIV); implementation of technical guidance, including standard operating procedures; facility-based mentoring and peer-to-peer sharing; and comprehensive monitoring of facility performance. Together with technical assistance provider USAID- and PEPFAR-funded LINKAGES, the PHO and five District Health Offices rolled out rapid ART in a stepwise fashion, intensifying service provision in two districts before expanding coverage in the remaining three areas. Coordination-and-review-stakeholder consultations took place quarterly to review performance and identify areas where additional support was necessary.

LESSONS LEARNED: Between July 2018 and September 2019, 67% of 3,120 newly diagnosed and enrolled PLHIV were provided with rapid ART, with 47% receiving same day ART at 42 subdistrict facilities and two private clinics. Rapid ART coverage rose in each quarter of implementation, from 61% rapid ART provision July–September 2018 to 80% July–September 2019. Retention rates for new PLHIV at six months of ART have similarly improved, reaching 85.6% for those initiating ART January–June 2019 compared to 81.4% for the PLHIV cohort initiating ART January–June 2018 (p =.00449).

CONCLUSIONS/NEXT STEPS: Rapid scalability of impactful interventions is achievable when enabling government policy is in place, district-level leadership is activated, technical assistance capitalizes on the resources of diverse implementers, and data is used for evidence-based planning, implementation, and oversight.

PEE1454

DO INTERNATIONAL HIV CONFERENCES REFLECT AN INCREASED COMMITMENT TO HETEROSEXUAL MEN?

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BACKGROUND: Men account for half of HIV infections but the majority of HIV-related morbidity and mortality. Heterosexual men have been largely absent from international HIV conferences. Men are increasingly recognized as key to curbing HIV epidemics – "engaging men" has rapidly become a key strategy within the HIV community. However, it is unclear if this increased attention has translated into increased representation of men in international conferences, and subsequent guidelines and funding priorities.

METHODS: We examined men's representation in oral presentations at the International AIDS Society (IAS) conferences from 2016-2019. We focused on oral presentations since they represent the highest-priority research areas. IAS abstract books from 2016-2019 were imported into Atlas.ti. Abstracts were coded with results disaggregated by sex. We included those with an exclusive focus on either men or women. Sub-codes were used to identify the specific sub-population focused on within each abstract (i.e., key populations, PMTCT, youth).

We assessed changes over time in the proportion of oral presentations focused on men and women, and the sub-populations within each sex. A count and proportion method was used.

RESULTS: 744 IAS oral abstracts were published between 2016-2019. Heterosexual men represented 0% and 0.4% of oral presentations in 2016 and 2017, and 4% and 3% of oral presentations in 2018 and 2019. MSM represented ~7% of oral presentations across 2016-2019 The proportion of oral abstracts exclusively focused on either general women or PMTCT remained fairly consistent (~8%) across all four years. Nearly none of the conference oral presentations included a focus on young heterosexual men who were absent whereas ~3% of oral presentations across all years focused on young women.

[Table. Men's representation in IAS conference oral abstracts: 2016-2019]

CONCLUSIONS: Men represent the majority of HIV-related morbidity and mortality, yet have remained largely absent from IAS conferences. HIV policies and programs would significantly benefit from including men in current and future research agendas.

SYSTEMS SERVING UNDERSERVED POPULATIONS

PEE1455

SPATIAL DISTRIBUTION OF HEALTH INFRASTRUCTURE AND DISTANCE-TO-CARE IN UGANDA

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BACKGROUND: The availability of health facilities has a direct impact on access to healthcare, an essential component of HIV prevention, treatment, and care. Geographic information systems (GIS) offer powerful tools for measuring and understanding geospatial factors that may influence health equity. In Uganda, one of the objectives of the Health Sector Strategic & Investment Plan is to provide a network of functional health facilities within walking distance (5 km) of every community. This study employs geospatial analysis to measure and characterize the distribution of healthcare infrastructure in Uganda.
METHODS: Using QGIS 2.18.0, single-point representative household clusters from the Demographic and Health Survey (DHS) for Uganda 2011 were plotted alongside geo-located health facilities. Healthcare facilities in Uganda are categorized by level, with the lowest level of formal healthcare delivery being Health Centre II (HCII) and progressing to HCIII, HCIV, and Hospital. Distance-to-care was calculated as the straight-line distance to the nearest health facility. For each DHS cluster, we also calculated the number and type of facilities available within a certain radius.

[Figure 1.]

RESULTS: Of the 400 DHS clusters in this analysis, 239 (60%) were within 5 km of the nearest HCII, HCIII, or Hospital. Over ninety percent of urban DHS clusters (n=119) met this target in contrast to 46% of rural DHS clusters (n=281). Distances ranged from 0.02 km to a maximum of 54 km. For all DHS cluster, the mean distance was 6.6 km [IQR 1.5-7.8]. For urban DHS clusters, the mean distance was 2.7 km [IQR 0.4-2.5], and for rural DHS clusters, it was 8.2 km [IQR 3.1-9.8]. Thirty-five percent of DHS clusters were located more than 25 km from the nearest Hospital, and 11% were over 50 km.
CONCLUSIONS: Geospatial analysis and mapping can be used to identify underserved communities and guide planning of healthcare infrastructure and HIV service provision.

PEE1456

OVERCOMING BARRIERS TO RAPID ART IN REAL-WORLD COMMUNITY HEALTH CENTER AND PUBLIC HOSPITAL SETTINGS

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BACKGROUND: Timely access to HIV antiretroviral therapy (ART) remains a challenge worldwide, with 74% people living with HIV (PLWH) who are newly diagnosed linked to care within 30 days in the US, and globally 53% PLWH achieving viral load suppression.
In 2019 HIV care teams from four community health centers and the county public hospital serving low-income populations in the HIV ACCESS network of Alameda County, California, USA implemented standardized metrics and collected data on barriers to rapid ART as a quality improvement project.
DESCRIPTION: Rapid, same-day access to ART was initially implemented at the four community health centers in 2017. Early inconsistencies in how rapid ART was defined and how data was collected led to network-wide collaborative protocols, a shared definition, and a shared data collection spreadsheet in 2018. These tools were implemented at the community health centers and the public hospital in 2019. The data was collected and analyzed for quarterly network-wide quality improvement reports.
LESSONS LEARNED: The HIV ACCESS network defined rapid ART as ART prescribed within 1 day of the first in-person visit with the HIV team. From October 2018 through September 2019, 76% PLWH (54 of 71) who were newly diagnosed and referred to the HIV ACCESS teams received rapid ART.
Of the PLWH who did not receive rapid ART, 47% were due to a provider decision to delay ART and 35% were due to difficulty contacting the client at the public hospital. 18% were due to delays in HIV provider availability at a community health center facing high staff turnover. There were no cases in which the client declined rapid ART. The majority of barriers to rapid ART in this setting were due to provider-related delays. Support and uptake of rapid ART was strong among non-provider staff and PLWH.
CONCLUSIONS/NEXT STEPS: These findings highlight the need to invest in provider education, reliable client contacts, staff retention and task-shifting. The next steps are to review clinical indications for ART delay, improve client contact information, implement interventions to increase staff retention, and train non-HIV provider staff on the provision of streamlined, people-centered linkages and rapid ART.

PEE1457

EXPANSION OF HIV CARE BEYOND ANTI-RETROVIRAL THERAPY FOR VULNERABLE POPULATIONS IN RURAL NIGERIAN COMMUNITIES: LEAVING NO ONE BEHIND

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BACKGROUND: Many HIV treatment programmes are designed to basically provide anti-retroviral therapy (ART) for persons living with HIV (PLWH). In rural communities, PLWH are often left behind in the treatment of HIV co-morbidities and HIV-associated infections. They are usually referred to other healthcare facilities in urban areas. Subsequently, sub-optimal treatment outcomes, increased cost of care and decreased client retention ensue. The expanded HIV treatment programme (EHTP) was established to provide vulnerable PLWH with free access to ART, treatment of HIV co-morbidities and HIV-associated infections within their rural communities in Nigeria.

DESCRIPTION: The 5-year EHTP was implemented in 45 randomly-selected HIV clinics located within rural Nigerian communities. EHTP was prioritized for PLWH who were dependent, with meagre income or internally-displaced by communal conflicts. Free drugs were obtained through multiple public-private collaborations. Healthcare workers were trained on comprehensive HIV care, and integrated drug-inventory management. Clinic workflows were re-designed to facilitate efficiency in implementation of EHTP with emphasis on maintaining quality healthcare and preserving confidentiality of PLWH. Clinic appointments were harmonized for family members and treatment partners. Data obtained from medical records were utilized for pre- and post-intervention assessments of EHTP, in October 2014 and October 2019 respectively.

LESSONS LEARNED: Overall, ART was provided for 13, 043 females (aged 2-72 years) and 9,125 males (aged 2-69 years). Among them were those treated for co-morbidities (malaria (n=3,590), cardiovascular diseases (n=458), diabetes (n=86) and HIV-associated infections (candidiasis (n=5,170), herpes zoster (n=349) and uncomplicated bacterial infections (n=12, 216). Treatment outcomes improved from 32% (pre-intervention) to 88% (post-intervention). This was attributed to increased access to drugs, and seamless HIV care continuum. The cost of patient care reduced through EHTP due to elimination of of user fees and additional transportation costs to urban areas. Client retention rates increased from 41% (pre-intervention) to 90% (post-intervention). This was attributed to improved healthcare efficiency due to optimization of existing human and infrastructural resources within the clinics.

CONCLUSIONS/NEXT STEPS: EHTP was effective in provision of ART, treatment of HIV co-morbidities and HIV-associated infections for vulnerable PLWH in rural Nigerian communities. The next step includes: EHTP-expansion to other rural communities in Nigeria.

PEE1458

CREATING A SAFE SPACE FOR KEY POPULATIONS WITHIN HEALTH FACILITIES: EXPERIENCE FROM MONTSERRADO COUNTY, LIBERIA

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BACKGROUND: Liberia's HIV prevalence is 2.1% but heavily skewed toward key populations (KPs), with 9.8% prevalence among female sex workers and 19.8% among men who have sex with men. KPs are the least likely to access HIV testing and lifesaving antiretroviral treatment due to pervasive stigma; therefore, inclusive approaches for KPs to freely access HIV services are needed. While designated community-based safe spaces or drop-in centers have been successful in other countries, they are deemed not viable in Liberia due to stigma and safety concerns. The USAID/PEPFAR-funded LINKAGES project led by FHI 360 presents a unique experience of creating "safe spaces" within existing health facilities.

DESCRIPTION: LINKAGES uses an integrated, coordinated community and health facility model in Liberia. Nine civil society organizations were competitively selected to spearhead peer outreach and HIV testing, to partner with 11 high-burden health facilities in Montserrado County to ensure linkage to treatment for those who are HIV positive. Facility staff were trained and mentored to provide non-stigmatizing, KP-friendly HIV services, and linkage retention coordinators were hired for each facility to help KP individuals navigate HIV services including linkage to treatment.

LESSONS LEARNED: From May to September 2019, 6,946 KP individuals were reached with comprehensive HIV services in Montserrado County. For the first time a total of 2,364 KP individuals were recorded as openly accessing services in the 11 health facilities. Peer outreach workers collaborated with health facility staff to mobilize people for HIV testing and return to treatment those who had stopped. In the community and facilities, 4,250 KP individuals (76%) were tested for HIV, of whom 249 (6%) were diagnosed HIV positive and 242 (97%) initiated treatment. With the help of linkage retention coordinators and peer navigators, 793 PLHIV who had stopped treatment were successfully brought back to treatment.

CONCLUSIONS/NEXT STEPS:

- Partnerships between civil society organizations and health facility staff can lead to quick gains in getting all PLHIV on treatment and contribute to epidemic control.
- Adequate sensitization and mentorship of health facility staff to be receptive to KPs has created health facilities that are "safe spaces" for KPs.

PEE1459

A MULTI-COMPONENT STRATEGY IMPROVES HIV VIRAL LOAD SUPPRESSION AMONG PERSONS LIVING WITH HIV (PLWHIV) EXPERIENCING HOMELESSNESS IN SAN FRANCISCO

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BACKGROUND: Homelessness is a growing problem nationwide and in San Francisco (SF). The 2019 SF Homeless Point-in-Time Count enumerated 8,035 homeless persons-- a 17% increase from 2017. Emerging research suggests housing instability is associated with poorer HIV outcomes--the overall viral suppression (VS) rate in SF among PLWHIV is 74%, while those experiencing homelessness is 30%. The SF Community Health Center (SFCHC) is a federally qualified health center dedicated to serving vulnerable communities living with and at risk for HIV. The agency is committed to implementing innovative strategies to address the local HIV epidemic and needs of persons experiencing homelessness.

DESCRIPTION: Given a SFCHC VS rate of 23% among our patients living with HIV experiencing homelessness in 2014 (VS defined as <40 copies/ml), we implemented a multi-component strategy called the HIV Homeless Health Outreach Mobile Engagement program (HHOME) that sought to address the complex needs of this population. We also established a new primary care clinic and on-boarded medical and behavioral health staff who offered scheduled and drop-in urgent and primary care services. All staff were cross-trained in prevention, counseling, and harm reduction strategies (e.g., needle exchange). We also added street health services through a mobile clinic that integrated mental health and substance use services along with intensive case management, peer navigation, and directly observed therapy (DOT). In addition, we prioritized housing stabilization and legal aid and offered food and transportation vouchers.

LESSONS LEARNED: Overall, 375 PLWHIV with at least two viral load measurements were seen from 2015-2019; 115 (30%) identified as homeless. For these patients, 19% were transgender, 66% were male, and 45% were over the age of 50. This population was racially and ethnically diverse: 15% Hispanic/Latinx, 27% Black/African American, 12% Asian or Pacific Islander, 0.8% Native American, and 42% Caucasian. Over 5 years, we observed dramatic improvements in VS rates among PLWHIV experiencing homelessness (23% VS in 2014; 54% VS in 2016 and 70% in 2019).

CONCLUSIONS/NEXT STEPS: SFCHC's interdisciplinary team successfully integrated multiple care and support services that addressed the needs of PLWHIV experiencing homelessness. This strategy was associated with improved VS rates equivalent to those with stable housing.

PEE1460

IMPLEMENTATION OF A COLLABORATIVE, MULTI-STAKEHOLDER PROGRAM TO STANDARDIZE AND SCALE HIV SERVICES FOR KEY POPULATIONS IN PUBLIC SECTOR HEALTH FACILITIES IN ZIMBABWE

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BACKGROUND: Key populations (KP) in Zimbabwe, including female sex workers (FSW) and men who have sex with men (MSM), experience low HIV service uptake in public health facilities due to stigma, discrimination, and criminalization. To achieve and sustain epidemic control, the Ministry of Health and Child Care (MoHCC) implemented a collaborative, multi-stakeholder program to institutionalize delivery of KP-competent public sector HIV services. Objectives were to develop policy and program guidance documents and to strengthen staff KP clinical competency and sensitivity.

DESCRIPTION: MoHCC convened a working group inclusive of National AIDS Council, KP communities and implementing partners (IPs) to develop a clinical manual, handbook, job aid, and training curriculum based on WHO guidance, best practices, and equitable healthcare access. These materials established a minimum service package and addressed stigma and discrimination. Concurrently IPs, including Population Services International (PSI), improved or drafted standard operating procedures (SOPs) and worked closely with public facilities and KP communities to refer and transition clients to facilities recognized as KP-competent. The working group selected facilities in the districts of Bulawayo, Gweru, Masvingo and Mutare for initial training and support, including staff sensitizations and KP membership on quality assurance (QA) committees.

LESSONS LEARNED: Between October 2018 and September 2019, MoHCC activated 18 public sector facilities as KP-competent, with 515 staff sensitized, 101 healthcare workers trained on KP clinical service delivery, and 10 KP QA committees established. 1,341 FSW and 41 MSM stable on antiretroviral treatment (ART) were successfully transitioned from PSI New Start Centre clinics to public sector facilities; 608 FSW and 44 MSM newly diagnosed with HIV were directly linked to public sector facilities and commenced on ART. Through government technical leadership and meaningful engagement of KP communities throughout the process, these results demonstrate that it is possible to provide KP services within historically restrictive environments.

CONCLUSIONS/NEXT STEPS: Implementing KP-competent HIV services within a national healthcare system requires a comprehensive approach led by the Ministry of Health and inclusive of KP communities, IPs, and local public facility leadership. Next steps include sustained coordination, access and retention across partners; implementation of standardized assessments by which facilities are determined to be KP-competent; and national scale-up.

PEE1461

THE HEALTHY LIVING PLATFORM: LEVERAGING TECHNOLOGY TO PROVIDE DIFFERENTIATED HIV SERVICE DELIVERY TO KEY POPULATIONS IN GHANA

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BACKGROUND: Key populations (KP) in Ghana often prefer anonymity to avoid stigma and discrimination from healthcare providers, resulting in social exclusion and low utilization of health care services, and hindering their reaching HIV services. There is the urgent need to identify strategies tailored to unique KP needs. This abstract presents evidence of a successful innovative approach in reaching KPs with HIV services in poor resource settings, such as Ghana.

DESCRIPTION: The USAID Strengthening the Care Continuum Project, implemented by JSI Research & Training Institute, Inc. (JSI), designed and developed the Healthy Living Platform (HLP), a two-way interactive system developed to transmit short message services (SMS) and interactive voice response (IVR). HLP is integrated with another JSI-led approach, helpline counselling (HLC) trained nurses who provide private, confidential phone counselling to KPs as an entry point to the HIV care continuum, and connects them via a three-digit short code (212). KPs who subscribe for text and voice messages also have access to professional counsellors who provide HIV, STI and ART counselling and referrals for follow-up services. The platform contains three campaigns (It's My Life, It's My Turn, I'm Someone's Hope) in four local languages (Twi, Ewe, Ga and Hausa) and in English.

LESSONS LEARNED: Between August 2018 when the platform was launched to September 2019, 23,510 KPs aged 15-75 years subscribed and accessed various HIV prevention and treatment literacy messages. There were 164,923 interactions of which 45,361 were from IVR; 115,845 were Unstructured Supplementary Service Data (USSD); and 3,717 were interactions with counselors. The platform has also sent out 1,123,316 messages to KPs who subscribed to the campaigns over the period. Reaching HLCs is easier for KPs than directly dialing 10-digit personal numbers and allows for reaching discrete KPs missed out by peer education including transgender.

CONCLUSIONS/NEXT STEPS: The HLP effectively meets the HIV related needs of high risk KPs. This system of reaching KPs has the potential to eliminate both structural and individual level barriers including stigma and discrimination and fear of breach of confidentiality. The client feedback mechanism helped to improve the HLC content and the unmet needs of KP sub-groups.

PEE1462

CULTURAL COMPETENCY AND PATIENT NAVIGATION TO REINFORCE CARE FOR MSM AND TRANSGENDER WOMEN LIVING WITH HIV IN A HOSPITAL IN LIMA, PERU -PROYECTO ORGULLO+

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BACKGROUND: The 90-90-90 targets set a challenge to public health systems in Latin America, where overcrowded systems, compounded with HIV stigma, decrease linkage and retention in care, especially for MSM and transgender women (TW). As part of an ongoing multi-component HIV prevention intervention, we implemented a program to improve the quality of care for MSM and TW in the HIV service of a hospital in southern Lima. The intervention focused on MSM/TW cultural competency for providers and the implementation of peer-led patient navigation.

DESCRIPTION: The 90-90-90 targets set a challenge to public health systems in Latin America, where overcrowded systems, compounded with HIV stigma, decrease linkage and retention in care, especially for MSM and transgender women (TW). As part of an ongoing multicomponent HIV prevention intervention, we implemented a program to improve the quality of care for MSM and TW in the HIV service of a hospital in southern Lima that has around 2500 people receiving antiretroviral treatment. The intervention focused on cultural competence for providers and peer-led patient navigation.

LESSONS LEARNED: The delivery of trainings and dissemination of materials was feasible, low resource demanding as well as welcomed by providers. The commitment of the clinical team director, who championed the intervention, was key to foster its implementation among other medical providers. Time constraint was a barrier among physicians to deliver some of the planned messages to patients. The incorporation of PN tools by counselors, allowed them to develop trustful relationships with 174 clients that initiated/reengaged in treatment. The acquisition and application of these tools also strengthen their role within the health team: physicians started relying on counselors to address patients that showed signs of social or individual vulnerability that could interfere with their retention in care, as part of their newly PN activities.

CONCLUSIONS/NEXT STEPS: While the completion of the intervention will allow us to better assess its impact, the process of implementation has shown us that addressing MSM and TW cultural competency with medical providers and reinforcing the role of peer-counselors, is a feasible, acceptable and low resource demanding intervention to implement in hospitals in Peru and potentially in Latin America.

PEE1463

SERVICE GAPS FOR PEOPLE WITH INTENSIVE MEDICAL AND PSYCHIATRIC NEEDS: WHEN WILL HEALTHCARE SYSTEMS MEET THE NEEDS OF PEOPLE WITH SERIOUS MENTAL ILLNESS?

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BACKGROUND: Worldwide, people with serious mental illness have higher HIV infection rates than the general population: In the US, general population prevalence is 0.4%, whereas among people with serious mental illness the estimated rate is 6%. With increased investment to end the HIV epidemic, access to HIV services in outpatient mental health programs would enhance efforts to improve HIV prevention and care outcomes in this population. Barriers to integrating services include the complexity of treatments for both HIV and serious mental illness, which, overwhelmingly, are only available in separate systems of care.

METHODS: We surveyed directors of licensed outpatient mental health care programs throughout New York State to examine: (1) HIV-related services being delivered; (2) service setting characteristics supporting greater integration of HIV and mental health care; (3) training needs of service providers; and (4) current practices compared to those that were in place earlier in the. New York is both a major US epicenter of HIV infection and a state in which innovative programs to address the HIV epidemic have been carried out. Data were compared to prior surveys conducted in 1997 and 2004 to examine differences in services between geographic regions and time periods.

RESULTS: Outpatient mental health programs have improved in the volume and range of HIV services they offer, but their provision of pre-exposure prophylaxis, condoms, HIV testing, and HIV antiretroviral treatment monitoring are lagging; fully half (50%) of programs were unable to estimate how many of their HIV clients were taking ART.

CONCLUSIONS: New York's initiative to end the HIV epidemic is not optimized for people with serious mental illness in settings designed for their care. Integrated care models do not appear to fit patients with intensive medical and psychiatric needs, who may be unable to access a single setting that can meet those needs.

PEE1464

SCALING UP HIV TREATMENT AND CARE IN RURAL POST-EBOLA LIBERIA: LESSONS LEARNED FROM OPENING A NEW HIV CLINIC IN A HIGH-VOLUME PRIMARY HEALTH CENTER

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BACKGROUND: Partners In Health (PIH) is committed to a preferential option for the poor. PIH launched work in Liberia in 2014 at the height of the Ebola epidemic by invitation of the Liberian Ministry of Health (MOH) and has continued to work in one of the most geographically isolated and impoverished regions. During the epidemic, many PLHIV were lost to follow-up, in response, PIH worked with the MOH launched a community health worker (CHW) program in 2015. In 2017 a new ART clinic site was established in the highest volume health center. The strategic objectives of our HIV program in Liberia are to:

1. Improve HIV detection through community engagement and active case-finding
2. Offer high quality HIV treatment and care
3. Improve clinical outcomes with CHW and socioeconomic support

DESCRIPTION: In 2017, recognizing an unmet need for HIV care, PIH-Liberia collaborated with the MOH and the National AIDS Control Program to open a new ART clinic in the largest primary health center in the county with population of 135,938 with 1.8% HIV prevalence. The clinic is run by one MOH nurse supported by a PIH physician assistant. CHWs make home visits to ensure medication adherence and the socioeconomic assistance program provides transportation reimbursement to all patients and additional social support for the most vulnerable patients.

LESSONS LEARNED: Since initiation of the HIV program in 2015, the number of PLHIV enrolled in care has nearly tripled; 44% of these new enrollments were from the new ART clinic. Initiation of ART has increased five-fold. Despite these gains, less than half of the estimated total population living with HIV in the county are enrolled in care and treatment and loss to follow-up (LTFU) continues to be a challenge with 16% of patients LTFU.

CONCLUSIONS/NEXT STEPS: The PIH model of accompanying the public sector with the "five S's": Staff, Stuff, Space, Systems, and Social Support has led to significant improvements in HIV testing and treatment. Innovative approaches are needed to further reduce LTFU and expand the reach of HIV testing to hard-to-reach populations including targeted strategies to reduce stigma and discrimination.

HIV SERVICES IN HEALTHCARE AND/OR COMMUNITY SETTINGS

PEE1465

COMMUNITIES CULTIVATE HOPES OF CHILDREN LIVING WITH HIV: STUDY FINDINGS OF 'TOWARDS AN AIDS FREE GENERATION IN UGANDA' (TAFU2) PAEDIATRIC HIV PROJECT

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BACKGROUND: 37% of children 0-14 years living with HIV in Uganda miss life-saving HIV-related services. 30% of children living with HIV (CLHIV) are lost to follow up (LTFU). Viral suppression is lower among children (39.3%) than adults (59.6%). Paediatric HIV related services mainly health facility-based.

TAFU project aimed at enrollment and retention of more CLHIV in care. Its community-led model and multi-sectoral approach with health facility (HF) collaboration addressed children's barriers to uptake, adherence and retention in HIV services. Facilitated community health workers (CHW) educated families on paediatric HIV and care; accompanied exposed children for HIV testing; linked HIV positive children to Anti-Retro-Viral (ARV) treatment at HF; visited families of CLHIV on treatment; tracked and returned lost to follow up (LTFU)

into care. Established children peer support groups (PSG) facilitated CLHIV's clinic appointments and ARV re-fills. Supported Village Saving and Loans Associations (VSLA) promoted caretakers' income generation, food security and resilience; resultantly CLHIV's appointments for ARV refills; meals to take pills; and cope with stigma. Studies were conducted to assess project impact.

METHODS: TAFU-Makerere University team conducted baseline (2017) and end-line (2019) surveys in three project districts. Employed community-based cross-sectional applied research; purposive and systematic sampling; quantitative and qualitative data collection methods.

26 Focus Group Discussions, five in-depth interviews, 35 Key Informant Interviews collected qualitative data from CLHIV, caregivers, CHW, health workers (HW); community leaders. Quantitative data obtained from Ministry of Health data base, 12 health facilities, HIV services registers. Quantitative data analyzed using Epidata software. Content thematic approach analyzed qualitative data.

RESULTS: 120 CHW, 27 VSLA, 13 PSG operationalized. More (3,958) children reached; tested for HIV (3,700); CLHIV enrolled onto ARV 377 (96 %); LTFU, missed appointments retuned (350); retained in care 362 (96%); virally suppressed 327 (87%) within two years. 'CHW visited me, guided me on time child to take medicine and treatment adherence. My son is back to life.'

CONCLUSIONS: Empowered communities significantly maintain more CLHIV along HIV treatment cascade greatly complementing facilities. Organizations to integrate innovative community-driven paediatric HIV interventions into district social service programs to sustainably bridge hurdles; find, enroll and retain more CLHIV in care.

PEE1466

UNDERSTANDING DE-IMPLEMENTATION AND PERSISTENCE OF LOW VALUE HIV PREVENTION INTERVENTIONS IN THE UNITED STATES: A MIXED-METHOD STUDY

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BACKGROUND: As more effective or efficient interventions emerge to address HIV prevention, it may be appropriate to de-implement low-value interventions, or interventions that are less effective or efficient. Factors that contribute to appropriate de-implementation are not well identified. We examined continuation or de-implementation of low-value interventions among public health organizations providing HIV services and factors contributing to continuing or de-implementing interventions.

METHODS: We conducted a sequential mixed-methods study. Stage one was an online cross-sectional survey with organizations (N=188) providing HIV prevention. Organizations were recruited between 2017-2019 from the Center for Disease Control and Prevention's (CDC) website gettested.org from the 20 metropolitan statistical areas with the highest HIV incidence. An organization was eligible if at least one of the HIV prevention interventions identified as inefficient by the CDC in the last ten years had been implemented and one HIV prevention programming administrator responded. The second stage consisted of interviews with providers (N=29) from a mix of organizations (N=10) that reported either continuing or de-implementing interventions based on the survey. Survey responses were analyzed to identify organizational and intervention characteristics associated with de-implementation using logistic regression. Surveys and interviews were analyzed further to describe and thematically elaborate on reasons for continuing or de-implementing interventions.

RESULTS: Organizations reported 359 low-value interventions were implemented. Of interventions implemented, 46% had since been de-implemented. We examined a number of factors theoretically associated with de-implementation, but organization size was the only factor statistically associated with de-implementation, with larger organizations being 3.1 times more likely to de-implement than smaller organizations (95% CI: 1.3-7.5). Forty-seven percent of participants responded that funding was the primary reason for de-implementing. Qualitative results further elaborated that decisions to continue or de-implement interventions were multi-factorial and interconnected with funding, perceptions of intervention effectiveness and relevance of the intervention to the target population.

CONCLUSIONS: Our work is one of the first in HIV prevention to demonstrate that while low-value interventions are frequently de-implemented among HIV prevention organizations, many persist, which may represent inefficiency. However, from a provider perspective, the decision to continue or end interventions is influenced by a number of factors beyond funding and cost.

PEE1467

ABSENCE OF ANTIRETROVIRAL DRUGS IN BLOOD SAMPLES OF ADULTS SELF-REPORTING ANTIRETROVIRAL THERAPY (ART) USE IN ESWATINI IS ASSOCIATED WITH YOUTH, NOT COST OF TRAVEL

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BACKGROUND: The Eswatini government provides free HIV/AIDS treatment services, but there are limited data on correlates of antiretroviral therapy (ART) uptake substantiated by presence or absence of antiretroviral (ARVs) in blood samples. With approximately 60% of the population living under the $1.25 poverty line, we hypothesized that that cost of travel to access HIV services could be a significant factor in ART uptake.

METHODS: Secondary data analysis of the Swaziland/Eswatini HIV Incidence Measurement Survey (SHIMS2 2016) was conducted. We utilized questionnaire data on cost of travel at the last HIV service visit and sociodemographic characteristics; and accessed biomarker data for HIV status and ARVs commonly used in the Eswatini HIV treatment guidelines (Efavirenz, Nevirapine and Lopinavir). We included adults ≥15 years who self-reported ART use and had ARVs tested from dried blood spot samples (DBS). Self-reported cost of travel was collected as one-way cost ($1.0=SZL13) and doubled to reflect total cost. We used logistic regression to examine the relationship between cost of travel and other sociodemographic characteristics and absence of ARVs.

RESULTS: There were 2,088 adults self-reporting ART use, median age 38 years (IQR 32-48), 69%(n=1458) female. Most (96%, n=2014) had detectable ARVs in DBS samples, and 4%(n=74) did not. Median cost

of travel per visit was $1.2(IQR $0.9-2.3), with no significant variation by region or residence. Just over one-third 38%(n=776) were on ART 0-2 years, 29%(n=600) for 3-5 years and 33%(n=712) for 6+years. In adjusted analyses, there was no association between cost of travel and absence of ARVs (AOR 1.2, 95% CI 0.7-2.1). Absence of ARVs in DBS samples was associated with youth 15-24 years (AOR 4.8, 95% CI 2.2-10.5) and adults 25-34 years (AOR 2.2, 95% CI 1.1-4.5); reference: adults 35 years and older; but not associated with sex, region, urban/rural residence, education, HIV status disclosure, or alcohol consumption

CONCLUSIONS: Nearly all adults self-reporting ART use had detectable ARVs in DBS samples. The $1.2 median cost of travel was equal to the international poverty line but had no impact on current ARV use. Resource allocation to support treatment uptake should focus on youth and younger adults.

PEE1468

PRIMARY CARE FOR HIV POSITIVE PATIENTS IN MOZAMBIQUE: FINDINGS FROM A NATION-WIDE TIME AND MOTION STUDY

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BACKGROUND: With an estimated 2.2 million people living with HIV and a health professional to population ratio well below international standards, understanding how primary health care (PHC) professionals in Mozambique spend their time is essential to identify efficiency gains and improve HIV care in the country. This study investigates health workers' use of time at the health facility and the duration of consultations in Mozambique to assess differences in attending to HIV+ and HIV- patients and uncover potential opportunities for improvement within this scarce resource setting.

METHODS: In 2017, a time and motion study was conducted in a nationally representative sample of 29 PHC facilities across Mozambique. The study observed 192 days of work undertaken by the main cadres of PHC professionals involved in HIV care provision (physicians, nurses, maternal and child health (MCH) nurses, clinical officers), for a total of 8342 patient-provider interactions. Data was recorded directly on tablets using a locally designed software, and analyzed on STATA to estimate means and 95% confidence intervals.

RESULTS: The average duration of outpatient consultations for HIV+ patients was found to range from 8.67 [8.14-9.19] to 10.90 minutes [9.22-12.59], when performed by clinical officers or nurses respectively. Maternal health consultations for HIV+ patients ranged between 8.05 minutes [5.23-10.88] for postnatal consults and 14.34 minutes [12.32-16.35] for antenatal consults, both performed by MCH nurses. While these consultations are short, our analysis shows that they are 2 to 3 times longer than when performed for HIV- patients. Additionally, our study showed that health professionals spend on average 1.5 to 2 hours on personal matters or waiting for patients during their time at the facility. This suggests it would be possible to increase the duration of consultations without increasing the number of health workers.

CONCLUSIONS: Our findings indicate that there are opportunities to improve the efficiency in the use of health workers' time at PHC facility in Mozambique and improve the duration of consults for HIV positive patients without increasing the number of human resources. Furthermore, the short durations of consultations raise questions about the quality of care and indicate the need to further investigate this topic.

PEE1469

SCALE UP OF GENDER AFFIRMING HORMONE TREATMENT IN COMMUNITY-LED HEALTH CENTERS INCREASING ACCESS TO HIV AND PREP SERVICES AMONG TRANSGENDER WOMEN IN THAILAND

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BACKGROUND: Transgender women (TGW) are disproportionally affected by HIV and are key to the response. TGW have specific health needs, especially gender-affirming hormone treatment (GAHT), and often don't prioritize HIV services despite the increased risk. Tangerine Community Health Clinic has successfully increased the service uptake by integrating GAHT into HIV services. This abstract will explore how scaling up this model to community-led health center could increase HIV service uptake among TGW across the country since 2018.

METHODS: The integrated GAHT-HIV services model, was scaled up to seven community-led health centers in Bangkok, Chiangmai, Pattaya and Songkhla. Between January 2018 and November 2019, we analyzed demographic and self-reported risk characteristics of TGW who accessed to GAHT and services to see if GAHT was able to reach TGW who were vulnerable to HIV.

RESULTS: Of 2,464 TGW who received overall services at seven community-led health centers, 62.1% expressed GAHT was their primary purpose of the clinic visit, 28.0% said HIV testing was their primary purpose, 2.2% came for PrEP and 7.7% preferred other services. 43.5% (n=1,072) TGW were tested for HIV. Median (IQR) age was 24 (21-29) years. Median (IQR) monthly income was USD 400 (0-667) and 61.5% had lower than bachelor's degree level education. 15.6% engaged in sex work.

Among TGW tested for HIV, 43.5% were first-time testers. HIV prevalence was 5.7%, highest in Pattaya (8.2%) followed by Chiangmai (7.7%), Chiangrai (6.4%), Bangkok (5.4%) and no HIV identified in Songkhla. Antiretroviral treatment was 100% initiated among HIV-positive clients. Among 1,011 TGW tested HIV-negative, 11.0% received PrEP. HIV incidence was 8.8 per 1000 person years, with no seroconversion among PrEP users. We found 1.1% in substance use, 1.4% participated in group sex and 10.2% with multiple sex partners among PrEP user.

CONCLUSIONS: We demonstrated the feasibility of scaling up the integrated GAHT-HIV services to generate health demand and access among TGW in Thailand. The model was effective in bringing in TGW with vulnerability and providing them with HIV prevention and care. GAHT should be offered as part of the essential HIV service package for TGW and be scaled-up to other priority provinces.

PEE1470

ART DECENTRALISATION AND QUALITY OF HIV TREATMENT SERVICES IN EASTERN ZIMBABWE: A MULTILEVEL ANALYSIS IN THE TREAT-ALL ERA

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BACKGROUND: Decentralising HIV services to primary care facilities has been a key implementation strategy within high-burden countries in sub-Saharan Africa. The effects of decentralisation on the quality of care has rarely been evaluated. Here we analysed the impact of this strategy on ART uptake and quality of care in east Zimbabwe following the introduction of treat-all.

METHODS: We conducted a retrospective medical record review of adult patients enrolled in HIV care at health facilities in Manicaland, Zimbabwe, in the year following introduction of treat-all (July 2016 to June 2017), and a parallel cross-sectional health facility survey (August to October 2017). Using multilevel logistic regression models, we compared: (i) timely ART initiation - within 14 days of HIV diagnosis; (ii) availability of a CD4 count at baseline; and (iii) provision of isoniazid preventative therapy (IPT), at six first-referral level hospitals, six large health centres (LHCs), and six small clinics (SCs).

RESULTS: Compared to hospitals (68.3%), the proportion of patients initiating ART within 14 days was higher at LHCs (83.4%; odds ratio [OR]=2.31; p=0.01) and intermediate at SCs (76.7%; OR=2.06; p=0.09). Compared to those at hospitals, patients at LHCs and SCs had approximately 80% lower odds of having a CD4 count at baseline (p=0.011 and p=0.034, respectively); and fewer patients at LHCs received IPT (OR=0.33; p=0.026). Men (aOR=0.65; p=0.016) and patients at early stages of infection (stages I versus stages III/IV: aOR=0.53; p=0.006) were less likely to have CD4 count at baseline in multivariable analysis. Patients attending facilities where ART services were provided free of charge (aOR=0.40; 95%CI 0.18-0.91; p=0.029) or facilities with low staff-to-patient ratios, and patients at early stages of infection (stages I versus stages III/IV: aOR=0.41; p=0.001) were less likely to receive IPT.

CONCLUSIONS: In this cohort of patients in east Zimbabwe, decentralised HIV service delivery contributed to accelerated ART initiation. This strategy may, however, have reduced the overall quality of services. Investments may be required to improve access to clinical monitoring and other ancillary services for patients attending for treatment at primary healthcare facilities.

PEE1471

THINKING OUTSIDE THE "HEALTH FACILITY" BOX: FEASIBILITY OF OFFERING HIV TESTING AND TREATMENT SERVICES AT AN ALTERNATIVE MEDICINE CENTER (AMC) IN THE DEMOCRATIC REPUBLIC OF CONGO (DRC)

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BACKGROUND: Data from 2018 indicates only 63% of estimated PLHIV (people living with HIV) in the DRC are aware of their status with 53% accessing antiretroviral therapy (ART), highlighting a need for new strategies to expand HIV testing and ART coverage. PATH, through the USAID-funded Integrated HIV/AIDS Project, piloted provision of HIV testing and treatment services outside of a traditional health facility setting at an AMC.

DESCRIPTION: From April 2019, Rosalie Health Center collaborated with an AMC in Kasumbalesa, a large mining/transit hub in Haut Katanga, to offer HIV testing services to clients with chronic illness not responding to alternative treatments. AMC providers were trained to screen clients using an HIV risk assessment tool, test those likely to be infected, and initiate PLHIV on treatment. The AMC provides all treatment and care services to identified PLHIV, and refers patients to Rosalie for viral load and tuberculosis preventive therapy.

LESSONS LEARNED: From April through October 2019, 217 clients with chronic illness attending the AMC were tested for HIV, among whom 51 were newly identified PLHIV and 11 were known positives (PLHIV lost to follow up at neighboring facilities), yielding a 28% seropositivity compared to 9% (736/7,878) at project-supported facilities in Kasumbalesa. All PLHIV were identified at WHO clinical stage 1 or 2. Forty-eight PLHIV (94%) were newly initiated on ART and all known positives accepted ART re-enrollment at the AMC.

The high testing yield and ART enrollment/re-enrollment rates observed demonstrate the feasibility of using AMC providers to efficiently reach, test, and enroll into treatment clients who opt for health services outside of a traditional facility setting. Providing testing services at an AMC enabled earlier enrollment of PLHIV on ART. The recent popularity of AMCs and trust in these providers also facilitated re-enrollment of PLHIV who dropped out of care at health facilities.

CONCLUSIONS/NEXT STEPS: This pilot highlights collaboration with AMCs as an effective strategy to efficiently reach and test PLHIV who seek healthcare services outside of a traditional setting and encourage re-enrollment of known PLHIV in ART. The project plans to collaborate with additional AMCs in Haut Katanga to support the DRC achieve epidemic control.

PEE1472

ENGAGEMENT OF FAITH LEADERS IN TARGETED HIV SELF-TESTING INCREASED CASE IDENTIFICATION AND NEW LINKAGES TO TREATMENT IN NAIROBI, KENYA

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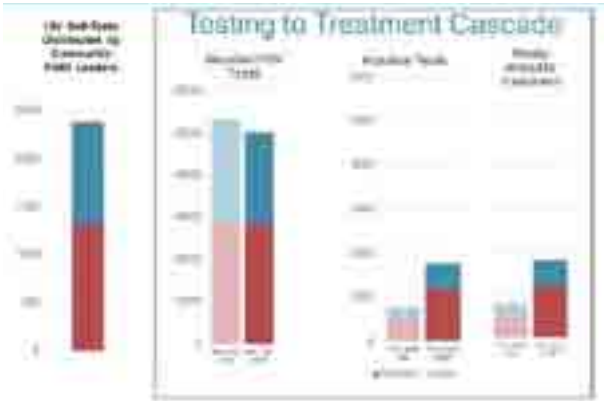
BACKGROUND: Gaps in HIV testing uptake and antiretroviral coverage, particularly for men, are evidence of significant barriers to health services. To increase HIV case-finding and linkage into care for persons living with HIV (PLHIV), particularly men, the faith based Eastern Deanery AIDS Relief Program (EDARP) engaged faith leaders in both community and clinical settings to introduce HIV self-testing (HIVST) in Nairobi Kenya.

DESCRIPTION: EDARP, a Faith-Based Organization providing holistic care for 26,000 PLHIV, links clinical and community care in 14 sites in Nairobi slums. In collaboration with the Ministry of Health, 1332 staff and Community Health Workers (CHWs) who were leaders from local faith communities, were trained in use of HIVSTs. In May 2019, EDARP implemented targeted dissemination of HIVSTs at home or in facilities, with patient-centered partner notification services.

LESSONS LEARNED: From November 2018–April 2019 to May 2019–October 2019, new HIV diagnoses increased 117% and 134% for men and women, respectively, with similar increases in numbers newly linked into treatment. Testing yield for men increased from 1.2% (294/22,429) to 2.8% (604/21,703, p,<00001), and for women, from 1.7% (491/28/952) to 4.1% (1169/28,321, p,<00001), with fewer diagnostic tests (Figure).



[Figure. Increase in HIV-positive tests and new linkages to treatment (disaggregated by sex) before and after the distribution of HIV self-tests by faith leaders in Nairobi, Kenya (November 2018 - October 2019)]

Successful practices included seamless clinical-community integration, training for CHW/staff addressing:-skills-building for improved partner elicitation, for clients with new diagnoses or detectable viral loads welcoming environments for all (especially for key populations), responsibility of all staff to advance case-finding and linkage, emotional and spiritual support for staff, 24-hour hotline for HIVST-users, weekly data reviews to identify successes and challenges and celebration of top performing staff and sites.

CONCLUSIONS/NEXT STEPS: Distribution of HIVSTs by faith leaders can substantially increase case-finding and linkage to care for both men and women. Expanding this model in and beyond Kenya may help advance epidemic control.

PEE1473

CURRENT STATE OF HIV PARTNER NOTIFICATION SERVICES IN CHINA: STAKEHOLDER PERSPECTIVES

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BACKGROUND: As China's HIV epidemic becomes increasingly driven by heterosexual transmission, rethinking approaches for HIV testing is needed to improve coverage among hard-to-access groups. Provider-assisted partner notification (PN) may be particularly beneficial in low prevalence settings in identifying undiagnosed people living with HIV (PLHIV). The national PN policy relies on passive referral by patients, but some provinces have established additional policies that authorize providers to notify partners. We sought to explore stakeholder perspectives on the implementation, challenges, and future directions for PN in China.

METHODS: We interviewed 31 healthcare professionals who have a role in designing, implementing, or researching PN services about their experiences and opinions on best practices: 12 staff members from 11 Centers for Disease Control (CDC), 7 clinicians, 3 community health workers, 4 community-based organization (CBO) representatives, and 4 researchers. We also interviewed 39 recently-diagnosed PLHIV on their PN experiences. Transcripts were analyzed using inductive thematic analysis.

RESULTS: Key findings include:

1. In areas with limited national or provincial policy guidance, implementation varied greatly between clinic/hospitals. Yunnan Province stood out for providing PN training and certification for healthcare staff.
2. While CDC data report that spousal PN is consistently >90%, some health providers indicated much lower estimates for their institution/region, as low as 30-50%. There was a strong consensus that PN of non-spousal partners, especially partners of men who have sex with men, was very low.
3. Stakeholders were divided on compulsory PN: some participants voiced ethical concerns about patient privacy and decreased willingness to test while other participants felt that the public health benefits outweighed potential harms, particularly in China's cultural context.
4. The success of a clinic/hospital's PN services was often credited to 1-2 individuals who were exceptionally trusted and motivated, e.g., doing home visits in off-hours.
5. CBOs and peer support groups can be highly effective in increasing HIV disclosure.

CONCLUSIONS: The uneven implementation of high-quality PN and testing in China is likely contributing to missed public health opportunities. Research is urgently needed on PN for non-spousal partners. Future strategies can include scaling up PN training for providers, expanding CBO involvement, and creating forums to discuss culturally-specific ethical concerns.

PEE1474

THE VALUE OF PARTNERSHIP WITH HEALTH CENTRES IN IMPROVING ART ADHERENCE FOR ADOLESCENTS LIVING WITH HIV IN THE TRIPLE R PROJECT

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BACKGROUND: World Vision Eswatini is one of the Pact partners implementing the USAID/ PEPFAR funded Ready Resourceful and Risk Aware (Triple R) project. The goal is to prevent new HIV infections, reduce vulnerability and increase socio-economic resilience among OVC, adolescent girls and young women. Implementation is in six constituencies in south of the country.

DESCRIPTION: The project is addressing the needs of AYLHIV through a number of interventions that include both prevention interventions and effective treatment interventions for adolescents living with HIV. For the interventions to reach the target groups, the project works in partnership with Ministry of Health through Health centres.

To ensure that adolescents living with HIV/AIDS are retained in care, adhere to treatment and have a low viral load the health centres are the centres for treatment and house and coordinate Teen Clubs, which meet regularly. The Teens club members get to refill tablets, receive, psychosocial support and viral load measurement.

The health centres also brings professionals like Nutritionists and Social workers to provide support to AYLHIV and caregivers.

LESSONS LEARNED: The partnership with the Health Centres provides platform for a plethora of services to AYLHIV and their caregivers. This reduced frequency of absenteeism among AYLHIV because they do their refills on weekend. Adherence to treatment has increased since AYLHIV and caregivers get support and information from different service providers. There are early signs of sustainability of the program, since the health centres are taking ownership and a coordination of teen clubs.

CONCLUSIONS/NEXT STEPS:

- The project partnership with health centres has improved ART adherence among target groups, which are ordinarily difficult to reach. Empowering caregivers has also increased ART adherence among AYLHIV.
- The project will continue to advocate for more resources to be allocated to health centres to specifically, fund all activities associated with ART, adherence support for AYLHIV and the teen club program. This will ensure sustainability of the program, way beyond the funding current funding.

PEE1475

ENROLMENT OF NEWLY DIAGNOSED AND ANTIRETROVIRAL THERAPY EXPERIENCED HIV POSITIVE CLIENTS INTO AN ADVANCED HIV CARE CLINIC IN MALAWI

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BACKGROUND: There are limited data on the characteristics of patients with advanced HIV disease (AHD) in Malawi, who require prioritization for targeted interventions to reduce morbidity and mortality. We describe here the characteristics of patients enrolled in four AHD clinics in high-HIV burden districts of Thyolo, Blantyre and Dedza in Malawi.

DESCRIPTION: In Malawi, clients eligible for AHD clinics include those with CD4 <200 cell/mm3, WHO stage 3 or 4, or children <5 years regardless of CD4 or clinical staging. In our clinics, we also included ART-experienced clients with viral load (VL)>1000 copies/mL with CD4 <200. Enrolled clients received a clinical evaluation; screening for cryptococcal meningitis (CM) using serum cryptococcal antigen (CrAg), and if positive, cerebrospinal fluid (CSF) CrAg; and screening for tuberculosis (TB) using Xpert MTB/RIF, TB lipoarabinomannan (LAM) or chest x-ray. TB prophylaxis and treatment were provided, as appropriate. Demographic and clinical data of clients enrolled in AHD clinics between October 2018 and September 2019 were abstracted from patient records and AHD registers. Descriptive analyses of AHD screening were conducted.

LESSONS LEARNED: Of the 401 clients enrolled into AHD clinics, 228 (57%) were ART-experienced with high VL and CD4 <200, while 173 were newly diagnosed HIV-positive clients with CD4 <200. Most of the AHD clinic clients were male (53%) and median age (interquartile range [IQR]) was 34.5 (25.8-44.4) years. All the clients seen were evaluated for TB using TB LAM, GeneXpert or chest x-ray, resulting in 36 confirmed TB cases (27 were diagnosed by TB LAM, 6 by GeneXpert and 3 by chest x-ray) and all were linked to treatment. Almost all (n=382, 95%) clients were screened for CM by blood; 15 (4%) screened positive and of these, 8 had a positive CSF CrAg and were initiated on treatment with Amphotericin B, while 6 were started on fluconazole prophylaxis.

CONCLUSIONS/NEXT STEPS: A larger proportion of enrollees into Malawi AHD clinics were ART-experienced with high VL. Our findings also demonstrated late presentation of newly diagnosed HIV-positive patients. AHD clinics provided an opportunity to diagnose and manage TB/HIV coinfected clients.

PEE1476

FACTORS ASSOCIATED WITH NEWLY DIAGNOSED HIV INFECTION AMONG FSW

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BACKGROUND: The USAID MULU Key Populations Activity has been implementing a HIV prevention project targeting female sex workers (FSWs) through Drop-in Centers (DICs) and outreach services since 2018. FSWs in Ethiopia are disproportionately impacted by HIV, with

a prevalence of 23% compared to a national prevalence of 0.9%. To reach the remaining FSWs with undiagnosed infections, we used index case testing (ICT) for sexual partner and respondent driven testing (RDT) for social networks of HIV+ to offer HIV testing service The objective of this analysis was to identify factors associated with newly diagnosed HIV infection among FSWs in the community.

METHODS: We used program data from all implementation sites in the Amhara region and Addis Ababa City from October 2018-December 2019. We assessed new HIV positivity outcomes (number of new positives, and yield [proportion of all those tested who were new positives]) by testing approach (ICT vs RDT), age, HIV testing history, and region. Multiple logistic regression analysis was used to identify variables associated with identifying undiagnosed FSW living with HIV.

RESULTS: A total of 23,600 FSW were tested during the reporting period. Of these, 1,582 (6.7%) were tested through ICT, and 411 (26% yield) were diagnosed with HIV. In comparison 22,018 (93.3%) were tested through RDT, and 793 (3.6% yield) were diagnosed with HIV. A total of 1,204 cases (5.1% yield) were newly diagnosed with HIV. The odds of testing positive among FSWs was 9 times higher among FSWs tested through ICT compared to RDT (AOR=9; 95%CI=8.1-10.5). The odds of testing positive among FSWs who tested for the first time was 1.4 times higher compared to those with prior testing (AOR=1.4; 95%CI=1.2-1.6). There was no statistically significant relationship between age and region with HIV diagnosis. Linkage to HIV care and treatment within 90 days was 93%, but lower among FSW tested at outreach (90%) compared with those tested at DIC (95%).

CONCLUSIONS: ICT is an effective case finding approach and the volume of tests should be expanded to result in better case finding. The program should focus on FSWs who have never tested for HIV.

PEE1477

A QUALITATIVE ANALYSIS OF COUNSELLING SESSION CONTENT AND DELIVERY IN A ROUTINE HIV PROGRAMME IN SOUTH AFRICA

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BACKGROUND: Early identification of people living with HIV and subsequent engagement into HIV treatment is the key to reducing HIV-related illness, HIV-related deaths, and HIV transmission. With the scale-up of antiretroviral therapy (ART) programmes, counselling provided after HIV (post-test counselling) is aimed at leading to linkage to care and ART initiation. We sought to assess whether the delivery of post-test counselling sessions in a routine HIV programme was consistent with person-centred counselling and whether the health messages were aligned with the goals of universal test and treat as articulated by the World Health Organisation and local HIV testing service guidelines.

METHODS: We analysed transcripts of 40 post-test counselling sessions performed by 34 counsellors for clients who tested positive in ten public sector health facilities in a single urban district of South Africa. We used thematic analysis to identify key aspects of counselling technique and content provided to the patient.

RESULTS: Overall, the counselling sessions were highly didactic. Health communication mostly focused on healthy "lifestyle" messages regarding food and exercise, and on "safe" sex and condom use. When ART was mentioned it was described mostly in terms of costs of ART, ranging from required schedule and behaviour changes to risks of severe adverse reactions.

Further, use of ART was nearly always described as secondary to condom use. Overall, we identified five key themes of counselling messages which were often premised on incorrect information:

(1) behaviour changes that are required to maintain or improve health when living with HIV,

(2) the benefits of ART,

(3) misinformation supplanting the health benefits of ART,

(4) behaviour changes required for ART to be effective, and

(5) a need for caution with ART due to a wide range of severe side effects.

CONCLUSIONS: Based on our observations, counselling does not meet current recommendations and may even undermine efforts for universal ART initiation. A substantial re-adjustment is needed to deliver best practice counselling. This may include a combination of digital media-based counselling, counselling scripts, and truly person-centred counselling for a sub-set of individuals who are at risk of not linking to care, or not initiated ART within a specified time period.

PEE1478

INCREASED HIV CASE FINDING AND EFFICIENCY THROUGH FAITH-ENGAGED COMMUNITY POSTS: CATHOLIC RELIEF SERVICES CIRCLE OF HOPE, ZAMBIA (MARCH 2018–SEPTEMBER 2019)

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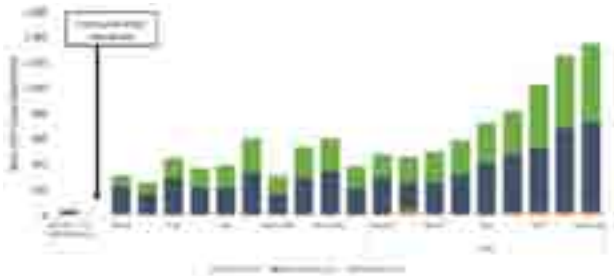
BACKGROUND: Catholic Relief Services-Circle of Hope expanded HIV services to four decentralized faith-engaged community posts (CPs) in Lusaka, Zambia, to reach men who are often missed by conventional healthcare services. CPs, staffed by multidisciplinary teams from local faith communities, provide confidential, comprehensive HIV services in areas of high commercial activity, such as marketplaces, that are frequented by men. Testing strategies include risk-based testing and the testing of sexual contacts and biological children. We evaluated the effect of CPs on HIV case finding, especially among men and children.

METHODS: HIV test results reported to PEPFAR were analyzed for the 17 months before CP introduction (October 2016–February 2018) and the 19 months following introduction (March 2018–September 2019). Testing yield (number of HIV-positive results/number of HIV tests) was compared using chi-squared tests, and results were disaggregated by age and sex and compared using Wilcoxon rank-sum tests, with p-values <0.05 considered statistically significant.

RESULTS: Significantly more people living with HIV (PLHIV) were newly identified after CP introduction (11,457; yield, 26%) than before CP introduction (866; yield, 22%; p<0.0001). Overall, the monthly median of PLHIV identified increased from 46 (interquartile range [IQR], 40–62) to 500 (IQR, 385–723; p<0.0001), increased among men from

16 (IQR, 11–21) to 239 (IQR, 160–310; p<0.0001), and increased among children from 0 (IQR, 0–2) to 10 (IQR, 7–27; p<0.0001). The proportion of HIV-positive men of all positive results increased from 34% to 43% (p<0.0001).



[Figure. People living with HIV newly identified by CRS Circle of Hope before and after the introduction of faith-community engaged health posts (March 2018)]

CONCLUSIONS: HIV services in faith-engaged CPs increased HIV case finding and testing efficiency. CPs were especially effective in identifying HIV-positive men and children. Involving community and faith organizations in the HIV response may help close the gaps in HIV case finding.

PEE1479

COMMUNITY-BASED HIV TESTING SERVICES ARE EFFECTIVE IN REACHING AND DIAGNOSING MEN: A SYSTEMATIC REVIEW

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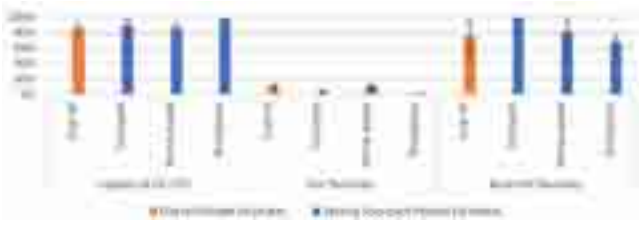
BACKGROUND: Men with HIV are less likely to know their status and be on ART than women. Strategies are needed to increase HIV testing among men if we are to reach 95-95-95 targets by 2030. Here we explore the potential of community-based HIV testing services (CB-HTS) among men.

METHODS: We conducted a global systematic review following PRISMA, searching seven electronic databases and published abstracts from CROI and IAS, for studies on CB-HTS published/presented between January 2015 and July 2018. This analysis presents studies reporting disaggregated CB-HTS outcomes among men and women (age 15+) in the general population. We estimated pooled proportions for each outcome using random effects models.

RESULTS: 76/13,218 studies were included in this review; 75% of which were in sub-Saharan Africa. More than half of all people tested through CB-HTS were men (61%; 95% CI: 57-65%). Men's pooled HIV testing uptake was 85% (CI: 75-92%), with highest uptake through workplace testing (97%; CI: 96-98%), followed by outreach (90%;95% CI: 75-98%) and home-based approaches (85%; CI: 74%-93%). Pooled uptake was lowest in TB index testing (33%; CI: 28-38%). Pooled HIV positivity was 5%; (CI: 4%-7%), with higher positivity in home-based (9%, CI: 6%-12%) as compared to workplace (1%, CI: 1%-2%) and outreach approaches (3%, CI: 2%-4%). A majority of diagnoses were new (89%, CI: 61%-100%); workplace testing yielded fewer new diagnoses (67%, CI: 53%-78%) than other approaches. Only 2 studies reported on ART initiation, ranging from 12%- 94%.



[Figure 1. Uptake, HIV positivity and new diagnoses of men via CB HTS]

CONCLUSIONS: CB-HTS continues to be an effective way to reach men, many of whom are first-time testers and with undiagnosed HIV, particularly using workplace and outreach approaches. Understanding men's pathway to HIV prevention, care and ART initiation following CB-HTS remains a key gap for further research. Failure to understand male engagement following CB-HTS will inhibit progress in meeting the 95-95-95 targets.

PEE1480

USING A MODELING-BASED APPROACH TO ASSESS AND OPTIMIZE HIV LINKAGE TO CARE SERVICES

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BACKGROUND: Timely engagement in care from an initial HIV diagnosis has patient and public health benefits. Identifying the most viable approaches to abbreviate this time is important. We used agent-based modeling, an innovative simulation approach, to explore the potential impact of viable approaches to strengthening HIV testing and linkage to care services (LTC) for timely engagement in care.

METHODS: We developed a prototype model to simulate testing HIV testing and LTC approaches with/without direct referral to an existing, evidence-based LTC referred to as SMILE servicing Memphis, Tennessee for recently diagnosed youth and young adults aged 13-24. From their testing location, patients are referred to SMILE either directly or indirectly via the Health Department. The model was informed by multiple sources including local epidemiological data, SMILE implementation data, and interviews with HIV services providers.

We tested two interventions separately and in combination: expanding testing to pharmacies and improving direct referral to SMILE staff from organizations currently providing testing. The primary outcomes were referral path and days to an initial treatment visit from initial day of diagnosis.

RESULTS: Detailed results are presented in the figure. Overall, the left panels describe the proportion of clients referred directly to SMILE for a typical year including, under Condition 3, where all current testing sites directly refer all clients to SMILE LTC compared to about one third of clients at current baseline. In the right panels, we see direct referrals, including expanding testing to pharmacies shortened days to linkage to care, but expanding testing to pharmacies without direct referrals lengthened days to linkage to care overall.

CONCLUSIONS: We demonstrate how different approaches to improving testing and linkage to care differentially affect timely engagement in care. Simulation methods like agent-based modeling can help to fill the gap through their capacity to test and compare many potential interventions.

[Figure.]

PEE1481

TIMELY DETECTION OF PEOPLE WITH HIV IN MEXICO: EFFECTIVENESS OF COMMUNITY INTERVENTIONS AND HEALTH CARE SERVICES

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BACKGROUND: Globally, one of the most important challenges for controlling the AIDS epidemic is increasing access to HIV testing and initiating treatment immediately. In Mexico in the period 2016-2018, the participation of civil society in timely detection strategies was strengthened and 32 community centers (CCDs) were developed. Objective was to evaluate the effectiveness of community organizations and health care services for the timely detection of people with HIV in Mexico.

METHODS: National trend analysis of the supply and application of HIV rapid tests according to territory and population groups from 2010 to 2017. Effectiveness for detection in health institutions was analyzed compared to CCDs. The measure of effectiveness was the timely detection of people with HIV (CD4 >500 cells/mm3 at the time of diagnosis). A descriptive analysis and conditional logistic regression were performed that included CCDs. The information analyzed was obtained from the official public records of health institutions and CCDs.

RESULTS: HIV testing increased 118% from 1,175,500 to 2,564,629 (2010-2017), which amounted to doubling the number of cases. Effectiveness was significantly higher in CCDs, 2.6 times (IC: 1.4-4.6) more cases detected in a timely manner than hospital and outpatient care units.

CONCLUSIONS: CCDs could contribute to timely diagnosis and rapid linkage to treatment to accelerate response to the epidemic. CCDs correspond to peer-served spaces, which could explain differences in effectiveness in health services.

PEE1482

IMPROVING ACCESS FOR YOUNG WOMEN: AWARENESS AND ATTITUDES AMONG DISPENSERS AND YOUNG WOMEN ABOUT ORAL PRE-EXPOSURE PROPHYLAXIS, THE DAPIVIRINE RING, AND DISTRIBUTION THROUGH PRIVATELY-OWNED DRUG SHOPS IN SHINYANGA, TANZANIA

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BACKGROUND: Adolescent girls and young women (AGYW, ages 15-24) in sub-Saharan Africa are at higher risk of HIV compared to their male peers. When accessing services at health facilities, many AGYW experience stigma and provider bias, which deter their use of HIV prevention and other sexual and reproductive health (SRH) services. Privately-owned drug shops, ubiquitous in many communities, may be an effective and less stigmatizing channel to deliver SRH products to AGYW, including HIV prevention products such as oral pre-exposure prophylaxis (PrEP) and the forthcoming dapivirine vaginal ring.

METHODS: In July-August 2019, we enrolled 26 drug shops in Shinyanga, Tanzania in an ongoing study to create “girl-friendly” drug shops where AGYW can access HIV self-testing and other SRH products. We interviewed all dispensers at baseline about shop operations and perceptions of SRH products. Dispensers were provided basic information about oral PrEP (approved in Tanzania) and the dapivirine ring (pending regulatory approval) and were asked about their interest in stocking each item. During follow-up, we surveyed AGYW (n=56) exiting shops about their interest in oral PrEP and the ring.

RESULTS: Dispensers were, on average, 43 years of age and 77% were female. Overall, 42% had heard of a medication for HIV prevention. Most dispensers reported interest in stocking oral PrEP (81%) and/or the ring (73%); no significant differences in interest were found by age, gender, or education. Most (85%) reported they would provide oral PrEP to AGYW who requested it. AGYW customers were, on average, 18 years old and 61% were in school. Only 19% of AGYW had heard of a medication to prevent HIV, yet 64% and 43% expressed some interest in using oral PrEP and the ring, respectively, after receiving basic information about the products.

CONCLUSIONS: We found high levels of interest in oral PrEP and the dapivirine ring among shop dispensers and AGYW in Shinyanga. Though hypothetical, these results warrant further exploration to understand to what extent these stated preferences are real. Privately-owned drug shops represent a unique and promising strategy to deliver HIV prevention to AGYW, who experience high rates of HIV and significant barriers to prevention services at health facilities.

PEE1483

MEDICATION SAFETY FOR HIV PROGRAMS IN NIGERIA: A FOCUS ON RESOURCE-CONSTRAINED SETTINGS

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BACKGROUND: It is essential to ensure appropriate medications are accessible to persons living with HIV (PLWH). However, it is equally important to ensure the medications are appropriately administered to PLWH without causing harm to them. Medication safety is possible but could have several limitations especially in resource-constrained settings where there are no electronic devices for monitoring medication safety. The aim of the study was to evaluate the cost-effective interventions made to ensure medication safety for PLWH within Nigerian HIV programs located in resource-constrained settings.
METHODS: The study was done at 20 HIV treatment facilities located in resource-constrained settings in Nigeria. Medication safety was defined as freedom from preventable harm with medication use. Medication safety interventions included, but were not limited to: training of community healthcare workers through continued medical education programs and clinical mentorship by pharmacists, as well as the provision of information on medication safety to PLWH during medication adherence sessions at the facilities. Interventions were evaluated by adopting the World Health Organization's methods for the calculation of outstanding unintentional medication discrepancies, medication reconciliation, and provision of information on medication safety measures for patients during medication adherence counselling sessions at the facilities. The pre- and post-intervention evaluations were done in December 2017 and December 2019 respectively. Chi-square was applied as inferential statistics; P <0.05 indicated statistical significance.
RESULTS: The percentage of outstanding unintentional medication discrepancies reduced from 4.70% (pre-intervention), to 0.13% (post-intervention). This was attributed to the increase in medication reconciliation from 70.09% (pre-intervention), to 98.20% (post-intervention). Provision of information on medication safety measures increased from 76.00% (pre-intervention), to 99.05% (post-intervention). This subsequently improved adverse drug reporting by patients from 41.00% (pre-intervention), to 98.00% (post-intervention). However, there were few gaps identified in the provision of information required for medication safety during tuberculosis preventive therapy.
CONCLUSIONS: The cost-effective interventions significantly improved medication safety at HIV treatment facilities and are recommended for HIV programs in resource-constrained settings in Nigeria. However, further interventions should be targeted at provision of optimum information for medication safety during tuberculosis preventive therapy.

EVIDENCE ON MAKING TASK SHIFTING WORK

PEE1484

A PHARMACIST-DRIVEN INTERVENTION FOR ROUTINE ANTIRETROVIRAL (ARV) REFILL REQUESTS CAN IMPROVE ARV PRESCRIBING AND OVERALL HIV CARE

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BACKGROUND: Kaiser Permanente is an integrated health care delivery system that includes clinical care, pharmacy services and insurance coverage for 2,972 persons living with HIV in San Francisco. 97.7% of these persons are prescribed ARV medications and 96.3% have undetectable serum levels of HIV RNA.
DESCRIPTION: A pharmacist-driven intervention was established to review ARV prescription refill requests. An HIV-specialty pharmacist reviewed all ARV refill requests for appropriateness of regimen, drug-drug interactions, timeliness of refills, presence of updated safety and viral monitoring laboratory tests, appointments with primary HIV providers and issues with prescription drug coverage. In the first 4 months of this program, 693 ARV refill requests were reviewed. 10 ARV modifications were made to simplify or update regimens; 7 clinically significant drug-drug interactions were identified and corrected; 114 patients were contacted to update safety and/or viral monitor laboratory tests; and 46 patients were contacted to address other issues (e.g., drug coverage, overdue primary care appointments).
LESSONS LEARNED: 1) Routine ARV refill requests offer an opportunity to identify and correct ARV prescribing issues. 2) Pharmacists are well-positioned and well-trained to address several issues related to ARV prescribing and HIV monitoring. 3) Use of pharmacists in this capacity offloaded refill requests from primary HIV providers and provided high satisfaction from providers.
CONCLUSIONS/NEXT STEPS: The use of pharmacists to address routine ARV refill requests offers benefits in ARV prescribing as well as the overall quality of HIV care and engagement.

INTEGRATING MENTAL HEALTH AND WELLNESS IN HIV PROGRAMMING

PEE1485

MENTAL HEALTH MATTERS: HIGH PREVALENCE OF DEPRESSION AMONG THAI TRANSGENDER WOMEN IN THAILAND

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BACKGROUND: Transgender women (TGW) are among the key populations with very high risk of HIV infection. Research data, mainly from Europe and North America, points to a high prevalence of mental health disorders among TGW, especially among those living with HIV. Unfortunately, prevalence of common mental health disorders

among TGW in Thailand, a country with a population size estimation of 313,747 TGW, is unknown. We sought to establish the prevalence of depression among TGW clients seeking healthcare services at Tangerine Community Health Clinic, a transgender-led clinic located in Bangkok, Thailand.

METHODS: In July 2019, mental health screening was integrated into Tangerine Clinic's transgender health and HIV services. A self-administered nine-item Patient Health Questionnaire (PHQ-9) was used to screen for depression. We conducted a cross-sectional evaluation of PHQ-9 scores, demographic characteristics and HIV behavioral risks among TGW clients accessing HIV testing services during July – September 2019.

RESULTS: Of 382 TGW screened, depressive symptoms were detected as mild in 30.9%, moderate in 15.2%, moderately severe in 7.9%, and severe in 1.3%. The remaining 45 % had no depressive symptoms. HIV-positive status was found to be higher in TGW with depressive symptoms than those without (8.7% vs. 3.6%, p=0.043). TGW with depressive symptoms were more likely to be older than 35 years old (81.2% vs. 76.6%, p=0.041) and had monthly income of less than 20,000 THB (76.5% vs. 66.3%, p=0.039). Of 348 (91.1%) who reported sex in the past 12 months, 52.9% had anal sex, 13.4% had neo-vaginal sex and 45.0% had oral sex. No difference was seen between TGW with and without depressive symptoms in terms of engagement in sex work, education level, access to gender-affirming care or sexual routes.

CONCLUSIONS: More than half of Thai TGW had depressive symptoms, highlighting the urgent need to integrate mental health screening, referral and treatment into HIV prevention, care and treatment services. A more thorough understanding of mental health conditions and their relationships to certain socio-demographic, behavioral and gender-affirming care access characteristics is needed to guide tailored interventions for integrated mental health and HIV care for TGW.

PEE1486

ACHIEVING VIRAL LOAD SUPPRESSION AND QUALITY OF LIFE FOR HIV+ ADULTS IN KENYA

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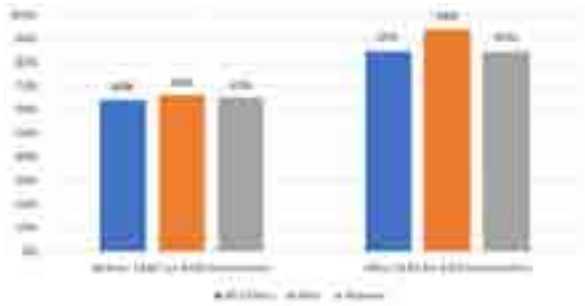
BACKGROUND: CARE for AIDS (CFA) is a faith-based organization that aims to serve HIV+ adults living in urban slums throughout Kenya to move them toward viral load suppression (VLS) and reduction in internalized stigma. We serve the last 5% of virally unsuppressed clients in an effort to contribute to 95, 95, 95, 95 goals, quality of life being the fourth 95.

DESCRIPTION: CFA centers operate within local churches and serve all persons without discrimination. Each center employs two social workers who are trusted leaders in the community motivated by compassion to serve the most vulnerable in their communities. Each center serves 80 HIV+ adults annually - many are non-suppressed and lost to follow up clients referred to CFA through government clinics. All clients in this dataset (n=636) live in urban slums and are experiencing extreme poverty. In an effort to move clients to VLS and to achieve the fourth 95, quality of life (reduction in internalized stigma) we implement the following interventions: one-on-one weekly counseling sessions to help clients achieve and maintain VLS and cultivate strong self-worth, and bi-monthly group therapies to further encourage VLS through peer support and to decrease internalized stigma.

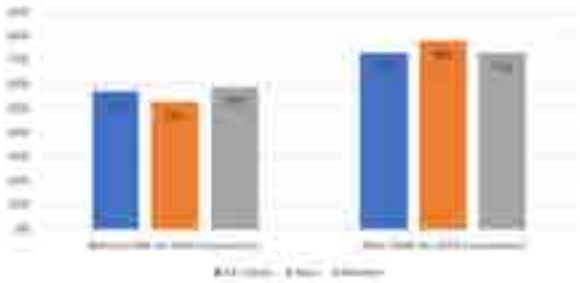
LESSONS LEARNED: After CFA interventions, clients showed significant increase in VLS and increase in public status disclosure, showing an improved quality of life and decreased internalized-stigma (figures).

Lessons learned regarding success include:

- Establishing trusting relationships between clinics and church based centers
- Locating centers in existing community churches
- Targeting the last 5% of unsuppressed clients
- Employing compassion-driven local staff in all CFA centers
- Integrating medical and mental/emotional health interventions



[Figure. Viral load suppression rates pre and post CFA]



[Figure. Client disclosure rates (as measure of decrease in stigma) pre and post CFA]

CONCLUSIONS/NEXT STEPS: Lessons learned regarding serving the last 5%, partnering with both local churches and government clinics, and leveraging local, compassion driven staff can be extended to other settings throughout Sub Saharan Africa to help reach VLS and high quality of life for vulnerable populations.

PEE1487

COLLABORATIVE CARE FOR THE DETECTION AND MANAGEMENT OF DEPRESSION AMONG ADULTS RECEIVING ANTIRETROVIRAL THERAPY IN SOUTH AFRICA: THE COBALT RANDOMISED CONTROLLED TRIAL

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BACKGROUND: Detection and treatment of comorbid depression is critical to achieve viral suppression. We assessed the effectiveness of a collaborative care intervention for depression in adults on antiretroviral treatment with depressive symptoms, in reducing depressive symptoms and improving viral suppression.

METHODS: CobALT was a pragmatic, cluster-randomized trial in 40 primary care clinics in South Africa conducted from April 2015 to January 2018. Participants were≥18 years, receiving ART and scored≥9 on the Patient Health Questionnaire-9 (PHQ-9). The control comparison included the integrated chronic care programme as usual care while intervention clinics added a collaborative care package. This entailed supplementing primary care 101 training with four additional mental health sessions and nurse-training on clinical communication skills. Lay depression counsellors provided manualised depression counselling with structured supervision. We estimated intervention effects using multiple mixed effects regression models adjusting for trial clustering. All participants were enrolled in their randomized group.

RESULTS: A total of 6623 patients were screened and 2002 enrolled (1008 intervention vs 994 control). Follow-up rates were 88% vs 87% at 6-months and 92% in both arms at 12-month. While PHQ-9 response was common in both treatment groups, the difference between treatment groups was not statistically significant (risk difference=-0.08, 95% CI=-0.19; 0.03, p=0.184). There was no statistically significant difference in viral suppression between groups (RD=0.02, 95% CI= -0.01; 0.04, p=0.125). More than 4000 patients were referred to facility-based counsellors, however, uptake of the counselling service among ART patients enrolled in the data collection component of the trial was low, with 5% of the participants receiving counselling. Forty-six deaths occurred during the trial, 25 in the intervention and 21 in the control arm. The intervention was not significantly associated with death (HR=1.18, 96% CI=0.65; 2.15, p=0.589). One death occurred by suicide.

CONCLUSIONS: The collaborative care intervention for depression among patients receiving ART had no effect on either mental or physical health outcomes and the intervention uptake was low. With the large burden of untreated depression, nurses appear to be referring the most severe depression cases for counselling. Facility-based counselling has a role to play in the treatment of depression.

PEE1488

INTEGRATING BEHAVIORAL HEALTH AND HIV CARE: LESSONS LEARNED FOR PRACTICE TRANSFORMATION AND RESEARCH

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BACKGROUND: Disabling behavioral health (BH) conditions are more prevalent among people living with HIV. Despite the availability of models for care integration and the tools to achieve it, most HIV programs struggle to offer BH services even though HIV expert clinicians and leaders identify HIV mental health as their most urgent training need. New Jersey's HIV and Behavioral Health Integration Project (BHIP) is a multi-year quality improvement Learning Collaborative designed to (1) integrate BH and HIV care; (2) improve access to BH care; (3) improve patient outcomes, and (4) create system change in BH capacity for the New Jersey HIV care system.

DESCRIPTION: Eighteen HIV care sites engaged in the Learning Collaborative, seven Learning Sessions, Technical Assistance and monthly webinars, Practice Transformation coaching, and Twinning match-ups with mentor sites. BHIP used the Institute for Healthcare Improvement's Breakthrough Learning Series Model with innovations including a partnership with the Northeast/Caribbean AIDS Education and Training Center for capacity-building, the addition of ongoing Practice Facilitation coaching to implement change ideas, and engagement with Twinning sites. BHIP sites reported bimonthly performance data and carried out quality improvement projects to improve BH screening, referral, retention in evidence-based BH care, and improved viral suppression.

LESSONS LEARNED: Over the three-year implementation, gaps in services and processes were identified by sites as points where tests of change could have greatest impact. BH screening increased 2-6%; follow-up planning increased from 58% to 70%; retention in behavioral care increased by 3%; viral suppression among those with BH disorders increased from 73% to 84%; and overall viral suppression increased from 77% to 85%. Lessons learned, particularly for settings in which no additional funding for BH specialty care is possible, include the need for greater task-shifting and referral network development, as well as the need for performance measurement precision. Best practices were shared among Learning Collaborative members, strengthening processes, policies, and procedures for these sites, which is, itself, a best practice.

CONCLUSIONS/NEXT STEPS: BHIP sites enhanced their care continuum outcomes. BHIP's model/processes served as the basis for a NIH-funded planning grant to develop an implementation study to achieve multiple integration goals for HIV care continuum outcomes.

PUBLIC-PRIVATE PARTNERSHIPS

PEE1489

REACHING NAMIBIA'S NATIONAL HIV PREVENTION GOALS THROUGH PUBLIC-PRIVATE PARTNERSHIPS TO EXPAND ACCESS TO VOLUNTARY MALE MEDICAL CIRCUMCISION (VMMC) SERVICES

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BACKGROUND: Namibia's Ministry of Health and Social Services (MoHSS) prioritizes VMMC as a core intervention to avert new HIV infections. To achieve this goal the country has set out to conduct 330,000 circumcisions by 2022(HIV Combination Prevention Guidelines 2018; National Strategic Framework for HIV and AIDS Response in Namibia 2017/18 to 2021/22). However, Namibia's national VMMC scale up plan is challenged by limited access to public-sector services in a country where 70% of physicians work in the private sector. To capitalize on the human resources available in the private sector the AIDSFree project, with support from PEPFAR through USAID, partnered with Khomas regional VMMC team to pilot and introduce free VMMC services for both insured and non-uninsured males accessing services at private health facilities.

DESCRIPTION: Facilities were assessed using a standard checklist developed by AIDSFree and the MOHSS. Designated health workers were trained in VMMC demand creation, counseling and surgical skills. Private facilities were also supported to set up a dedicated quality management team for VMMC. AIDSFree provided training, mentorship, onsite coaching as well as supplies such as disposable surgical kits, data collection tools and emergency kits. All VMMC data were entered into the national DHIS system. A standard fee negotiated with the Namibia Medical Aid Fund is used to reimburse for each verified circumcision performed. Since inception the program has expanded to four regions with a total of 29 participating private facilities.

LESSONS LEARNED: Between October 2016 and November 2019, 61,199 boys and men received safe, high-quality VMMC services through AIDSFree support. Over three years, the private sector contributed 40% to the overall milestone of 150,000 circumcisions, the halfway mark of the Namibia's VMMC target of 330,000.

CONCLUSIONS/NEXT STEPS: Namibia has a well-developed, robust private health sector whose potential to contribute to important public health goals was not fully utilized. AIDSFree's engagement of private sector providers in these regions clearly accelerated the achievement of previously lagging national VMMC targets. By leveraging resources in the private sector and collaboration with the medical fund Namibia could further open windows to resources previously untapped and strengthen its journey to sustainable AIDS response.

PEE1490

INFORMING A SUSTAINABLE FARM WORKERS MODEL FOR PRIMARY HEALTHCARE SERVICES TO LOW INCOME WORKERS IN THE AGRICULTURAL SECTOR IN SOUTH AFRICA

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BACKGROUND: The Hoedspruit Training Trust (HTT) a private-public partnership operating in the Limpopo area offering primary healthcare (PHC) services focused around HIV prevention and treatment as well as a range of broader health-related services. HTT operations rely on a combination of funding mechanisms including partnerships with the Department of Health (DOH) and local and international funders. Services are currently offered free of charge or at a minimal fee to low-income workers in the agriculture, nature conservation and tourism sectors. Limited resources and funding uncertainty created a need to develop a more sustainable funding model.

DESCRIPTION: A funding model for the delivery of core HTT services was developed using different strategies that ensure cost-recovery. Model inputs included top-down and bottom-up costing as well as patient and employer perspectives to inform different funding scenarios. Model components included ongoing donor funding, a selection of healthcare packages targeted at local farmers for their workforce, as well as options for patients to pay different levels of co-payments per visit. Packages included a varying number of covered visits and volume-based pricing.

The crude average cost per patient visit based on 24,000 annual visits, ranged from R272 to R340 depending on DOH support levels. Per patient visit costs ranged from R42 (minor acute), R51 (chronic), to R206 (HIV). The model predicts that with the continuation of the DOH partnership for the provision of ARVs and laboratory tests and a moderate uptake by farmers of healthcare packages together with expected patient levels of willingness to pay, HTT will still be required to source additional donor funding. Added health services and costing strategies were also identified.

LESSONS LEARNED: A feasible funding model that delivers a cost-neutral solution relies on multiple levers. Clinical and financial data is necessary to ensure the model is relevant to the context. The design of a community-based health funding model should take willingness to contribute by both employer and farm workers and community-based social capital into consideration.

CONCLUSIONS/NEXT STEPS: The design and associated pricing of a healthcare funding model should consider clinic costs, clinic volumes, employer concerns and willingness to contribute, employee ability to pay, and social capital for long-term sustainability.

PEE1491

PUBLIC-PRIVATE-PARTNERSHIP (PPP) FOR COUNTRYWIDE SCALE-UP OF HIV-1 VIRAL LOAD TESTING IN INDIA

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BACKGROUND: Viral suppression is the goal for People Living with HIV(PLHIV) as well as the metric for HIV epidemic control. In 2018, India launched countrywide Viral Load (VL) testing to reach UNAIDS 90-90-90 targets as part of public health priority.The National AIDS Control Organization is scaling up VL testing from 14000 annually in 2016 to 1,500,000 in 2020- 2021, across a geographically and culturally complex sub-continent,by increasing public sector testing, as well as strategic purchase of services from the private sector.

DESCRIPTION: The purpose of this commentary is to examine the operational challenges and innovative solutions from large-scale implementation of a public-private-partnership (PPP) model for HIV-1 viral load testing and identify key lessons for quality laboratory services in the public health implementation of epidemic control.

LESSONS LEARNED: Framework for a PPP model included making available "Guidelines on Quality Monitoring System for Outsourced Viral Load Tests" and a "National Quality Assurance Committee" to ensure quality for outsourced testing.Private sector partner engagement is based on capacity to handle the testing load, experience in sample collection and safe transport across India with adherence to global standards of quality. Private sector entities are required to train staff on sample collection, sample handling, transportation, sensitivity to PLHIV and proper bio-medical waste management.Supervisory visits and assessments at the collection and testing facilities are part of routine monitoring.

PPP model was initiated in February 2018 with routine viral load testing for HIV-1.Key issues identified and addressed included: efficiency of the sub-contracted partners for collection and transport, avoiding contamination of samples, calibration of centrifuges and continuous site level training through LMS. Evidences for success are:reduction in complaints from providers and beneficiaries as well demonstration of the program level improvement in viral suppression rate from 65% to 80%, with a total 6, 43,000 tests done through the private sector.

CONCLUSIONS/NEXT STEPS: Leveraging the PPP model with responsive innovations for efficient implementation of High Quality laboratory support for the public health response to HIV in India's large geographically and culturally complex subcontinent can guide high quality implementation science.

PEE1492

PUBLIC PRIVATE PARTNERSHIP: PRIVATE SECTOR PLAYS A CRITICAL ROLE IN GOVT. OF INDIA'S GOAL OF EMTCT. EXPERIENCE FROM GLOBAL FUND SUPPORTED AHANA PROJECT IN INDIA

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BACKGROUND: India is aiming for EMTCT by 2020 and saturation of pregnant women with HIV testing is the first step towards achieving EMTCT of HIV. While the country has an elaborate public health system to reach out to the pregnant women coming for the services in the public sector and captures the record, there is an estimated 20-25 percent out of 29 million pregnancies catered by the private sector in the country. Project Ahana funded by The Global Fund aims to engage private sector to ensure HIV testing and recording those for the country EMTCT response.

DESCRIPTION: A mobile application based reporting system was introduced to capture the HIV testing information at the private sector. Altogether, 6982 private facilities catering to estimated 2.4 million pregnancies across 357 districts of 14 intervention states were reached out and provided orientation on HIV testing and reporting. Data for a period of April, 2018 to Sept, 2019 was analysed using Microsoft excel.

LESSONS LEARNED: Ahana adopted a cascaded approach, with A) 6,982 hospital mapped for potential engagement, B) 2,747 hospitals got engaged after a structured assessment with 4,500 private medical practitioners provided with the orientation on PMTCT and reporting, C) 2,732 hospitals were registered in the mobile application database and started reporting in the database regularly. While the mapping and engagement is a continuous process, a total of 1.5 million pregnant women received HIV testing through private facilities and for the first time reported in the national HIV response during the period of April, 18 to Sept, 19 thus reducing the gap in the service access and reporting.

CONCLUSIONS/NEXT STEPS: With 1.5million HIV testing among pregnant women recorded in the 14 intervention states, contributes a clear 10 percentage against the estimated 14 million total pregnancies; which has been recorded and reported for the first time towards country HIV response. While there is a long way to go and a complete saturation of all cases in the private facilities, the intervention suggests, that EMTCT can be possible only through an integrated public and private integrated response.

PEE1493

THE GETTING TO ZERO SAN FRANCISCO (GTZ-SF) CONSORTIUM: A COLLECTIVE IMPACT APPROACH TO ADDRESSING OUR LOCAL EPIDEMIC THAT CAN BE REPLICATED IN OTHER JURISDICTIONS

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BACKGROUND: In 2013, a small group of academic, health department, and community leaders formed the GTZ-SF Consortium, with the goals of getting to zero new HIV infections, HIV-associated deaths, and HIV-stigma.

DESCRIPTION: GTZ-SF operates under collective impact, where multiple sectors of society unite under a common agenda, using shared measurement, mutually reinforcing activities, continuous communication, and supported by a small organizational backbone. We have grown to >300 members, supported by 1 administrator. While headway has been made in decreasing new HIV diagnoses (51% decrease from 2013-2018), and in viral suppression (74% for all San Franciscans),

less progress has been made in reducing HIV-deaths (19% decline), and no or modest declines in stigma. Diagnoses and viral suppression are poorer among African Americans, Latinx, people who inject drugs, and people experiencing homelessness.

LESSONS LEARNED: 1) GTZ strategies require widespread engagement from community, providers, scientists, politicians, and the private sector.

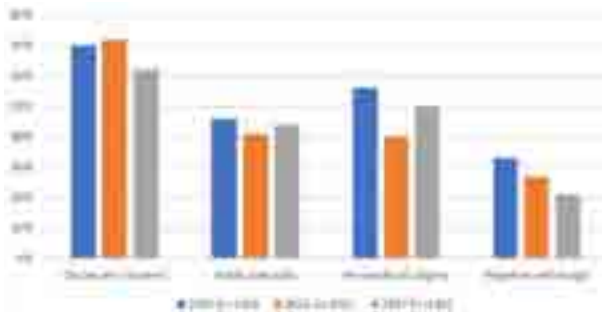
2) A cross-sector approach (e.g., partnering with homelessness advocacy organizations, End Hepatitis C, STI efforts) is an effective way to address cross-cutting issues.

3) Volunteer committees and task forces are an effective way to move targeted agendas forward. We have launched PrEP, same-day-treatment, and retention programs and initiated city-wide calls-to-action regarding homelessness, mental health treatment, and substance use.

4) A small but diverse steering committee provides real-time communication on funding and policies, allowing nimble responses.

CONCLUSIONS/NEXT STEPS: The collective impact approach has mobilized broad teams to address gaps identified through surveillance data. This approach can serve as a model for other jurisdictions planning to launch GTZ efforts.

[Figure 1. HIV diagnoses, deaths and prevalence, 2006-2018, San Francisco]



[Figure 2. Stigma measures from the Medical Monitoring Project]

PEE1494

PUBLIC-PRIVATE PARTNERSHIP MODELS HELPED ACCELERATE SCALE-UP OF EMTCT SERVICES TO 26,000 PRIVATE HEALTH FACILITIES ACROSS 22 STATES OF INDIA

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BACKGROUND: India has an estimated 30 million pregnancies annually, and 29% of them deliver in the private health sector. Thus, engagement and saturation of the private sector are essential to achieve the Elimination of Mother to Child Transmission of HIV (EMTCT). Recognizing this, the government of India formulated a policy framework and developed flexible models of public-private partnerships (PPP) for engaging the private health sector. SAATHII-led Svetana program partnered with government to scale-up EMTCT services through PPP in 22 states which account for 64% of 8.7 million estimated private sector deliveries in India.

DESCRIPTION: The Svetana consortium partners (SAATHII, SVYM, Prayas, NCPI+, and GSNP+) with GFATM funding, initiated the scale-up from October 2015 in 14 states and expanded to 22 states in January 2018. Interventions components included advocacy with professional medical associations (PMA), mapping and enrollment of eligible private facilities under one of the PPP models, tailored to their willingness to enter into formal agreements with the government, provide EMTCT services and share data. Enrolled facilities were provided customized technical assistance for the integration of HIV testing and counseling services and establishment of referral systems with public facilities for confirmation of test results, provision of HIV care and treatment for diagnosed positive and infant diagnosis. In addition, simplified technology-based reporting system called HIV Pulse was developed and deployed for easy reporting, which was also adopted by the government

LESSONS LEARNED: By September 2019, 45,489 private facilities were mapped of which 27,899 were found to be eligible and 94% were enrolled in the program. Of these,16,648 facilities registered in HIV Pulse, and 86% reported to the national programs. Consequently, HIV counseling and testing coverage in the private sector in 22 states increased from 37% in December 2017 to 65% in September 2019. Furthermore, the program detected 3,800 HIV+ pregnant women and linked them to treatment contributing to the overall reduction of the EMTCT coverage gap by 15%.

CONCLUSIONS/NEXT STEPS: Saturation of the private sector is possible with an enabling policy framework, ongoing technical assistance, simplified reporting mechanism, effective referral mechanisms, and strong coordination with the government.

APPROACHES TO SCALE AND THE OPTIMIZATION OF SERVICE DELIVERY

PEE1495

SCALING UP ISONIAZID PREVENTIVE THERAPY UPTAKE AMONG HIV CLIENTS IN KOGI STATE, NIGERIA: A QUALITY IMPROVEMENT APPROACH

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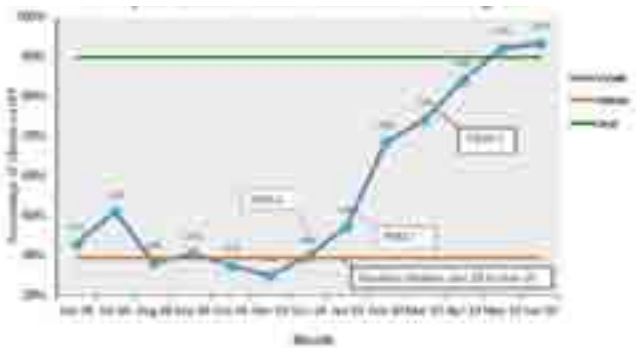
BACKGROUND: Tuberculosis is the leading cause of death among people Living with HIV (PLHIV). However, PLHIV who receive 6 months of Isoniazid can prevent tuberculosis by up to 90%. Despite this knowledge, Isoniazid Preventive Therapy (IPT) coverage is less than 40%. A project reported an increase in median IPT uptake from 40% to 87% among new clients within 10 months. The aim of the project was to replicate this and scale-up to include both new and old clients.

METHODS: Baseline data was collected over 6 months by auditing care cards of clients across six HIV sites with a combined number of 795 active clients shows a median IPT uptake of 39%. The target was to achieve at least 90% IPT uptake over a 6-month period. Root causes identified were knowledge gap on current guidelines, lack of commitment of facility staff, and commodity stock-out. Implementation was conducted in 3 Plan -> Do -> Study -> Act (PDSA) cycles at two months intervals starting with structured capacity building for focal persons in December 2018 followed by identification of facility champions, and isoniazid commodity security.

RESULTS: A total of 2415 encounters were documented during the intervention phase. Children accounted for 7% (n = 163) and adults 93% (n = 2252), women represented 61% (n = 1478) and men 39% (n = 937). Following the first PDSA cycle, there was an increase in IPT uptake from the baseline score of 39% to 48% which rose to 74% after the second cycle and to 94% in the last month of the project. Overall, there was consistent rise in IPT optimization with a shift in median value from 39% to 74%.



[Figure. IPT optimization percent in clients attending clinics]

CONCLUSIONS: Implementation of three PDSA cycles focusing on addressing knowledge gap, having a facility champion and commodity management has shown replicability and scalability in addressing IPT optimization.

PEE1496

COMMUNITY AND FACILITY BASED MODEL INTEGRATION IN NEEDLE AND SYRINGE EXCHANGE PROGRAM IN A SUB SAHARAN SETTING

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BACKGROUND: World health organization (WHO) has recommended practical strategies and ideas aimed at reducing negative consequences associated with drug use in response to HIV. The needle and syringe exchange program (NSP) is a harm reduction intervention targeting people who inject with Drugs (PWIDs). Uganda as a country does not have specific policies and guidelines for implementation of Needle and syringe Exchange programs. Most at Risk populations' initiative (MARPI) since 2008 has been the forefront of building resilient health systems that are key to access and utilization of integrated Sexual and Reproductive Health Services (SRHS) and HIV services for key and priority populations in Uganda. MARPI is a pioneer organization in direct provision of integrated SRHS and HIV services for key and priority populations and has built capacity for other institutions-small and big to take lead on integrated SRHR and HIV services for most at risk populations. The period March – September 2018, MARPI piloted NSP in Kampala and Wakiso in collaboration with the Uganda Harm Reduction Network to assess the feasibility of NSP among PWIDs in Uganda.

METHODS: This pilot study MARPI used two delivery models (Facility based Model and community-based Model).

Use of facility based model; clients picked new needles and syringes and returned the used ones as they received other SRH services.

Community model; This was divided in to two approaches, Peer-to-peer; where peers delivered new and collected used needles and syringes from the PWIDs and community outreach where health service providers delivered new and collected used needles and syringes to the PWIDs in the community.

RESULTS: Up to 780 needles and syringes were distributed. 236 (30.2%) facility model and 544 (69.7%) community model with, 220 (28.2%); community outreach and 348(44.6%) peer-to-peer. Overall return of used needles and syringes was 305 (56%); direct return to the facility by users 207 (67.8%), 23 (7.5%) peer-to-peer and 75 (24.5%) at outreach.

CONCLUSIONS: This pilot revealed that the distribution of needles and syringes to PWIDs was feasible with community delivery model being the most preferred by PWIDs. Guidelines should be put in place to streamline this program at national level.

PEE1497

"ONLY TWICE A YEAR": A QUALITATIVE EXPLORATION OF SIX-MONTH ANTIRETROVIRAL TREATMENT REFILLS FOR PEOPLE LIVING WITH HIV IN KHAYELITSHA, SOUTH AFRICA

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BACKGROUND: Longer intervals between routine clinic visits and medication refills are part of patient-centred, differentiated service delivery (DSD), and have been shown to improve patient outcomes as well as optimise health services – vital as 'universal test-and-treat' targets increase numbers of HIV patients on antiretroviral treatment (ART). We performed a qualitative study to explore the experience and acceptability of six-month refills in adherence clubs in Khayelitsha, South Africa.

METHODS: In-depth interviews were conducted in isiXhosa with purposively selected patients and in English with healthcare workers and key informants. The participants had been involved in a randomised controlled trial evaluating multi-month ART dispensing in adherence clubs in Khayelitsha, comparing six-month and two-month refills. All transcripts were audio-recorded, transcribed and translated to English, then manually coded and thematically analysed.

RESULTS: Twenty-three patients (16 in six-month and seven in two-month clubs), seven healthcare workers and six key informants were interviewed between June and November 2019. Patients found six-month refills increased convenience and flexibility to meet other obligations, and reduced unintended disclosure by offering privacy in the community. Contrary to key informant concerns about patients' responsibility to manage larger quantities of ART, patients receiving six-month refills were highly motivated and did not face challenges transporting, storing or adhering to their treatment. All participants felt that strict eligibility criteria were necessary for patients to realise the benefits of extended refills.

Six-month refills were felt to increase the health system's efficiency. However, a significant concern was that the existing drug supply system would struggle to adapt to six-month ART refills at scale, and that a precarious supply chain would both limit the feasibility of implementation and be threatened by the additional stress longer ART refills would place on to the system.

CONCLUSIONS: Patients, healthcare workers and key informants found six-month refills within adherence clubs acceptable and beneficial, but concerns were raised about the reliability of the supply chain to manage extended multi-month dispensing. Stepwise, slow expansion could avoid overstressing supply and allow time for the health system to adapt, permitting six-month ART refills to enhance current DSD options to be more efficient and patient-centred within current health system constraints.

PEE1498

IMPROVING SAME DAY ART IN BOTSWANA: A HEALTH SYSTEM STRENGTHENING APPROACH

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BACKGROUND: Timely linkage to treatment is critical to reach the 95-95-95 UNAIDS targets and optimize client's health outcomes. Botswana Partnership for Advance Clinical Education (BPACE), a program funded by PEPFAR through CDC, implemented an intensive intervention called Reboot that meant to ensure that HIV-positive individuals were initiated on ART within 7 days, preferably on the same day. This abstract aims to evaluate the effect of Reboot on Same Day and Fast-track linkage to treatment.

METHODS: We conducted a retrospective cohort analysis of patients aged 18 years or older who were newly HIV diagnosed from October 2018 to September 2019 across 41 high HIV burden health facilities. Starting on February 2019, BPACE implemented the following interventions as part of Reboot: 1) introduction of a policy where clients could be transferred to preferred facility following ART initiation; 2) availability of 14 days starter packs of ART at multiple service points; 3) introduction of on-call clinicians after-hours and weekends; and 4) training of 49 prescribers who acted as facility champions to spearhead this initiative; and 5) fast-track peer counseling following HIV diagnosis. We used logistic regression models adjusting for clustering by facility to assess the association of the Reboot with same day or within seven days ART initiation.

RESULTS: From October 2018 to January 2019, 1990 newly identified clients initiated treatment of these 35% were initiated the same day of diagnosis and 71% within 7 days. Following the launch of the reboot (February to September 2019), 3308 newly identified clients were initiated on ART, 65% were initiated the same day of diagnosis and 86% within 7 days. A client was 3.7 (OR 95% CI 3.3-4.2) times more likely to be initiated the same day of diagnosis or 2.5 (OR 95% CI 2.1-2.8) times more likely to be initiated within 7 days than before reboot. The strong associations remain even after controlling by sex and age.

CONCLUSIONS: The multi-level strategies deployed as part of Reboot demonstrated to facilitate ART initiation the same day or within seven days of diagnosis. We recommend scaling up of these interventions to support linkage to treatment.

PEE1499

DELAYING COURIER SPECIMEN COLLECTION TIME IMPROVES PATIENT ACCESS TO VIRAL LOAD TESTING, GAUTENG SOUTH AFRICA

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BACKGROUND: South Africa currently uses a courier network for transporting specimens from primary healthcare facilities to centralized testing laboratories managed by the National Health Laboratory Service. After specimens have been collected from the clinic by the courier network for the day, patients not yet attended to are unlikely to receive same-day blood-draw. This could mean a delay in viral load (VL) testing for HIV patients. Only 69% of patients undergo VL testing according to the guideline-recommended schedule. We first aimed to determine whether a relationship between courier specimen collection time and VL access existed and, if so, whether the courier network could be optimized to delay specimen transport times.

METHODS: For a convenience sample of clinics (n=74) in Gauteng, South Africa, we used number of patients on ART, number of VL tests, and courier pick-up times from 2019. We used logistic regression to assess the relationship between specimen transport time and VL testing access (adjusting for clinic size), defined as the number of annual VL tests performed per ART patient. Using a geospatial model, we optimized the specimen transport network, subject to costs, pre-defined working hours, and minimum servicing requirements, to improve courier routing and delay the average time of specimen collection. Finally, we compared our specimen transport times from the optimized model with current pick-up times to determine the percent change in access to same-day blood-draws based on different assumptions regarding the underlying distribution of patient flow at clinics.

RESULTS: The number of annual VL tests per ART patient (1.14, standard deviation [SD] 0.28) is higher at facilities that have courier collection after 14:47 (the average latest Gauteng collection time) than those that have collection before 14:47 (1.04, SD 0.18), even when adjusted for clinic size (p=0.09). Through specimen network optimization in Gauteng, the average time for specimen transport was delayed to 15:10. We expect this delay to increase patient access to same-day blood-draws by 5%-9% across Gauteng, depending on the patient flow distribution at clinics.

CONCLUSIONS: Delaying specimen pick-up times at clinics by as little as half an hour can improve patient access to laboratory services and increase the demand for VL.

PEE1500

DEVELOPING THE ADAPT (ALTERNATIVE DELIVERY OF ART OPTIMIZATION) MODEL FOR THE PLANNING OF DIFFERENTIATED CARE IN SUB-SAHARAN AFRICA

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BACKGROUND: As countries in sub-Saharan Africa rapidly expand differentiated service delivery (DSD) models for HIV treatment, guidance is needed on the appropriate model mix to maximize the potential benefits of DSD expansion while minimizing cost. ADAPT is an Excel-based mathematical model designed to provide this guidance and identify optimal national DSD implementation strategies.

DESCRIPTION: Under ADAPT, users complete four main components:
a) define the national ART patient distribution for multiple patient strata by setting, sex, age, and proportion considered stable on ART(Fig.1-1);
b) describe each DSD model (both for stable and non-stable patients) to be considered by its location, frequency of interaction, cadre of staff, and services included (Fig.1-1);
c) identify multiple national DSD implementation scenarios by specifying number of models and each model's characteristics (setting [urban/rural]), target population, coverage)(Fig.1-2,3,4); and
d) weigh each outcome (e.g. suppression, patient cost, etc.) by user-defined relative importance(Fig.1-5,7). ADAPT outputs are national and stratum-specific health outcomes and costs for each scenario (Fig.1-5,8). Scenarios are ranked based on expected model outcomes and user-defined values for each outcome to provide the optimal scenario, constrained by the user-defined budget and human resource availability (Fig.1-6).

[Figure 1. ADAPT model structure, by data-source type]

LESSONS LEARNED: To operationalize the model, we identified data sources on DSD cost and effectiveness. These include interviews with program implementers to obtain detailed descriptions of existing DSD models; national electronic medical records (EMR) to estimate stratum-specific health outcomes for patients on DSD and DSD uptake; EMR and national aggregate health datasets to map the national distribution of ART patients; and primary data collection and review of existing studies to estimate provider and patient costs for each model.

CONCLUSIONS/NEXT STEPS: ADAPT provides a decision-making framework for evaluating policy choices related to DSD model scale-up in sub-Saharan Africa. It will allow users to make data-driven decisions on patient health, health system, and budgetary impact of DSD implementation.

PEE1501

INTEGRATION OF CERVICAL CANCER WITH HIV SERVICES IMPROVES THE UPTAKE OF CERVICAL CANCER SCREENING AMONGST HIV POSITIVE CLIENTS: LESSONS LEARNT FROM ZAMBIA

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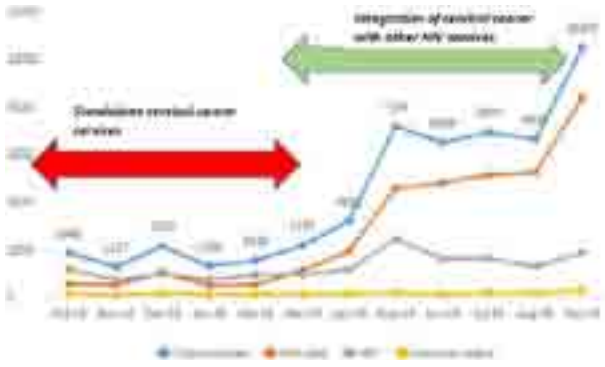
BACKGROUND: Women living with HIV (WLWH) are 6 times more likely than uninfected women to develop cervical cancer, a leading cause of death among women in Zambia, and should be targeted for screening and treatment. With funding from USAID, USAID SAFE supports Ministry of Health to scale-up cervical cancer services with a specific focus on WLWH.

DESCRIPTION: USAID SAFE operates in 43 facilities providing free cervical cancer services. Screening is conducted through Visual Inspection using Acetic acid (VIA) and immediate treatment using cryotherapy, thermal coagulation or referral for Loop Electrosurgical Excision Procedure for further evaluation. USAID SAFE trained 94 providers in cervical cancer screening using VIA, procured supplies to provide cervical cancer services, and provided supportive supervision for standalone and then integrated cervical cancer services.

LESSONS LEARNED: Initially (Oct-2018 to Feb-2019), WLWH were referred to standalone cervical cancer services after receiving ART services. The volume of all clients screened (an average of 1,699 women per month) was low and less than half (n=693; 41%) were WLWH. During the integration phase (Mar to Sep-2019), health education and referral for cervical cancer screening was provided prior to receiving HIV services. In addition to integration, supportive supervision visits were also intensified. As a result, the average increased to 6,810 per month, close to three-quarters (4,994; 73%) being WLWH (Figure 1). Integration and supervision resulted in a four-fold increase (from 10,195 to 40,858) in the number of clients screened, and a seven-fold increase (from 4,159 to 29,962) in reaching WLWH.



[Figure]

CONCLUSIONS/NEXT STEPS: Integration of cervical cancer into HIV services coupled with intensive supportive supervision is an effective strategy to increase access to screening for cervical cancer among WLWH. USAID SAFE will adopt this model in newly supported facilities in 2020 to reduce the burden of cervical cancer among WLWH.

PEE1502

THE OPTIMUM REFERRAL DISTANCE FOR VOLUNTARY MEDICAL MALE CIRCUMCISION SERVICE DELIVERY: GEOSPATIAL ANALYSIS IN LUSAKA DISTRICT

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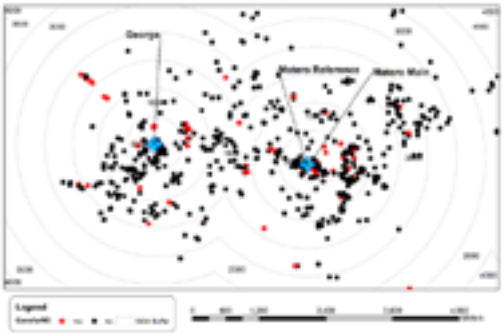
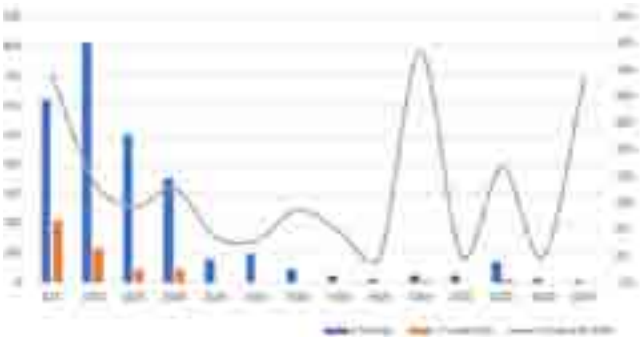
BACKGROUND: Male circumcision prevalence in Lusaka Province, Zambia, is 23%, and HIV prevalence is the highest in the country (16%). Only 85% of the 2018 voluntary medical male circumcision (VMMC) target was achieved in Lusaka District (52,355/61,590). A barrier to uptake of VMMC is distance required to travel for VMMC services. Geospatial analysis was done to determine the optimal referral distance from demand creation to health facility for VMMC.

DESCRIPTION: The project implemented a 2-phased outcome evaluation of an enhanced demand creation strategy and financial compensation/distant mapping approach to assess the hypothesized increase in VMMC uptake among high-risk men in Lusaka District. A total of 10554 eligible men aged ≥18 years, uncircumcised, and who self-reported ≥1 HIV risk factor in the past 6 months were recruited by health promoters at community venues. Health promoters used Android mobile devices, which also recorded geospatial coordinates. The VMMC conversion rate (% high-risk men circumcised ≤3 months of enrollment) and recruitment distances (straight line distances to health facility) were compared using Pearson chi-square.

LESSONS LEARNED:



[Figure. Enrolled vs circumcised clients by distance from facility]



[Figure. Referral distance vs VMMC rate]

The VMMC rate and number of men recruited decreased with increase in distance. Geospatial analysis revealed the optimum distance for demand creation referrals for Lusaka to be 2Km.

CONCLUSIONS/NEXT STEPS: This optimal referral distance allows programs to use resources efficiently by geo-fencing health promoters and to determine prime outreach locations to achieve high VMMC rates in places with low coverage.
The project plans to collect additional spatial data to improve the model for districts where VMMC coverage is low and which have different settlement patterns.

PEE1503

RAPID TRANSITION TO DOLUTEGRAVIR IN A FRAGILE CONTEXT

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BACKGROUND: South Sudan has a national HIV prevalence of 2.5%, however, only 24% of people living with HIV (PLHIV) know their status, and only 16% are on antiretroviral therapy (ART). With funding from PEPFAR/USAID, Jhpiego implements the Strengthening the Provision of Primary Health Care HIV Services in South Sudan (SPPHC) Project to provide comprehensive HIV services in Juba and Tambura States.
DESCRIPTION: Conflict and displacement complicate HIV service delivery in South Sudan: more than a third of the population has been displaced since 2013, presenting a major obstacle for diagnosis and retention, and decades of under-investment in health make implementing policy changes challenging. In July 2019, the SPPHC project in South Sudan began transition to dolutegravir (DTG)-based ART and standardization of multiple month dispensing (MMD). The project sought to leverage the PHC system in South Sudan and overcome site-level barriers, while strengthening client-level adherence efforts through MMD in eight PHC clinics in Juba (6) and Tambura state (2). Following the adaptation of guidelines, a detailed facility-level transition plan was developed and included capacity building, weekly tracking through use of a dashboard, and tracking stock status of the fixed-dose combination of tenofovir/lamivudine/DTG (TLD).
LESSONS LEARNED: In November 2019, 68% of eligible PLHIV receiving ART have been transitioned to TLD (72% female; 28% male), and 81% were dispensed three or more months of ART. Site-specific planning and follow-up contributed to taking the more effective regimen to scale in SPPHC-supported sites and job aids have been an important aspect of supporting healthcare providers to properly educate clients on TLD, including ensuring women of reproductive age are aware of potential risks and offered modern family planning methods. Close monitoring of weekly stock levels has ensured adequate drug supply, and mentor mothers have been fundamental in educating clients on benefits of transitioning to the new regimen.
CONCLUSIONS/NEXT STEPS: Despite unique challenges in infrastructure and mobility arising from a fragile setting, the project has been successful in leveraging the primary health care system in South Sudan to implement a major health policy change through mentorship and planning informed by daily and weekly use of data.

PEE1504

VIRTUAL INTERVENTION FOR HIV PREVENTION AMONG MSM - AN ONLINE TO OFFLINE HIV SERVICE DELIVERY MODEL FOR MSM IN DELHI, INDIA

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BACKGROUND: A study on use of mobile phone and social media in sex work client solicitation amongst clients of HIV Targeted Interventions (TIs) Projects conducted by DSACS found that, 83% of MSM involved in sex work reported use of mobile phone in soliciting clients. Mobile apps, websites and social media platforms are commonly used in solicitation. Use of technology has change the operation of sex work and made them invisible in physical hotspots. In turn, the TIs with peer led approach were not able to locate and mobilize community for HIV prevention services. In order to reach out and provide HIV prevention services to MSM, DSACS has initiated virtual intervention.
DESCRIPTION: A web portal www.safelovers.in with features like HIV service point locator, self risk assessment, online counselling, chatting, book appointment and order free condom was designed. It allows community to create own user ID and log in to seek anonymous and confidential HIV services at nearby centre as per their convenient day and time anywhere in the city. Community members were trained on virtual mapping, promotion of web portal and online outreach. The intervention started in June 2019 with promotion of web portal and online outreach to locate and mobilize target population to take HIV services. The real time program data captured through inbuilt dashboard as part of the web portal.
LESSONS LEARNED: During six month, 159 virtual sites and apps have been listed. Approximately, 10984 MSMs have been estimated to be active on virtual platforms. 507 virtually active MSM have been mobilised to sign up on web portal. The mean age of the MSM, who signed on web portal was 23 years. About 233 MSM booked an appointment for HIV related services.210 (90%) of them screened for HIV and 3 were tested positive and linked with nearby antiretroviral therapy centre.
CONCLUSIONS/NEXT STEPS: Virtual intervention appears to be a promising approach to locate and mobilize invisible and virtually active young MSM to seek HIV services at nearby HIV clinic as per their convenient time. The next phase of the project will link self HIV testing and PrEP services and strengthen treatment adherence.

PEE1505

EFFECTIVENESS OF ASSISTED PARTNER NOTIFICATION SERVICES TO HIV TEST AND TREAT EN IN WESTERN KENYA: (APS SCALE UP STUDY)

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BACKGROUND: Assisted partner services (aPS) or provider notification for sexual partners of persons diagnosed HIV-positive can increase HIV testing and linkage in sub-Saharan Africa (SSA) and is a high yield strategy to identify HIV-positive persons.
METHODS: We offered assisted partner services (aPS) scale up services in health facilities in Western Kenya. The findings on effectiveness of aPS implementation from an ongoing scale up study in

Western Kenya. aPS was scaled up since May 2018 by the Ministry of Health in collaboration with AfyaZiwani Program. The aPS scale-up study took place in 31 health facilities in Western Kenya. Newly diagnosed HIV-positive females15 years and above were screened for eligibility, consented and offered aPS. The participants who made eligibility criteria and accepted participation provided contact and locator information for all male sexual partners. Male sexual partners who test HIV seropositive received aPS and the female sexual partners elicited were notified and offered HIV testing.

RESULTS: In total, 28075 women were tested and 1260 (yield of 4.5%) were newly diagnosed. The participants were screened for eligibility and 1051 (83%) were enrolled into the study. The female index were elicited for sexual partners reported 1825 male sexual partners (index ratio=1.7). The male partners identified by the female index were traced and offered HIV testing services. Overall, 1340 (73%) of male partners named were contacted and tested for HIV. Of partners enrolled, 588(56%) were known positives and newly diagnosed HIV-positive. The male partners identified who were new positives were 227 (38%) and 361(61%) were known HIV-positive. Majority of partners who were known positive were already on ART (95%).

CONCLUSIONS: This scale up program provides evidence of the effectiveness of a partner notification program implemented in real-world settings. Testing of male sexual partners of newly diagnosed HIV-positive female clients is a high yield strategy to reaching newly diagnosed HIV positive persons. aPS is feasible and acceptable and identified a high proportion of newly diagnosed HIV-infected participants previously unaware of their status, aPNS therefore is an effective strategy to increasing uptake of partner HIV testing within routine healthcare settings.

PEE1506

EFFECTIVE COMMUNITY ENGAGEMENT AND PARTICIPATION, KEY TO NIGERIA ACHIEVING THE ELIMINATION OF MOTHER TO CHILD TRANSMISSION (EMTCT) BY 2021

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BACKGROUND: Nigeria contributes 30% world burden of MTCT. From 2017 Nigeria eMTCT data, of the estimated nine million yearly pregnancies, 60% accessed HTS at health facility; 165,474 estimated mothers needing PMTCT, 64.811 (39.2%) have been identified and of those identified, 24,026 (47.2%) delivered at facility offering PMTCT; Nigerian body of Obstetrics are opposed to any interface with community providers of ANC services e.g. Traditional Birth Attendants (TBA). This intervention aimed at finding sustainable solution to challenges of pregnant women not accessing HIV services at health facility and to cub attritions along eMTCT cascade.

DESCRIPTION: A draft framework to strengthen interface between the community and health service providers for PMTCT was designed by National stakeholders coordinated by FMoH. 21 districts with high burden of HIV were selected. A high level advocacy to state, and community stakeholders and technical sessions ensured understanding of staff of SMoH of the need to interface with TBAs on the provision of PMTCT services. TBAs were identified, trained on HIV basics and referrals; their facilities mapped and linked to formal health facilities for referrals. Baseline PMTCT data were collected from 42 PHC that received referrals from the TBAs. Testing was provided at the mapped TBA by health facility personal for 9 months. Identified positives were referred to health facilities for HIV care. Data set have been validated by National M&E system.

LESSONS LEARNED: A total of 104,576 pregnant women were reached within 9 months across the 42 PHCs; 789 were HIV positive (0.75 positivity). This represents 40% increase of access to HTS across the districts; 95% facility delivery by identified positives was recorded. The number of infants who accessed HIV prophylaxes increased by 5% indicating community deliveries referred by TBAs. The TBAs engaged in this exercise now have interface with personnel from facilities. This also popularized the existence of network groups with resultant reduction in stigmatization and improved uptake of PMTCT services.

CONCLUSIONS/NEXT STEPS: This intervention demonstrated that pregnant women patronize TBAs. It also shows that strengthening interface between community and health service providers improved uptake of PMTCT services. Next step is the adoption and dissemination of the framework as policy in Nigeria.

PEE1507

USING THE NATIONAL OTC TOOL TO ESTIMATE ART COSTS FOR DIFFERENTIATED CARE

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BACKGROUND: Estimating costs for delivering ART using a differentiated service delivery (DSD) model can be complicated, as there are many different dimensions that are changing: different service delivery visit types and schedules, task-shifting within the visits, and different ARV and laboratory regimens. The National Optimized Treatment Costing (OTC) tool calculates the unit costs and generates the total (or scale-up costs) of differentiated care scenarios to help policymakers undertaking national strategic planning estimate potential savings.

METHODS: The OTC tool compares the cost of a "Current" scenario with the cost of up to three different user-specified differentiated care scenarios. First, the "Current" practice scenario is specified for each of five policy dimensions (Task allocation for facility-level provider visits, Visits, Laboratory tests, Antiretroviral drugs (ARVs), and Other commodities). Then, up to three optimized treatment scenarios are specified for each of the five policy dimensions. Finally, in the "Inputs-Scenario selection" tab, the user can mix and match among the five policy levers to create up to three different overall scenarios. This allows for a great deal of flexibility, as there are many different combinations possible among the five policy levers. The outputs from the three overall scenarios are then compared with the outputs from the "Current" scenario. Outputs includes unit cost/expenditure and total/scale-up cost, disaggregated by key components and by patient type (newly initiating, stable, unstable for each of adults, children, PMTCT clients, and key populations).

RESULTS: An application of the OTC tool in Nigeria showed a potential savings after four years of $170 million reducing overall costs from $1.45 billion to 1.28 billion. In this scenario, designed by policymakers, the source of cost savings was primarily due to the different number of service delivery visits required by the new differentiated care protocol.

CONCLUSIONS: The publicly available National OTC tool provides a user-friendly tool to help policymakers evaluate potential costs savings of various differentiated service delivery models, including con-

sidering alternate scenarios of different service delivery schedules and types, task-shifting, different ARV regimens, and different laboratory test schedules. Outputs includes unit cost and total/scale-up costs disaggregated by key components and by patient type.

PEE1508

MOST EFFECTIVE TESTING STRATEGIES IN TERMS OF POSITIVITY VOLUME AND YIELD: LESSONS LEARNED FROM NATIONAL-SCALE HEALTHLINK PROJECT IN UKRAINE

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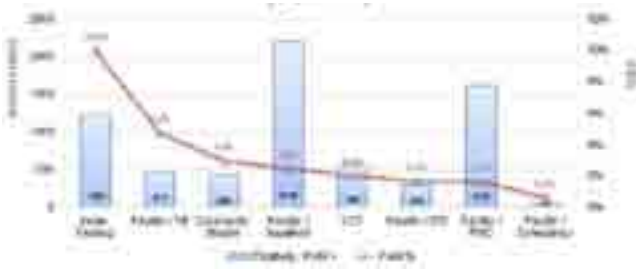
BACKGROUND: Ukraine remains the country with the second-largest HIV epidemic in Eastern Europe. To ensure Ukraine's progress towards the 90–90–90 targets, a national-scale HealthLink Project was launched in 2018. The Project's primary goal is to increase the number of people who know their HIV status through introducing new HIV testing strategies at both community and facility levels.
DESCRIPTION: In 2018-2019, HealthLink introduced HIV testing in 460 healthcare facilities and 180 community sites within 12 high burden regions of Ukraine. Program design envisioned the provision of HIV-related services in primary, outpatient, and specialized healthcare settings, where HIV testing was not provided prior to the Project start or occurred in very limited numbers. Testing models included PITC, VCT, Community-based testing as well as Index Testing, which was not implemented in Ukraine on a routine basis before HealthLink. In total, 268 293 persons were tested for HIV, 6821 of whom received positive results.
LESSONS LEARNED: Testing at in-patient departments and primary facilities provided the highest numbers of newly identified cases with relatively low yields of 2.5% and 1.7% respectively. The most effective strategy was Index Testing, which resulted in a 10% yield and the third-largest number of new HIV cases among all other strategies. TB-clinics and community sites demonstrated high yields but low volumes, and the least effective appeared testing at emergency hospitals and STI clinics.



[Figure. Positive tests and yield by testing modality, 2018-2019 (HealthLink program data)]

CONCLUSIONS/NEXT STEPS: Increased testing at in-patient departments and primary settings resulted in high numbers of new cases, but the next steps should be aimed at more targeted testing in these settings. Index Testing is the most optimal strategy in terms of both positivity volume and effectiveness. HealthLink experience will be most valuable in planning the allocation of program resources for countries with a similar epidemic landscape, particularly in countries of Eastern Europe and Central Asia.

PEE1509

KNOWLEDGE ON HIV & CARE AND SUPPORT SERVICES FOR ROHIGYA POPULATIONS THOSE HAS BEEN DISPLACED

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BACKGROUND: After starting of attacking in Rakhain state of Myanmar by Myanmar Army, till now 1.2 million Rohigya population has been displaced from Myanmar to Bangladesh. Considering the HIV/AIDS scenario, Bangladesh government took initiative to provide treatment to Rohingya PLHIV support by the 'World Health Organization.' Up to 2018 about 300 PLHIV has been identified those are taking ART treatment from DGHS (Director General of Health Services) supported by WHO.
DESCRIPTION: Seventy Rohingya PLHIV has been interviewed to know their present social, physiological status, knowledge of HIV and it's treatment and also their plan for treatment after going back to Myanmar. The respondents has been selected based on the availability in hospital when they come to collect ART. So, all has been selected for interview who came to collect ART on the specific period.

LESSONS LEARNED: # The financial condition is very poor, they have no income source except relief
The PLHIV had no idea on their HIV status
The PLHIV did not get counselling support in any where except in Cox's Bazar hospital
Almost 90% Rohingya PLHIV has no minimum idea about HIV/AIDS
Among them 100% have no specific caregiver and they have no idea on caregiver
Very limited individuals (12%) thought that they will get ART support when they will return in Myanmar
CONCLUSIONS/NEXT STEPS: * All identified PLHIV should be oriented on HIV/AIDS
* VCT services can be available in camp area
* All should have a specific caregiver and the caregiver should be trained on HIV/AIDS and his/her role
* STI/STD services should be ensured including drugs
* At the time of return back in Myanmar, the PLHIV should be transferred through the specific agency/organization considering confidentiality issue

PEE1510

THE "VOICE OF WOMEN" TO INTEGRATE HIV AND SYPHILIS TESTING IN ANTENATAL CARE: A SYSTEMATIC REVIEW OF QUALITATIVE RESEARCH

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BACKGROUND: Effective integration of HIV and syphilis rapid tests into antenatal care, requires a comprehensive understanding of the health system building blocks, and views from all stakeholders involved. We conducted the first synthesis of qualitative studies which have evaluated the acceptability rapid testing for HIV and STIs among pregnant women.

METHODS: We searched six databases from 1998 to 2018, using PRISMA guidelines. Qualitative studies conducted with pregnant women, health workers, and stakeholders were included. Data were extracted from the direct quotes from participants and interpretation data by publication authors. We used thematic analysis and used findings to generate explanatory thematic domains.

RESULTS: We identified a total of 3548 citations from 7 databases, of which 60 papers were eligible for inclusion (35 papers included pregnant women, 41 papers included health worker and 20 papers included stakeholders; 58 were from low-middle income countries, 2 high-income countries).

We organized the findings into three thematic domains:

(i) social-cultural influences;

(ii) service provision; and,

(iii) personal consideration and support.

The ability of healthcare workers to deliver high-quality care depends on well-developed health system infrastructure, guidelines, sufficient recourses and staffing, usability of the tests, and well-organized organizational tasks. Sustaining high-quality testing required ongoing training, support from supervisors and other peers, as well as a stable and adequate salary.

For women, initial acceptance of the test and their continuation in care depends on the perception that doing so will be a beneficial experience for their baby and themselves, influenced by the provision of services that are supportive, gender-sensitive, caring, confidential, respectful, flexible, and consider their longer life plan. Women's perceptions of the value of tests depend on local socio-cultural beliefs about pregnancy and diseases, their awareness of tests, as well as their gender roles in society.

CONCLUSIONS: In addition to the multiple health system factors that need to be addressed when integrating HIV and syphilis rapid testing into ANC, we found women's preferences need to be strongly considered, and care should be more holistic, and not just about the test.

PEE1511

LESSONS LEARNT FROM IMPLEMENTATION OF BEST PRACTICES IN ADDRESSING DEMAND CREATION CHALLENGES IN THE KINGDOM OF ESWATINI

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BACKGROUND: The Kingdom of Eswatini is among the 14 priority countries where VMMC for HIV prevention has been scaled up for public health impact. It is not a traditionally circumcising country and as such when VMMC for HIV prevention was introduced the coverage was about 9%. The VMMC programs aim to circumcise at least 80% of the sexually active men for public health impact and Eswatini currently has a coverage of 40%. This varies regionally where some areas have done over 80% while some are significantly lagging.

DESCRIPTION: The VMMC national program is largely funded by PEPFAR in Eswatini and CHAPS has implemented this program in Eswatini from 2015 to 2019. The program in Eswatini has been marred by demand creation challenges over the years and that meant that CHAPS as an organization had to institute certain strategies as part of turning the program around. CHAPS embarked on a learning program from their South African office to try and adopt demand creation strategies that had succeeded. The two main strategies that were then implemented during the year of implementation starting in July were the zonal saturation and blitz campaigns. These population targeted high density areas through use of census data and MC coverage rates and were implemented concurrently.

LESSONS LEARNED: The period (Q4-2019) when the strategies were implemented yielded 3818 circumcisions in two regions where CHAPS was implementing. This was a 54.7% increase in the numbers from the 2468 done in 2018 which had been the highest performance for the same region. This increment was the highest year on year change and it translated to a 157.8% percent increase in Q4 numbers compared to numbers at inception. The overall CHAPS Q4 results from the two regions in 2019 were the highest ever figures from two regions since program inception.

CONCLUSIONS/NEXT STEPS: The adopted strategies yielded positive outcomes that had never been realized and as such if the program continues to intensify these strategies the program will be on track to achieving the targets. There is a room for collaboration between countries in an effort to overcome demand creation challenges.

PEE1512

OPTIMIZING VIRAL LOAD (VL) TEST AMONG PEOPLE LIVING WITH HIV (PLHIV) USING CONTINUOUS QUALITY IMPROVEMENT (CQI) APPROACH IN 13 HIGH-VOLUME SITES IN FIVE SUPPORTED STATES, NORTHCENTRAL NIGERIA

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BACKGROUND: Despite the increased availability of resources to ensure uninterrupted access to VL test in Sub-Saharan Africa, access to VL testing remains a challenge, particularly in resource-constraint settings. Program data and structured assessment using site improvement through monitoring systems (SIMS) tool revealed suboptimal VL coverage. This study was conducted to determine whether facility-based Quality Improvement (QI) activities could significantly increase uptake of VL test and suppression.

METHODS: In July 2018, routine program data and standard-of-care evaluation conducted in 13 high-volume sites revealed a baseline VL coverage of 43% and a similar assessment using SIMS-tool yielded coverage of 40%. These assessments followed the international standards for sampling and selection of charts for auditing. Addi-

tionally, a survey was conducted using questionnaires administered to healthcare providers and end-users to identify root causes of the poor VL coverage which include:

Fear of venepuncture-associated pain

Difficulty navigating sites

Having specific days for sample collection

Negligence by healthcare providers

Based on these findings, the following interventions were carried out as QI projects over eleven months:

Use of task-shifting to strengthen request, sample collection, and result documentation.

Intensified health education, incentivized clients and Support groups engagement in health education.

Established clinic-side phlebotomy units for VL sample collection within the ART clinics to eliminate barriers related to difficulty navigating the facilities and reduce client waiting time.

Routinely identify eligible clients using QoC checklist.

Routine program data and charts of clients who attended clinic were reviewed and data analyzed to evaluate VL coverage and suppression among PLHIV at different time-periods.

RESULTS: Data analysis showed remarkable improvement in VL coverage and suppression. After 6months, VL coverage and suppression were 59% and 67% respectively, and after 11months 92% and 88% respectively. Fundamentally, this work provides good insight into the understanding of effectiveness of CQI interventions and shows excellent potential for use of CQI in improving HIV/AIDS program quality

CONCLUSIONS: CQI interventions are effective in improving uptake of VL test for ART monitoring among PLHIV as demonstrated in these sites. This study clearly indicates that CQI interventions are effective in bridging program implementation gaps and deserve been used in other health program areas requiring quality.

PEE1513

BRIDGING THE GAP IN VIRAL LOAD TESTING COVERAGE AND SUPPRESSION AMONG PATIENTS ON ANTI-RETROVIRAL TREATMENT IN ETHIOPIA

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BACKGROUND: Ethiopia adopted the three-90 UNAIDS targets for controlling HIV by 2020. The Country subsequently introduced viral load (VL) testing for monitoring the 3rd 90, towards viral load suppression (VLS) among 90% of people on treatment. National scale-up of VL testing started since 2016 which includes actively increasing demand for and access to testing, establishing an external quality assurance scheme, and creating a specimen transport network linking 19 referral testing laboratories with over 1,200 anti-retroviral treatment (ART) clinics. We present the trend of VL coverage (VLC) and VLS by region and age following VL scale up activities.

METHODS: We used aggregate national VL data from Data for Accountability, Transparency and Impact (DATIM) for 2018 and 2019 to describe the trend in VLC and VLS over time.

RESULTS: VL testing increased by 75,887 tests (263,819 to 339,706) between 2018 and 2019, with coverage expanding from 58.4% to 73.1% of all PLHIV on treatment during 2018 Quarter 4 to 2019 Quarter 4. The most recent VLC report ranged from 54% to 82% for all 11 regions in Ethiopia. Three of 11 regions, providing VL testing services for 214,222 PLHIV on treatment (45.7% of national cohort), achieved VL coverage above 80% each in 2019 Quarter 4. Coverage is the lowest (54-57%) for three of four regions that refer specimens outside administrative boundaries to two other regional laboratories. During 2019 Quarter 4, 10 of 11 regions reported VL suppression (<1000 viral copies/ml) above 90%. There is no significant difference in VL testing coverage between children below 15 years of age (67-74%) and adult (53-73%) clients. However, VL suppression was relatively lower among children (75-79%) as compared with adults (89-93%).

CONCLUSIONS: The country made significant improvement in VL testing coverage following the scale-up. There is a relatively good overall VLS with lower performance among children. Understanding the root causes for low VLS among children on ART and devising targeted interventions are recommended. In countries like Ethiopia with large cohort size and reaching epidemic control, sub-national level analysis in VLC and VLS is critical in identifying the gap and providing tailored sub-national level intervention.

PEE1514

EXPANDING ACCESS TO CERVICAL CANCER SCREENING AND TREATMENT AMONG HIV+ WOMEN IN MOZAMBIQUE

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BACKGROUND: Mozambique is a country with high prevalence of HIV (13.5% IMASIDA) and large numbers of women living with HIV (WLHIV); of 820,124* patients on HIV treatment between July and September 2019, 70.8% (580,474) were women. According to the Mozambican 2015-2017 cancer registry, cervical cancer is the most common cancer among women and primary cause of cancer-related deaths among WLHIV. As documented by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) programmatic data, access to cervical cancer screening and treatment among WLHIV has been historically low in Mozambique. There have been two initiatives supported by PEPFAR to increase cervical cancer screening and treatment services in Mozambique, the Pink Ribbon Red Ribbon Initiative in 2015 and the Central initiative in 2018.

DESCRIPTION: In collaboration with Ministry of Health, the U.S. Centers for Disease Control & Prevention (CDC) implemented an integrated approach to improve access to screening and linkage to treatment in seven CDC-supported provinces. An integrated workplan was developed that ensured implementing partners would acquire equipment for screen and treat approach (colposcopes, cryotherapy and Loop Electrosurgical Excision Procedure machines), procure essential supplies and support training cascades with a monthly e-learning component. CDC and the Ministry of Health put in place an enhanced cervical monitoring approach to monitor and map provincial monthly progress. Technical experts from MD Anderson collaborated to provide distance mentoring, quarterly trainings for LEEP and complex surgeries and technical support for training. Between July and September 2018 8,253 women were screened, 8.8% (727) women had positive results, 60.5% (440) women were treated. After the integrated approach between October 2018- September 2019, 68,338 WLHIV who were receiving ART treatment had been screened, 9% (6,208) screened positive and 63% (3,920) received treatment (either cryotherapy or LEEP).

LESSONS LEARNED: A focused, performance based collaboration between donors, implementing partners and the Ministry of Health markedly improved cervical cancer screening access among women living with HIV in Mozambique.

CONCLUSIONS/NEXT STEPS: Linkage to treatment remained incomplete despite a multi-focal approach and requires ongoing innovation.

PEE1515

OPTIMIZING HIV TESTING AT THE FAMILY PLANNING CLINIC OF A TERTIARY-CARE HOSPITAL IN LUANDA, ANGOLA

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BACKGROUND: Angola has a generalized HIV epidemic with 2% prevalence. Since 2015, ICAP at Columbia University has supported the Ministry of Health with HIV prevention and control efforts, including providing high-quality technical assistance to Hospital Geral dos Cajueiros (HGC) in Luanda province. A tertiary-care hospital with large catchment area, HGC had consistently demonstrated high-volume HIV testing with low yield at its family planning (FP) services, with nearly 70% of women being offered HIV re-testing as per national guidelines without any risk assessment. In an effort to better achieve epidemic control, a more targeted approach to the offer of HIV testing services (HTS) within FP services was explored.

DESCRIPTION: In order to optimize HTS at the FP clinic, ICAP developed and implemented a risk assessment tool to assess eligibility for re-testing. The tool focused on screening for signs and symptoms of sexually transmitted infections and TB, and assessment of partner's HIV status, history of unprotected sex, breastfeeding, and engagement in sex work. Implementation of the tool started in July 2018. All new FP clients with unknown HIV status, as well as clients returning for a follow-up appointment after 3 months with a negative HIV status, were screened using the risk assessment tool and if eligible, offered HTS. ICAP mentored FP nurses in use of the tool, and provided support through weekly data reviews to identify and address challenges.

LESSONS LEARNED: During the pre-implementation period (April-June 2018), among 1,427 FP clients tested for HIV, 428 (30%) were new patients while 999 (70%) were re-tests. Only 7 (0.5%) clients were found to be HIV-positive. In a sharp contrast, in the post- implementation period (January-March 2019), among 391 patients receiving HTS, 377 (96.4%) were new FP clients. 5 clients (1.3%) were identified as HIV-positive.

CONCLUSIONS/NEXT STEPS: The early results of the targeted HV testing strategy using a risk assessment tool were shared with the National Aids Institute, and the authorities are currently considering including this approach as part of the national guidelines. ICAP is also advocating adaptation of this tool in related services that require repeat testing, like among HIV/TB co-infection patients.

PEE1516

SOCIAL MARKETING OF HIV TESTING THROUGH THE PRIVATE SECTOR IN SRI LANKA TO ACCELERATE HIV EPIDEMIC CONTROL

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BACKGROUND: In Sri Lanka, HIV testing services are primarily delivered through government-run sexually transmitted disease clinics. Only about 16% of the 1.18 million tests conducted in 2018 were delivered through the private sector, but they contributed to 22% of the 350 PLHIV newly diagnosed during the year. The relatively high case-detection rates associated with private sector testing suggest opportunities for this approach to accelerate achievement of epidemic control in Sri Lanka.

DESCRIPTION: The USAID- and PEPFAR-supported LINKAGES project collaborated with Sri Lanka's National STD/AIDS Control Program (NSACP) to implement social marketing of HIV screening through 146 general practitioners in the private sector. The project strengthened provider capacity to promote and provide HIV screening, make referrals to confirmatory testing and treatment services, and use a mobile application to monitor and improve performance. Around 30% of the providers charged clients USD 3.5 – 5.0 per HIV screening test – as compared to the market rate of USD 10-15 per test – and the remaining 70% provided the screening free of charge.

LESSONS LEARNED: Between October 2018 and September 2019, 1,684 individuals received HIV screening through the socially marketed private sector network. About 60% of clients actively sought HIV screening, while the remaining 40% participated in screening at the recommendation of the provider after presenting at the clinic for other reasons. Participants were predominantly male (60%) and between the ages of 18-25 years, and 68% of them reported previously engaging in high-risk behavior. The proportion of screening participants who were diagnosed with HIV was 0.11%, about ten times higher than the national adult HIV prevalence of 0.01%. All of those diagnosed were linked to confirmatory testing and treatment.

CONCLUSIONS/NEXT STEPS: The Ministry of Health has endorsed this approach and is scaling it up in two new districts with domestic funding. As individuals facing HIV risks increasingly seek services in the private sector, the inclusion of PrEP and HIV treatment services may add value. Social marketing of private sector HIV screening could provide a sustainable and preferred path for many previously undiagnosed PLHIV to access testing and treatment services and reduce the burden on government facilities.

PEE1517

DARUNAVIR IS COST-EFFECTIVE COMPARED TO LOPINAVIR FOR SECOND-LINE TREATMENT IN SUB-SAHARAN AFRICA: A MODELING ANALYSIS

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BACKGROUND: The ritonavir-boosted protease inhibitor (PI) darunavir plus ritonavir (DRV/r) is clinically superior to other marketed PIs, including ritonavir-boosted lopinavir (LPV/r); however, it is more expensive compared to other generic alternatives. Low and Middle income countries may not invest in DRV/r without a compelling cost-effectiveness and outcomes research analysis.

METHODS: Health outcomes and costs of DRV/r versus LPV/r over 5-years using a closed cohort Markov state transition model. Inputs were taken from country and region-specific sources and the published literature modeled for a sub-Saharan African country setting assuming 70,000 patients on a second-line PI. Patients can fail treatment, move to third-line (3L), become lost to follow-up, or die at each annual cycle. Mortality, adverse events, opportunistic infections (OI), secondary horizontal infections, and quality-adjusted life years (QALY) outcomes were measured. Costs of ARVs, laboratory tests, human resources, and OI treatment were included. Both incremental (ICER) and average cost-effectiveness (ACER) ratios were evaluated.

RESULTS: DRV/r yielded the following improvements over LPV/r: a 33% reduction in mortality, 32% fewer sexual HIV transmissions, an increase of 23,710 QALYs (10%). Further, 62% of the patient years were spent virally suppressed on DRV/r versus 48% on LPV/r. While overall costs were higher for DRV/r ($116 million) than for LPV/r ($108 million), this was predominantly driven by more patients remaining on treatment longer. The ICER was $330, less than a common standard threshold of $500/QALY, and the ACER was lower for DRV/r scenario ($424/QALY) versus for LVP/r ($432/QALY). The ACER reached equilibrium when 3L coverage for failed 2L patients was reduced to 50% of need, when regimen cost of 3L was reduced by 30%, or when drug failure rates for DRV/r increased by 10% from default values.

CONCLUSIONS: While PI use in 2L treatment may decline in the short-term from transitions to dolutegravir in this population, PI demand is expected to increase in the medium-to-long-term. DRV/r provides a cost-effective alternative to LPV/r with improved clinical outcomes for patients without TB co-infection.

PEE1518

FIRST COMMUNITY LED TRANSGENDER CLINIC IN THE PHILIPPINES SCALE UP ITS REACH TO MORE TRANSGENDER PEOPLE

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BACKGROUND: In 2017, Victoria By LoveYourself the first community led transgender clinic in Philippines opened. It aims to provide HIV testing, treatment services, STI diagnosis, management, transitioning counseling and HRT consultation for the transgender people in the Philippines (Manila).

Victoria developed two level services for its clientele: The first level of services (Level 1) is comprised of HIV screening and counselling services on transgender concerns, basic physical health check-ups, basic baseline laboratory procedures, screening and treatment for sexually transmitted infections (STIs), and referrals to specialists. The second level of services (Level 2) includes hormone management, advanced laboratory procedures, and pre-SRS (sex reassignment surgery) assessment and counseling. It also introduced same day test result, test and treat and ART for PLHIVs.

DESCRIPTION: Victoria offers all level 1 and level 2 services free of charge such as HRT consultation and transitioning counseling.

For 2019, Victoria reached 3,344 individuals through its outreach and community center efforts and tested/counselled 789 transgender clients for both HRT and HIV testing since it opened. 90% of who tested reactive was link to care and 92% who are on treatment is already undetectable.

Victoria in partnership with government agencies, companies, school and universities were also able to deliver SOGISC seminars and workshops to Young Key Population at risk for HIV/AIDS and other STI.

LESSONS LEARNED: Access to healthcare services is a basic right. Everyone is entitled to avail and enjoy the health services that public institutions provide. These services must be given to every individual, regardless of sexual orientation, gender identity, and gender expression (SOGIE).

Transgender people have constantly defined access to health and well being services as one of their top priorities. These range from the simplest and most basic services to the most complicated realms of LGBT psychology, transitioning and gender confirmation surgery.

CONCLUSIONS/NEXT STEPS: Victoria aims to have a sustainable financing for the community center through PhilHealth in 1-2 years time based on the experience of LoveYourself's other community centers – LoveYourself Anglo. Victoria also aims to have their own laboratories and to be a one stop shop ensuring linkage to care for clients who test reactive to HIV.

PEE1519

DRAMATIC EFFECT OF MASSIVE DOLUTEGRAVIR IMPLEMENTATION ON VIROLOGIC SUPPRESSION RATES AT THE LARGEST HIV CARE CENTER IN HAITI

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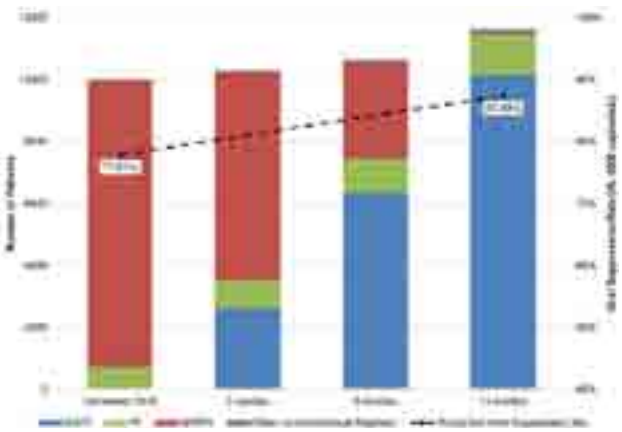
BACKGROUND: In November 2018, the single tablet regimen of tenofovir disoproxil fumarate, lamivudine, and dolutegravir (TLD) became available in Haiti, with a target of 80% implementation at 12 months.

DESCRIPTION: Starting in November 2018, all patients were offered TLD, except for virologically suppressed patients on second-line PI regimens. Counseling was provided for women of childbearing potential, including foetal risks and contraceptive options. Viral load testing was conducted for those with no viral load within 6 months prior to initiation of TLD. After TLD initiation, viral load was conducted at 6 and 12 months. Change in viral suppression rates was compared at GHESKIO at the time when TLD became available and 11 months later.

LESSONS LEARNED: 11,612 active patients (59% female) were potentially eligible for TLD. By 11 months after TLD availability, 10,182 (88%) had initiated TLD. Of these, 1255 (12%) initiated TLD as first-line; 8479 (83%) switched from a first-line NNRTI regimen; and 436 (4%) switched from a second-line PI. During the TLD scale-up period, PI use increased from 7% to 11% of patients, and NNRTI use declined from 92% to <1%. In November 2018, 5398/7377 (73%) of patients at GHESKIO had HIV-1 RNA <40 copies/mL on the most recent viral load test, and 78% had HIV-1 RNA <200 copies/mL (see Figure). In September 2019, 80% of patients had HIV-1 RNA <40 copies/mL and 87% had HIV-1 RNA <200 copies/mL. Among patients with virologic failure, mean HIV-1 RNA was 13,753 copies/mL in November 2018, and 8086 copies/mL in September 2019. The proportion of patients failing ART with HIV-1 RNA >100,000 copies/mL decreased from 11.5% to 6.4% during this period.



[Figure. Change in ARV regimen distribution (November 2018 to September 2019)]

CONCLUSIONS/NEXT STEPS: It is feasible to rapidly implement the TLD regimen. At GHESKIO, 88% of patients were receiving TLD within 11 months after it became available, with dramatic improvements in the proportion of patients with viral suppression

PEE1520

INCREASES IN LINKAGE AND SAME-DAY INITIATION OF ANTIRETROVIRAL THERAPY: FINDINGS FROM THE "SIYENZA" APPROACH IN SOUTH AFRICA

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BACKGROUND: South Africa (SA) has the largest antiretroviral therapy (ART) program globally, supporting approximately 4.8 million people living with HIV (PLHIV), and it is estimated that there are an additional 3 million PLHIV in need of ART. In February 2019, the President's Emergency Plan for AIDS Relief (PEPFAR) SA launched "Siyenza," an intensive, facility-level surge strategy focused on linkage and retention involving staff from PEPFAR, SA Department of Health (DOH), and PEPFAR-funded District Support Partners (DSPs). A primary goal of Siyenza is to increase linkage from HIV diagnosis to ART initiation. CDC-SA's Siyenza program began in 89 public health facilities in 3 districts.

DESCRIPTION: We analyzed weekly data reported by DSPs in 78 Siyenza facilities during two reporting periods, including the number of PLHIV who tested HIV-positive, the number and proportion of PLHIV who newly initiated ART ever, and the number and proportion of PLHIV who initiated ART on the same day as their HIV diagnosis. Data are reported in two eight-week periods in the beginning of Siyenza (February 8–March 29, 2019; baseline) and during October 4–November 22, 2019 (endline).

LESSONS LEARNED: In the baseline period, 10,720 new PLHIV were identified; of those, 9,999 (93%) ever initiated ART and 7,927 (74%) initiated ART on the same day as diagnosis. In the endline period, 9,493 new PLHIV were identified; of those, 9,142 PLHIV initiated ART (96%) and 7,570 (80%) initiated ART on the same day. Among PLHIV who ever initiated ART, same-day initiation significantly increased from 79% in the baseline period to 83% in the endline period ($p<.05$).

CONCLUSIONS/NEXT STEPS: Using a hands-on, intensive approach was associated with an increased proportion of PLHIV initiating ART on the same day as their HIV diagnosis in CDC-supported Siyenza facilities. Prioritization of same-day ART initiation at Siyenza facilities by all stakeholders—CDC, DSPs, and DOH clinical staff—resulted in rapid improvement. Scaling up this intensive approach helps programs reach epidemic control in settings with large HIV epidemics. Additional interventions are needed to identify additional PLHIV not on ART and to initiate them on to life-saving ART in SA.

PEE1521

I-SURGE STRATEGY IN SOUTH SUDAN: IMPROVING HIV CASE IDENTIFICATION AND ART ENROLLMENT ACROSS HEALTH FACILITIES IN SOUTH SUDAN

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BACKGROUND: Improved HIV service provision for people living with HIV (PLHIV) and, ultimately, achievement of epidemic control can be met through reaching program targets. ICAP implemented an intensive strategy to improve identification of PLHIV and linkage to antiretroviral therapy (ART) services in health facilities (HF) in South Sudan.

DESCRIPTION: In March 2018, ICAP implemented an intensive human resources and data management approach, the ICAP surge (I-Surge) strategy, in 14 HF located in high and medium HIV priority locations across South Sudan to rapidly improve program performance and meet program targets around case finding and linkage to ART.

Components of the I-Surge strategy included: an ICAP point of contact (POC) assigned to each HF to support activities, daily monitoring of key performance indicators vis-à-vis facility-level program targets, sharing of daily achievements, experiences, challenges via WhatsApp to aid real time discussions on effective strategies, management of challenges as they emerge and feedback on key program issues and resolutions. Tools were developed to break down daily activities into discrete steps and decision trees. Weekly and monthly performance reviews were conducted with ICAP and HF staff to identify performance gaps and develop resolutions.

LESSONS LEARNED: Challenges at I-Surge onset were shifting the mindset of staff at all levels to adapt to the intensive granular site management approach, and support for internet connectivity for daily data sharing. I-Surge resulted in increased staff involvement at facility level, identification of site-specific gaps, prompt institution of corrective measures on emerging challenges, greatly improved data management and tracking of program performance, and improved strategic onsite mentorship visits to supported HF. In six months across the 14 sites, case identification increased by 10% (from 1,093 to 1,182), yield increased from 2.8% to 4.5%, new ART initiations increased by 42% (829 to 1,177), and linkage to ART from 61% to 91%.

CONCLUSIONS/NEXT STEPS: The I-Surge approach, a new model of site support, improved case identification and linkage to ART, and showed that real time data reporting and data driven decision-making improves program performance. ICAP is working to apply the same approach to improve ART retention through rapid identification of missed clients and initiation of tracking activities.

PEE1522

TURNING THE TIDE IN REACHING MALES 15-29 YEARS-OLD USING A MULTIFACETED DEMAND CREATION APPROACH - WESTERN PROVINCE, ZAMBIA, 2018-2019

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BACKGROUND: Voluntary Medical male circumcision (VMMC) prevents male acquisition of HIV by 60% (Auvert B et al 2005). To maximize the impact on the HIV epidemic, Zambia has implemented the 'age pivot' prioritizing males 15-29 years-old for VMMC. Western Province, Zambia, has faced a challenge implementing the age pivot because some tribes practice traditional circumcision of younger boys (i.e., <10 years). In 2019, a multifaceted strategy for improving uptake in 15-29-year-olds—consisting of engaging traditional structures, implementing a human-centered design demand creation approach, increasing the number of trained mobilizers and providing them with individual targets, and offering regular service hours rather than employing a school holiday-based campaign strategy—was undertaken. An analysis was conducted to determine if this approach coincided with improved achievement of the age pivot in Western Province.

DESCRIPTION: The US Presidential Emergency Plan for Aids Relief (PEPFAR) supports two implementing partners— Centre for Infectious Disease Research in Zambia (CIDRZ) and the Western Provincial Health Office (WPHO) — to perform VMMCs in 10 and 5 districts in Western Province, respectively. These partners report age-disaggregated VMMC data to CDC quarterly. A difference-in-difference analysis of the proportion of VMMC clients aged 15-29 years in 2018 and 2019 was conducted between CIDRZ and WPHO using repeated measures ANOVA.

LESSONS LEARNED: From 2018 to 2019, the number of VMMCs performed by CIDRZ increased from 5,918 to 20,140 (this was despite no increase in targets for CIDRZ). Over this time period, the performance of WHPO declined from 10,560 to 4,725. The proportion of men aged 15-29 years increased for CIDRZ (51% to 70%, p<0.01) and WPHO (43% to 49%, p<0.01) from 2018 to 2019. The difference in increase between CIDRZ and WPHO from 2018 to 2019 was statistically significant (p=0.02).

CONCLUSIONS/NEXT STEPS: A multifaceted approach to creating demand for VMMC in the community among men 15-29 years old was associated with an increase in overall VMMC performance and uptake among this target age group. Further scaling of this approach to other areas and partners may result in similar improvements, helping to reach overarching VMMC program targets.

PEE1523

IMPROVEMENTS IN HIV CASE FINDING, ART INITIATION, AND TOTAL PATIENTS ON ART FOLLOWING SITE-LEVEL "SIYENZA" INTERVENTION IN CDC-SUPPORTED SOUTH AFRICA HEALTH FACILITIES – FEBRUARY-SEPTEMBER 2019

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BACKGROUND: In February 2019, the President's Emergency Plan for AIDS Relief (PEPFAR) in South Africa (SA) launched an intensive site-level support and monitoring initiative ("Siyenza") to improve HIV case finding, ART initiation, and retention, supporting the SA National Department of Health (NDOH) goal of adding 2 million PLHIV on ART by 2020. CDC-SA implements the Siyenza package in a subset of facilities that comprise 45% of the people living with HIV (PLHIV) on antiretroviral therapy (ART) supported by CDC-SA. The Siyenza package includes placement of additional CDC-supported district support partner (DSP) staff focusing on ART initiation, treatment retention, and data quality, augmented by weekly supportive visits by CDC-SA and DSP staff and daily monitoring of site performance.

DESCRIPTION: We analyzed aggregate quarterly facility data reported to CDC-SA in large (>1,000 PLHIV on ART) Siyenza facilities, comparing growth from the pre-intervention reporting quarter (October 1-December 31, 2018) to the quarter nine months later (July 1-September 30, 2019). We excluded facilities in which a CDC-supported DSP did not report in both periods and facilities with partial (

LESSONS LEARNED: Data from 127 Siyenza facilities were included in this analysis. In these facilities, all measured outcomes increased in the measurement period. Cases identified increased from 17,915 to 24,682 (38%), ART initiations increased from 17,735 to 25,196 (42%), and PLHIV on ART increased from 410,262 to 490,800 (20%).

CONCLUSIONS/NEXT STEPS: Performance improved overall during the measurement period on all outcomes assessed. Placement of additional staff, focus on ART initiation and retention, and daily reporting with immediate course correction likely contributed to the improvements observed in Siyenza facilities. PEPFAR SA and the NDOH continue to collaborate on the national HIV response through expanded implementation of this site-focused support strategy.

PEE1524

DESIGN, IMPLEMENTATION, AND MONITORING OF HIV SERVICE PACKAGES FOR FEMALE SEX WORKERS: A FIELD ASSESSMENT OF 19 NATIONAL PROGRAMS

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BACKGROUND: In order to prevent, diagnose, and treat HIV among sex workers (SW), many countries worldwide have outlined national service packages. APMG Health, with funding from The Global Fund, conducted field evaluations on the design, implementation, and monitoring of HIV service packages for SW and other key populations (KP) in 19 countries: Angola, Armenia, Benin, Cameroon, Guyana, Haiti, Indonesia, Kenya, Kyrgyz Republic, Madagascar, Malawi, Mali, Morocco, Papua New Guinea, Sierra Leone, South Africa, Sudan, Togo, and Uzbekistan.

METHODS: A preliminary desk review was conducted, followed by a five to ten-day in-country field visit by international and local consultants. Data was collected through: document review; key informant interviews with national stakeholders; visits to sites where packages are implemented, including observation of service delivery; interviews with staff; focus group discussions with SW receiving services; and examination of monitoring forms, methods, and databases.

RESULTS: All assessed countries have designed and implemented specific service packages to best serve SW according to World Health Organization (WHO) guidelines; however, not all countries could successfully implement or monitor the delivery of all or most elements of the packages. Coverage rates, quality of services, and outcomes on programming targets are not consistent. While all countries provide HIV testing services, antiretroviral therapy (ART), and the provision of male condoms, other recommended activities such as mental health services, community empowerment, and addressing stigma and violence are seldom addressed or non-existent. Most countries suffer from insufficient and/or problematic client tracking systems for monitoring the provided services.

CONCLUSIONS: Through all aspects of the design, implementation, and monitoring of national HIV strategies, many countries fail to uphold the standards outlined in their packages of services, revealing large gaps in their fundamental design. Efforts for effective monitoring of services are threatened by issues with data quality, inefficiency of reporting methods, and poor data security. For improved adherence to WHO guidelines for packages of services for SW, countries should focus on implementation and data quality and consistency while redesigning packages to emphasize often neglected services.

PEE1525

ACHIEVING EPIDEMIC CONTROL: THE 95-95-95 OUTCOMES OF DAILY DATA REVIEW AND USE IN ZAMBIA'S EASTERN AND WESTERN PROVINCES

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BACKGROUND: Reaching the last mile in achieving HIV epidemic control requires innovative and active data use which allows for immediate identification of missed opportunities and service gaps. While progress toward reaching the UNAIDS 95-95-95 targets has been made in recent years, health facilities continue to face challenges in utilizing data and monitoring program performance to reach the last mile. ICAP in Zambia, through CDC funding, and in partnership with the provincial health offices in Eastern and Western provinces, supported the implementation of daily data review for performance tracking and real time action in 35 high-volume sites.

DESCRIPTION: ICAP supported daily data review of select key indicators mapped to 95-95-95 objectives at 35 sites between October 2018 – September 2019, with the aim to reduce missed opportunities for HIV testing, linkage, treatment, and retention in care. Health care workers at site-level were supported to review and monitor indicators daily for real time corrective actions with ICAP focal point persons who led data review, while provincial health teams reviewed site-level data weekly. Daily feedback on performance reporting and sharing of results and lessons learned with site, district, and provincial health teams were facilitated via WhatsApp groups.

LESSONS LEARNED: After implementing daily data review, both provinces saw marked improvements in 95-95-95 indicators. In one year of implementation, positivity yield increased from 4.6% to 14.7% and from 3.1% to 6.1% in Western and Eastern provinces respectively. The number of patients newly initiated on antiretroviral therapy increased from 239 to 636 and 486 to 648 and viral load suppression among patients with a documented viral load increased from 62% to 86% and from 84% to 94% in Western and Eastern provinces respectively.

CONCLUSIONS/NEXT STEPS: Daily data review and use for real time decision making at site-level is feasible and appears to play an important role in improving program performance toward reaching 95-95-95. Other concurrent interventions such as the use of new screening tools and community-based interventions may also play a role. Further study is warranted. Replication in other settings to reduce missed opportunities is strongly encouraged.

PEE1526

GEENIUS HIV 1/2 SUPPLEMENTAL ASSAY POINT-OF-CARE TESTING REDUCES TIME TO INITIATE ANTIRETROVIRAL THERAPY

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BACKGROUND: Point of care HIV tests are an essential part of HIV screening but due to false positives, confirmatory testing is needed to provide an accurate diagnosis prior to starting HIV antiretrovirals (ARV). At Magnet, a nurse-led clinic in San Francisco with a moderate complexity lab, a 2nd generation rapid test for initial screening

was used with a standard HIV confirmatory test panel having a 3-day turn around. To address this delay, an HIV 1/2 supplemental assay was implemented as a point of care confirmatory test.

DESCRIPTION: Individuals who have a positive point of care 2nd generation result immediately received an HIV 1/2 supplemental assay (Geenius, Bio-Rad), and a specimen is sent to a central public health laboratory for standard confirmatory testing (lab based 4th generation HIV-1 Ab/Ag). Individuals with a positive HIV 1/2 supplemental assay were offered immediate initiation of ARVs. Individuals with a negative result were not started on ARVs and received a follow-up phone call with the confirmatory result.

LESSONS LEARNED: From July 2017 to December 2019, there were 118 positive 2nd generation tests. Among these, the HIV supplemental assay was positive in 61, negative in 52, and indeterminant in 5. The HIV supplemental test was 100% concordant with the gold standard lab based confirmatory test. The average age of Geenius test clients was 34; 25% were white, 25% Latinx/Hispanic, 20% multiple races, 11% Asian, 8% black, 11% other/unknown. Implementing the point of care HIV 1/2 supplemental assay reduced the time to a confirmatory result from 3 days to 0 days. The majority of persons who had a positive supplemental test result accepted the offer of immediate ARVs.

CONCLUSIONS/NEXT STEPS: Using confirmatory point of care testing decreases the number of false-positive second generation HIV test results disclosed to individuals, and shortens the time to initiation of antiretroviral therapy from 3 days to zero days. More rapid definitive results also reduced anxiety for clients.

PEE1527

OPTIMIZING TESTING INCREASES YIELD IN HIV CASE FINDING IN THE DEMOCRATIC REPUBLIC OF THE CONGO (2018-2019)

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BACKGROUND: In compliance with U.S. President's Emergency Plan for AIDS Relief (PEFAR) recommendation for boosting the first 90 target (90% of people living with HIV know their HIV status) of the UNAIDS strategy, the US Center for Diseases Control and Prevention (CDC) in DRC adopted the optimization of provider-initiated testing and counseling services in 2018. We assessed the impact of these changes in HIV-testing modalities

DESCRIPTION: We used routine HIV testing data from 314 PEPFAR/CDC facilities that reported, Fiscal Year (FY) 2018 and 2019. We compared fourth quarter (Q4) of FY 2018 and Q4 of FY 2019 and calculated the number of HIV tests and the yield (percentage of HIV-positive tests) by testing modality

LESSONS LEARNED: Overall, HIV test volume increased by 6.8%, and the number of HIV-positive results increased by 23.4%, whereas overall yield increased by 18% (3.9% to 4.6%). In 2019, the 5 modalities that contributed to most (85%) of the HIV test volume were routine PITC in outpatient departments (OPDs; excluding emergency rooms, and tuberculosis and sexually transmitted infection clinics; 39.8%), prenatal clinics (28.8%), mobile clinics (6.7%), Inpatient (5.3%) and contact testing (3.8%) Between 2018 and 2019, test volume increased in PMTCT, inpatient, mobile clinics and others, but decreased in Other PITC and contact testing (Table). PITC in OPDs remained the leading contributor to the number of HIV-positive results, but the contribution of this modality to overall HIV-positive results decreased from 56% in 2018 to 44% in 2019. By modality, contact testing had the highest yield (15.6%, 2018; 25.8%, 2019) and was the second largest contributor to overall HIV-positive results (4,215/20,326 [20.7%]) in 2019. Increased test volume in antenatal clinics (28.8% of all tests in 2019) did not increase yield (2018,0.95%; 2019, 0.90%). Nevertheless, increase in mobile clinics testing (6.7% of overall 2019 tests) resulted in increase of 69% yield

CONCLUSIONS/NEXT STEPS: Overall, optimization of HIV testing services enabled DRC to achieve relative increases in case finding between 2018 and 2019. Both yield and absolute number of cases should be considered in assessing the impact of scale-up of contact testing and optimization of case-finding approaches

METHODS TO IMPROVE SERVICE QUALITY, SUPPORT AND TAILORING OF SERVICES

PEE1528

IMPROVING EARLY RETENTION RATES AMONG NEW HIV POSITIVE CLIENTS INITIATING ART THROUGH QUALITY IMPROVEMENT APPROACHES AT FORT PORTAL REGIONAL REFERRAL HOSPITAL (FPRRH)

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BACKGROUND: With the launch of intensified HIV case identification in Uganda in 2019, people living with HIV (PLHIV) were identified and rapidly initiated on anti-retroviral therapy (ART) at facility and community level. In February-2019, only 35% of PLHIV returned within one month of initiating ART. This presented a risk of poor adherence to care, lost opportunity for pharmacovigilance, and a risk of drug resistance. We set out to improve early retention (proportion of clients newly enrolled on ART returning to the facility within one month) from 35% in February-2019 to 85% by January-2020 at Fort Portal Regional Referral Hospital.

DESCRIPTION: We conducted brainstorming sessions with representatives from health facility, expert clients, volunteers, community based organization and People Living with HIV Network at FPRRH for root causes on low early retention. Using the focusing matrix, we prioritized interventions to address complex clinic flow, lack of health education talking points on retention, poor documentation in the appointment registers, incomplete/outdated client locator information and inadequate counseling. Interventions included; labeling all rooms in the clinic, escorting new PLHIV to the enrolment office to avoid long queues, coaching on use of client locator forms, appointment reminders, disseminating counseling messages and health education talking points, weekly tracking of progress. Data was extracted from appointment registers and analyzed as proportions using Microsoft spreadsheets.

LESSONS LEARNED: 668 patients were rapidly initiated on ART between February and August 2019. Early retention increased from 35% in Feb-19 to 97% in Oct-19 as shown in figure 1. Weekly tracking

caused the biggest rise in retention rates. Escorting clients to points of care, phone call reminders and introduction of early retention track counter book worked as well, as shown in figure 1.

[Figure 1. Percentage of newly enrolled clients who return within a month of initiating ART at FPRRH.]

CONCLUSIONS/NEXT STEPS: Early retention among new clients on ART improved with concerted quality improvement initiatives. We recommend proactive tracking to support clients to remain in care.

PEE1529

PROGRESS TOWARDS 90-90-90 FOR PRISONERS IN PRISONS PROVIDING DIRECT HIV SERVICES VERSUS SERVICES VIA REFERRAL, UGANDA: A CASCADE ANALYSIS FOR 2017-2018

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BACKGROUND: Ugandan prisoners have higher-than-national HIV prevalence (14% v. 6.2%) and are a key population for epidemic control efforts. Uganda's prisons provide HIV testing and Antiretroviral Therapy (ART) through in-house models (testing and ART directly provided within prisons by prison health staff) or referral models (services from external providers entering the prison or at nearby public health facilities with or without prisoners). We characterized the cascade of HIV care among prisoners for the two models and described barriers to favorable outcomes at key cascade steps.

METHODS: We conducted a retrospective cohort analysis from January 2017 to December 2018. Data were collected from four prisons, two with referral services and two with in-house services. Prisoners were identified in HIV testing registers and ART registers. Viral loads (VL) were obtained from patient files and the Uganda national VL database. HIV cascade achievements measured at year-end were: Testing completeness (proportion of all inmates who knew their HIV status), Treatment initiation completeness (proportion of HIV-positive inmates who had initiated ART), and VL suppression (proportion of HIV-positive inmates on ART with ≥1 VL result who were virologically suppressed (<1000 copies/mL)). Structured interviews were conducted in the 4 facilities with health workers charged with HIV service provision to identify barriers to HIV care for prisoners.

RESULTS: Barriers in prisons operating both models included inadequate clinic space, staffing, and staff training, and uncoordinated prisoner releases and transfers (often before ART initiation or VL testing; limited paper records inaccessible to future providers). For referral-model prisons, limited outside organization funding and staffing, security challenges in transporting prisoners to outside clinics, and limited opportunities for outside organization staff to enter prisons were also identified.

Cascade step	All prisoners N=6803	In-House Testing & Treatment N=5922	Referral Testing & Treatment N=881
HIV Testing Completeness	87% (5924)	91% (5380)	62% (544)
HIV-Positive	12% (717/5924)	10% (546/5380)	31% (171/544)
Treatment Initiation Completeness	70% (503/717)	79% (429/546)	43% (74/171)
Viral Load Testing Completeness	30% (151/503)	32% (137/429)	10% (8/74)
Viral Load Suppression	92% (139/151)	98% (135/137)	50% (4/8)

[Table]

CONCLUSIONS: In-house services yielded better performance than referral. Both had gaps in VL testing. Limited human resources and uncoordinated prisoner transfers and releases were barriers to comprehensive HIV services. We recommend in-house testing and ART in all prisons where possible, and electronic medical records to improve continuity of care.

PEE1530

PEER NAVIGATION IMPROVES UPTAKE OF ANTIRETROVIRAL THERAPY FOR KEY POPULATIONS IN BOTSWANA

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BACKGROUND: Fast-tracking members of key populations (KPs) to antiretroviral therapy (ART) reduces onward transmission of HIV to their clients by ensuring immediate access to treatment and, ultimately, viral suppression. Poor linkage to treatment challenges epidemic control. Factors contributing to non-linkage include passive referrals for initiation, lack of psychosocial support, and stigma and discrimination. Peer-led approaches have been shown to be effective in successful linkage and retention of individuals on treatment. We report the impact of peer navigation on prompt linkage of HIV-positive KP individuals to ART in Botswana.

DESCRIPTION: Between October 2015 and September 2019, the PEPFAR/USAID-funded LINKAGES project implemented interventions to address the HIV epidemic among KPs in Botswana. Peer navigation was introduced toward the end of the third year of implementation as an additional intervention to improve access to HIV care and treatment services. Peer navigators were trained on interpersonal skills and motivational communication to help build rapport with peers and navigate them to treatment facilities. They acted as case managers, sharing their experiences on living with HIV, and providing psychosocial support and treatment literacy to peers newly diagnosed with HIV. They continued to provide support through regular phone check-ups and home visits to ensure long term adherence and retention on ART.

LESSONS LEARNED: Over the life of project, a total of 1,758 FSWs and MSM were diagnosed with HIV, and more than 80% were successfully initiated on treatment. Following the introduction of peer navi-

gation, treatment initiation improved from 49% in year three to 89% in year four for MSM. For FSWs, treatment initiation increased from 54% in year three to 105% in year four, as peer navigators successfully linked both new and previously diagnosed FSWs to treatment.

CONCLUSIONS/NEXT STEPS: Peer-led strategies, such as peer navigation are effective in linking KPs to care and treatment. This strategy has been integrated into the KP programs nationwide to help people living with HIV link to treatment early and remain on treatment.

PEE1531

MYSTERY MEN: DO WE KNOW ENOUGH ABOUT THE MALE SEXUAL PARTNERS OF AGYW? DOCUMENTING MALE CHARACTERISATION RESEARCH TO TARGET AND INCLUDE MEN IN HIV PREVENTION PROGRAMMING

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BACKGROUND: HIV prevention programming for adolescent girls and young women increasingly aims to involve their male sexual partners (MSPs). Research to characterise MSPs is needed to tailor services effectively. We aimed to document the extent to which this has been done, the methods used, and the use of results to inform programming in ten high-burden countries in sub-Saharan Africa.

METHODS: In order to identify studies, document findings, and describe how these have informed programming, our methods comprised desktop reviews and stakeholder interviews. We reviewed existing MSP-related research from all ten countries. We conducted 133 interviews with key informants and 29 focus group discussions with 245 programme implementers. Thematic content analysis was conducted.

RESULTS: Thirteen formal studies, which specifically aimed to characterise MSPs of AGYW, were identified in nine of the ten countries (all but Tanzania). Methods used varied considerably. Nine programmatic studies were identified in four countries (Kenya, Malawi, Tanzania, and Uganda). These studies made use of Population Council's ASERT™ (Ascertaining Sexual Relationship Types) tool.

Research to characterise MSPs of AGYW exists, but it was not being conducted consistently, and results were not being presented in a user-friendly manner and lacked clear programme recommendations for tailoring services. Most programme implementers were not aware of the formal research conducted in their own countries, nor were they aware of research other organisations had undertaken. Few were able to clearly articulate the findings or how they have been (or should be) used to inform programming. Some implementers had used research findings to inform where they reach men, rather than who they target.

CONCLUSIONS: Several methods have been used across countries to characterise MSPs, although the use of the results for tailoring programming has been varied. Recommendations for building capacity to improve male characterisation research include: use of ASERT™ tool across countries with guidelines on analysing and presenting data in user-friendly formats; inclusion of psycho-behavioural information to develop personas; and identification of priority MSP segments. The population size of these priority segments should be estimated.

PEE1532

VIKELA EKHAYA: A NOVEL STRATEGY TO ENHANCE HOUSEHOLD TB CONTACT MANAGEMENT IN THE HHOHHO REGION, ESWATINI

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BACKGROUND: In Eswatini, 71% of TB cases are HIV-positive and TB preventive therapy (TPT) uptake among children under-five is less than 12%. Vikela Ekhaya (Protect the Home) aims to deliver home-based HIV/TB diagnostics and TPT among household contacts of TB cases in the Hhohho region of Eswatini.

DESCRIPTION: Mobile Outreach Teams (MOTs), consisting of nurses and HIV Testing Services (HTS) officers, coordinate with Basic Management Units (BMUs) through a mobile application to locate and provide home-based care to household contacts of TB cases. Eligible contacts are provided with HTS, TB screening and TPT using new shorter rifampicin-based regimens. Presumptive TB cases are referred to BMUs for further evaluation. Families who decline household-based care are given the option for clinic-based evaluation and follow-up.

LESSONS LEARNED: Between May 2019 to September 2019, 166 community homes had been visited by MOTs, with 367 follow-up visits. 160/164 (98%) of eligible under-five contacts were initiated on TPT with 98% retention or completion. 41/42 eligible PLHIV initiated TPT with 93% retention. 639 total household contacts were evaluated, 55 with presumptive TB from which three TB cases were diagnosed. 48 of 68 contacts with an unknown HIV status accepted testing, four of whom tested positive and were linked to care. Qualitative interviews with project participants revealed that household-based care abated some of the largest structural challenges. associated with TB contact management. Transport, out of pocket expenditures and clinic access were some of the barriers identified. Interviews with project members revealed personal and professional fulfillment in identifying those most at risk for TB, and operational challenges associated with community implementation.

CONCLUSIONS/NEXT STEPS: Findings revealed that TB screening, initiation and completion of TPT for contacts under-five and HIV positive contacts of TB cases is greatly enhanced when home-based contact management is offered. Shorter rifampicin based TPT may also increase uptake and completion of TPT. In addition, previously unknown HIV positive persons can be identified with this strategy. Implementation within public health programs, enhanced communication and reporting strategies, and assessments of cost effectiveness are now needed to more comprehensively evaluate the potential of home-based TB contact management.

PEE1533

EVIDENCE OF A QUALITY IMPROVEMENT-GUIDED INTERVENTION TO IMPROVE AVAILABILITY OF VIRAL LOAD RESULTS AMONG PREGNANT AND LACTATING WOMEN RECEIVING CARE AT A LARGE HIV CLINIC IN RURAL ZAMBÉZIA, MOZAMBIQUE

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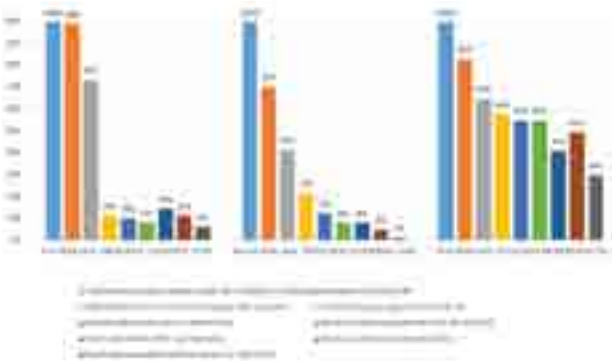
BACKGROUND: In Mozambique, routine viral load (VL) testing for pregnant/lactating women (PLW) is performed three months following antiretroviral therapy (ART) initiation and thereafter on a yearly basis. To improve availability of VL results, Quality Improvement (QI) activities included mentoring of clinicians and counselors on a bi-weekly basis and placement of VL request reminders within clinical files (CF). In May 2019, a specific VL result tracking tool was introduced along with real-time provision of feedback to HF personnel regarding performance towards weekly targets.

DESCRIPTION: To identify bottlenecks, we evaluated steps along the prevention of mother-to-child transmission (PMTCT) VL continuum, from test request through result communication to patients in Namacurra Sede health facility (HF). We report results from three Plan-Do-Study-Action (PDSA) cycles.

LESSONS LEARNED: Data included all HIV-positive PLW, eligible for initial VL testing within three PDSA cycles (Cycle 1: September 21–December 20, 2017; Cycle 2: September 21–December 20, 2018; Cycle 3: March 21–June 20, 2019). Eligibility for initial VL testing was defined as having consistent ART pick-ups for 3 months.

Descriptive analysis was performed on indicators including VL requisition, results entry into electronic patient tracking system, placement of results into CF, and communication of results to the patient.



[Figure 1. Namacurra health facility pregnant and lactating women viral load continuum]

Initially, clinicians significantly under-requested VL among PLW eligible for their first VL test. Subsequent barriers included problems with result availability in CF and limited communication of results to patients.

Following introduction of the third QI PDSA Cycle, improvements were seen in VL requisitions (from 22% to 58%), insertion of VL results into the CF (5% to 49%) and communication of results to patients (1% to 30%).

CONCLUSIONS/NEXT STEPS: Intensive monitoring of process measures targeting observed constraints within the PMTCT VL continuum led to improvements crucial for PMTCT. Based on these preliminary successes, we have expanded this approach to 20 high-volume HF in Zambézia Province.

PEE1534

HOW DO WE TAILOR SERVICES TO MEET YOUNG PEOPLE'S NEEDS? A DISCRETE CHOICE EXPERIMENT TO DETERMINE PREFERENCES OF HIGH SCHOOL STUDENTS IN GAUTENG FOR ACCESSING HIV AND CONTRACEPTIVE SERVICES

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BACKGROUND: The South African government has implemented the Integrated School Health Policy and related programmes to address HIV prevention and reproductive health needs among adolescents. To improve uptake of these services it is important to understand the preferences of students for how these programs are delivered so that implementation strategies can reflect this.

METHODS: A discrete choice experiment (DCE) was used to estimate preferences. The DCE was conducted in 10 high schools situated in neighbourhoods of varying socio-economic status (SES) in Gauteng (South Africa). Students aged ≥15 years(Grades 9-12) were consented and enrolled in the DCE. Mixed effects logistic regression was used to determine preferred attributes for HIV and contraceptive service delivery. Results were stratified by gender and the neighbourhood SES (where quintile 1=Low SES and 5=High SES)

RESULTS: The DCE was completed between 07/2018-09/2019; 805 students were enrolled (68% female; 66% 15-17 years; 51% in grades 9-10). 54% of students in quintile 1 schools had no monthly income; 38% in quintile 5 schools had access to> USD7 per month. Preferences were similar for male and female students. Students strongly preferred services provided by friendly, non-judgemental staff (Odds ratio 2.66; 95% Confidence Interval: 2.47-2.87) where confidentiality was ensured(1.79; 1.66-1.93). They preferred services offered after school (1.15; 1.03-1.27) with value-added services like free Wi-Fi(1.18; 1.00-1.38), food(1.23; 1.11-1.37) and youth-only waiting areas (1.18; 1.06-1.31). Students did not have a specific location preference, but preferred not to receive services within the community(0.83; 0.74-0.92). Students attending schools in high SES neighbourhoods expressed a preference for private care(1.27; 1.06-1.53). Costs to access services were a deterrent for most students irrespective of school neighbourhood; female students were deterred by costs ≥USD3 (0.79; 0.70-0.91); males by costs ≥USD7 (0.80; 0.67-0.95)

CONCLUSIONS: Preferences that encourage utilisation of services do not significantly differ by gender or SES of school neighbourhoods. Staff attitude and confidentiality are key issues affecting students' decisions to access HIV and contraceptive services. Addressing how healthcare providers respond to young people seeking HIV-testing, contraceptives and sexual and reproductive health, and close monitoring of comprehensive sexuality education implementation in schools is critical for improving adolescents' uptake of these services.

PEE1535

ACHIEVING THE "THIRD 90" FOR ADOLESCENTS AND YOUNG PEOPLE ON ANTIRETROVIRAL THERAPY IN EASTERN KENYA: A QUALITY IMPROVEMENT COLLABORATIVE (QIC) TO IMPROVE VIRAL LOAD TEST UTILIZATION

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BACKGROUND: Scaling up routine HIV viral load (VL) testing for adolescents and young people (AYP) is a priority for Kenya's National AIDS Control Program (NASCOP). Kenya's 2018 national guidelines recommend that everyone on antiretroviral therapy (ART) with unsuppressed VL (UVL) (≥401 copies/mL) receive 3 enhanced adherence counseling (EAC) sessions and a repeat VL test within 3 months. Despite marked expansion of VL testing coverage and rollout of national policies, guidelines and training, VL result utilization, especially for AYP, has been suboptimal.

METHODS: In April 2019, ICAP Columbia University partnered with NASCOP, HRSA and CDC Kenya to launch a 12-month QIC at 22 health facilities (HF) in Eastern Kenya, designed to optimize VL utilization for AYP on ART with UVL. Following training on QI methods and VL management, each HF team identified contextually appropriate interventions and applied QI methods to conduct rapid tests of change and analyze monthly progress using run charts. HF's receive monthly coaching visits and convened quarterly to exchange best practices and lessons learned. We analyzed aggregate performance compared to a 12-month pre-intervention baseline.

RESULTS: In the first 6 months, the HF QI teams tested interventions targeting: client education, workflow modifications, commodity management, and improved documentation. Provision of EACs has improved from a baseline median of 64% (n=479) to 91% (n=350) while provision of EACs and repeat VL testing improved from baseline median of 16% (n=479) to 62% (n=350). VL re-suppression on repeat testing improved from a baseline median of 34% (n=273) to 50% (n=314).

[Figure]

CONCLUSIONS: The QIC has helped HF teams to identify and prioritize local, contextually appropriate innovations that have led to swift improvement in critical indicators of VL utilization and re-suppression. The QIC concludes in April 2020 when final results will be analyzed and a validated "change package" of successful interventions will be disseminated nationally.

PEE1536

TOWARD INCREASED CONTINUITY OF HIV CARE: PREDICTORS OF ELIGIBILITY INTERRUPTION AFTER FIRST ENROLLMENT AMONG CALIFORNIA AIDS DRUG ASSISTANCE PROGRAM (ADAP) CLIENTS

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BACKGROUND: Publicly funded AIDS Drug Assistance Programs (ADAPs) provide access to life saving medications for uninsured and underinsured people living with HIV. To enroll, clients must provide proof of identity, residency, income, and HIV status. Federal requirements specify that clients must recertify their eligibility biannually and re-enroll annually. Preventing ADAP eligibility disruptions is critical to continuity of care, particularly for newly diagnosed clients. However, little is known about which clients are most vulnerable to ADAP eligibility interruption.

METHODS: We examined length of uninterrupted eligibility after initial enrollment using California ADAP enrollment records for adults enrolled between March 4, 2017 and September 4, 2019 (n = 12,867). Kaplan-Meier analyses and parametric regression log-survival time models were used to test for differences and identify significant predictors of uninterrupted eligibility duration.

RESULTS: The percent of days of eligibility covered by ADAP was high (median 100%, IQR 72-100%). However, 37% of clients experienced at least one day of interrupted eligibility after initial enrollment. Kaplan-Meier analyses revealed the risk of an eligibility interruption coincided with clients' first eligibility deadlines at 1, 6, and 12 months. The median length of interruption was 28 days. Gender, race, insurance status, and age were associated with initial eligibility duration. Black/African American clients experienced 2.3 fewer months of uninterrupted eligibility than non-Black/African American clients (p<.0001). Uninsured clients experienced 1.3 fewer months of uninterrupted eligibility than insured clients (p<.0001). Each year of increase in age was associated with a 2 day increase in uninterrupted ADAP eligibility (p < .001). Average uninterrupted eligibility duration for cisgender men, cisgender women, and transgender people, at age 18, was 6.0, 6.1, and 5.1 months, respectively.

CONCLUSIONS: These findings suggest that young, transgender, Black/African American people living with HIV face barriers to providing supporting eligibility documentation at initial ADAP enrollment and are at increased risk of care disruption. Policy changes that reduce enrollment disruptions for new ADAP clients, particularly for vulnerable populations, could improve client health and lower administrative program costs.

PEE1537

IMPROVING HIV VIRAL LOAD (VL) SUPPRESSION AND ISONIAZID PREVENTIVE THERAPY (IPT) COMPLETION THROUGH A QUALITY IMPROVEMENT INITIATIVE AT SCALE: EXPERIENCE FROM UGANDA'S IMPLEMENTATION PROCESS

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BACKGROUND: In 2018, although Uganda had made progress towards achieving the third 90 targets set by the UNAIDS it was not certain that the target would be achieved by 2020. Ministry of Health (MOH) designed and implemented a National Quality Improvement (QI) initiative from Jan 2019 to take to scale high impact interventions and close gaps along care cascades. Of priority was the improvement in the three processes of care for the virally non-suppressed patients; intensive adherence counselling, repeat VL testing and switching as well as completion of IPT. The initiative was implemented through the existing National QI structures that provide regular coaching, tools and support to QI regional and health facility teams that test and implement changes to close the performance gaps. We assess outcomes associated with three processes of care across the VL cascade as well as Isoniazid prevention therapy (IPT).

METHODS: A longitudinal cohort of 42092 non-suppressed patients (≥1000 copies of viral RNA/ml) from 1110 national QI initiative participating health facilities in Uganda were followed up for VL outcomes between January to September 2019. We analyzed data on Intensive adherence Counseling sessions, adherence, repeat VL test results, 2nd non-suppression VL and switch for the general cohort, children and pregnant and lactating mothers. Analysis was done for IPT completion for patients initiated on INH in January 2019.

RESULTS: The proportion of patients who had 3 consecutive IAC sessions increased by 17%, repeat viral load tests increased by 20% and switching to second-line increased by 22% by Sept 2019 for the general cohort. VL suppression outcomes improved for both children and pregnant and lactating mothers. Switching to second line regimen for pregnant and lactating mothers increased by 30% and 25% for VL suppression. Switching for children improved by 22% and suppression by 7%. IPT completion among patients initiated on INH was high at 89%.

CONCLUSIONS: National QI collaborative is feasible and it improved patient outcomes along the viral load cascade to suppression and achieving 90-90-90 targets.

PEE1538

COMMUNITY LED ASSESSMENT OF CLIENT SATISFACTION WITH OST SERVICES: PILOT STUDY IN KYIV AND KYIV OBLAST REGION, UKRAINE

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BACKGROUND: OST programmes in Ukraine were originally introduced to respond to the rapidly increasing rates of HIV. As OST have been implemented for more than 10 years, the study of patient satisfaction with treatment gives new opportunities for a better understanding of OST service development prospects in the long run as well as treatment trajectories and changing needs on a patient level.

METHODS: In 2019 EHRA gathered a team of professional researchers and 4 national community organizations to develop a tool to assess treatment satisfaction in the context of the quality of life (QoL) among OST patients. Our approach to this study was based on the principles of equal partnership with the community of people who inject drugs and/or receive OST. The study was conducted using the mixed-method approach. The quality component was implemented through 16 semi-structured interviews, sampling for the quantitative component was performed using publicly available data from the Center for Public Health. 376 OST patients took part in the pilot assessment in Kyiv and Kyiv Oblast region, 178 structured interviews were conducted with patients who get OST for free at state-funded OST sites, 198 - with patients who buy OST in pharmacies after getting prescription at OST sites based in private clinics.

RESULTS: The research showed that although a formally designated range of services is provided, their content and quality are not satisfactory, mostly aimed at monitoring the patient's behavior, rather than providing patient-centered support, and do not improve patients' QoL. HIV positive status and diagnosed hepatitis C are associated with lower levels of QoL indicators in physical and psychological domains. Gathered data also suggests that overall high satisfaction with OST (72%) could be explained by the fact that the perception of treatment is narrowed to the medication (89% said that OST is a vital need for them).

CONCLUSIONS: For improved understanding of goals and outcomes in treatment of chronic diseases, such as drug addictions, we recommend advocating the assessment of patients' QoL as an indicator of treatment efficiency. Special focus should be made on patients primarily targeted by OST programmes, such as people with dual diagnoses (HIV/hepatitis C coinfection).

PEE1539

RISK FACTORS AND MANAGEMENT OF ADVERSE EVENTS ASSOCIATED WITH VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAMS IN NAMIBIA: OCTOBER 2016 TO SEPTEMBER 2017

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BACKGROUND: Voluntary Medical Male Circumcision (VMMC) is effective in preventing HIV but limited information is available on VMMC-associated adverse events (AEs) program impact. To better understand how AE reporting and management by VMMC programs, USAID evaluated practices for identifying, reporting, and preventing AEs within the PEPFAR project through USAID called AIDSFree, in Namibia between October 2016 and September 2017.

METHODS: Medical record data abstraction from all 12 AIDSFree-supported VMMC clinics in Windhoek, Namibia from November 2018 to February 2019, and from the AIDSFree program dataset containing data from all VMMCs performed during that time. Qualitative semi-structured interviews were conducted with providers and program managers in four VMMC clinics in Namibia.

RESULTS: The AIDSFree program reported 69 moderate and severe VMMC-associated AEs during the study period but medical record abstraction revealed an additional 44 (113 total: under-reporting rate 44%): 83% moderate, 17% severe and 72% occurred postoperatively. Most circumcisions were performed using the forceps guided method and most AEs (64%) were associated with this procedure, significantly higher than AEs associated with Dorsal slit and sleeve resection procedures (OR 1.5 (1.00 – 2.21), p-0.04). Clients aged 15-19 years had the most AEs (35). Intraoperative AE rate was highest among those aged 15 – 19 years (1.2%) while those aged 15 – 24 years had the highest postoperative AE rate (2.6%), with postoperative AEs significantly higher in this age group (OR=2.5, CI (1.6 – 3.9), p<0.001). Prevention strategies focused on post-operative AEs as they rely on patient's often limited understanding of wound care and hygiene and a recognition that patients often lack the necessary resources to comply; a growing issue as programs increasingly expand outreach to rural and remote locales. Some staff respondents voiced concerns that AE reporting might exclude them from future VMMC work or reflect poorly on their skills.

CONCLUSIONS: Training of clinic staff should emphasize documentation/charting of AEs, along with VMMC clinical skills and AE management. VMMC implementing partners should conduct routine data quality assessment with data validation to improve documentation. Postoperative wound management, care, and hygiene should be emphasized and new strategies considered for increasingly rural client populations.

PEE1540

QUALITATIVE FINDINGS FROM A MULTI-COUNTRY EVALUATION OF ADVERSE EVENTS IN VMMC PROGRAMMING

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BACKGROUND: More than 18 million men have been reached and more than 230,000 new HIV infections prevented in sub-Saharan Africa, since Voluntary Medical Male Circumcision (VMMC) was proven safe and efficacious in 2007. As programs evolve, continuous evaluation of quality and safety is essential. We present findings from the qualitative component of a multi-country evaluation of safety monitoring among USAID VMMC programs.

METHODS: As part of a larger evaluation effort, semi-structured interviews were conducted with key informants (KIs) purposively sampled to ensure representation from relevant staffing and ministry levels within country programming supported by AIDSFree, a PEPFAR program through USAID, in Namibia, Tanzania, and Malawi. Data collection was conducted between November 2018 and February 2019. Interview guides were informed by literature and expert input. Interviews were conducted by the study team and lasted up to 1.5 hours in English in Malawi and Namibia, and in English and Swahili in Tanzania. A thematic analysis approach was employed to analyse the data. All participants completed informed consent.

RESULTS: Twenty-six interviews were conducted across the three countries. Discussions explored participants' understanding of the VMMC process and preventing, recognizing, reporting, and clinical follow-up of clients with identified adverse events (AEs). Programming differed between the contexts where VMMC program maturity and design varied. All participants acknowledged the need for the VMMC intervention and support provided by AIDSFree, credited with fostering new paradigms in HIV prevention among men. Three additional thematic areas emerged from the data: Balancing service quality and provider empowerment in managing AE reporting; The need for ongoing provider support; and, Providers and clients holding the responsibility of AE prevention. Many participants expressed conflicting motivations to report AEs and avoid potential punitive actions, the need for ongoing technical training and support, and how both providers and clients are responsible for prevention and addressing AEs.

CONCLUSIONS: This research highlighted VMMC as an important intervention for men, as well as areas of program quality vulnerability and how they should be addressed. Providers need protected support to maintain clinical skills and be able to report AEs. Clients should be empowered to ensure their post-operative care is well-maintained.

PEE1541

CONNECTING THROUGH SMART-LYNCAGES: ASSESSING THE LINKAGE OF VOLUNTARY MEDICAL MALE CIRCUMCISION CLIENTS TO ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH (ASRH) SERVICES IN ZIMBABWE

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BACKGROUND: The Smart-LyncAges project was piloted in Bulawayo city and Mt Darwin district of Zimbabwe, to increase the utilization of Adolescent Sexual Reproductive Health (ASRH) services through referral of Voluntary Medical Male Circumcision (VMMC) clients to youth centres. Since its inception in 2016, there has been no assessment of performance of the referral system. Thus, this study aimed to assess the proportion of VMMC clients getting 'successfully linked' to ASRH services and factors associated with not being linked.

METHODS: This was a cohort study using routinely collected secondary data. All VMMC clients (aged 10-24 years) referred for ASRH services during October-November, 2018 were included. Those participants registered for ASRH services within three months of referral were considered as 'successfully linked'. The proportion of 'successfully linked' was summarized as percentages with 95% confidence interval (CI). Adjusted relative risks (aRR) using generalized linear model was calculated as a measure of association between client characteristics and not being linked.

RESULTS: Of the 1478 VMMC clients referred, 463 (31.3%, 95% CI- 30.0-33.8) were 'successfully linked' to ASRH services and the median (IQR) duration for linkage was 6 (0-56) days. Receiving referral from Bulawayo Metropolitan Circumcision Clinic (aRR-1.4 (95% CI1.2-1.7)) and getting VMMC services at outreach facilities (aRR1.2 (95% CI 1.1-1.3) were independently associated with not registering for ASRH services.

CONCLUSIONS: Linkage to ASRH services from VMMC is possible as one-third referred VMMC clients were successfully linked. However, there is need to explore the reasons for not accessing ASRH services and taking corrective actions to improve the linkages especially for VMMC clients assessing services in the metropolitan clinic and outreach centres. intergration and linkages between HIV prevention and ASRH reduce missed opportunitites for adolescents and are complimentary in nature, resulting in the neccessary efficencies especially in resourse limited settings.

PREP: LESSONS LEARNED FROM DELIVERY

PEE1542

FACTORS ASSOCIATED WITH ACCESSING FREE PREP SERVICES IN THAILAND

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is a highly effective HIV prevention tool. Little is known about client preferences for different models of PrEP services. We describe differences in clients accessing PrEP through fee-based and free services in community-based clinics in Thailand.

METHODS: From January 2016-July 2019, data was obtained from the two largest PrEP programs in Thailand: a free "Princess PrEP" program available in 9 community-based clinics in 6 provinces in Thailand and a fee-based "PrEP-15" program at the Thai Red Cross Anonymous Clinic in Bangkok, Thailand. Demographics and risk behaviors were self-reported, and multivariable regression was used to determine factors associated with engaging in free PrEP services.

RESULTS: A total of 5,687 clients were enrolled, 66.7% through Princess PrEP (82.7% men who have sex with men – MSM, and 12.8% transgender women – TGW) and 33.2% through PrEP-15 (76.3% MSM, 3.1% TGW). Mean age for clients in Princess PrEP and PrEP-15 was 28.8 and 31.5, respectively, p<0.001. Among Princess PrEP and PrEP-15 clients, 61.2% and 54.8% reported multiple partner (p<0.001), 65.3% and 86.4% had inconsistent condom use (p<0.001), 6.7% and 7.1% used amphetamine (p=0.609), and 18.2% and 6.6% reported sex work (p<0.001), respectively.

In the multivariable linear regression model, being MSM (adjusted odds ratio -aOR: 7.17; 95% confidence interval -CI 4.18-12.28, p<0.001), TGW (aOR: 5.9; 95% CI 2.8-12.45, p<0.001), having multiple partners (aOR 1.42; 95% CI 0.98-2.06, p<0.05), and reporting sex work (aOR: 5.03; 95% CI 2.69-9.42, p<0.001) were associated with accessing free PrEP.

Clients who earned more than 1,600 USD per month were less likely to access free PrEP (aOR: 0.38; 95%CI 0.23-0.63, p<0.001), as well as clients who reported inconsistent condom use (aOR: 0.01; 95%CI 0-0.03, p<0.001), and clients who used drugs during sex (aOR: 0.73; 95%CI 0.57-0.94, p<0.05).

CONCLUSIONS: In order to optimize PrEP uptake, accessibility should be diversified to accommodate for the needs of different populations. Factors that we found can be used to tailor service delivery models to different populations. While some clients may choose to pay out of pocket, PrEP should be available under universal health coverage, particularly for key populations such as MSM, TGW, and sex workers.

PEE1543

IMPROVING PREP CONTINUATION RATES THROUGH CLIENT-CENTERED INNOVATIONS IN LESOTHO

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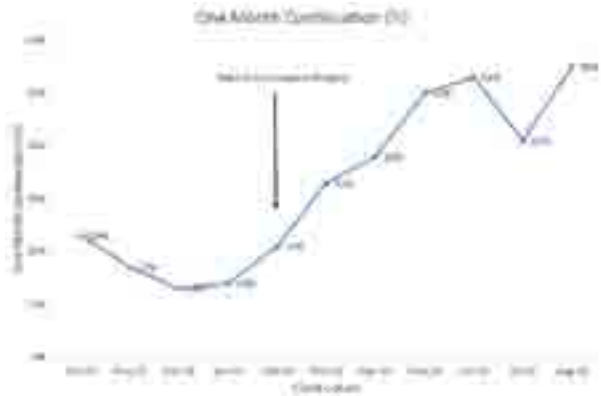
BACKGROUND: Lesotho, with an adult (15-59 yrs) HIV incidence rate of 1.5/100 person years began scaling up PrEP in 2018 as part of comprehensive HIV prevention response. Despite proven effectiveness, many PrEP programs experience high client attrition rates during early use.
DESCRIPTION: Programmatic data from community-based PrEP services registers in Lesotho revealed that only 20% of those starting PrEP for the first time between October 2018 and January 2019 returned on time (defined as within 37 days) for first refill. In response, PrEP users and service providers were engaged to prototype solutions to mitigate refill delays. Between February and October 2019, five parallel innovations were implemented in Maseru and Berea districts. Routinely collected prescription data was monitored for changes in timeliness of first refill by innovation beneficiary group.
LESSONS LEARNED: All five continuation improvement efforts led to improved continuation of PrEP at one month when compared to the baseline 20% October 2018-January 2019 average. See Figure; 1.

[Figure 1. PrEP Continuation Innovations and Results]



[Figure 2. One Month PrEP Continuation by Monthly Enrollment Cohorts]

Figure 2 shows a steady increase in overall one month continuation rates since the inception of continuation improvement projects in February 2019.
CONCLUSIONS/NEXT STEPS: Implementation of all client-centered innovations were followed by improvements in first refill, including a rapid increase in overall program monitoring and evaluation data by enrollment month. Adaptation to different contexts is required to ensure beneficiaries remain protected for as long as they need PrEP. Nuances of PrEP use among those at intermittent and episodic risk warrant further evaluation.

PEE1544

EARLY SEROCONVERSION AMONG NEW ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) USERS: OBSERVATIONS FROM LESOTHO

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BACKGROUND: Oral pre-exposure prophylaxis (PrEP) provides greater than 90% protection against HIV acquisition. Lesotho is among countries hardest hit by the HIV epidemic and is scaling up PrEP as an HIV prevention option for individuals at substantial risk. Seroconversion following PrEP initiation in the context of routine implementation is not well documented.
DESCRIPTION: After starting PrEP, clients in Lesotho are retested for HIV at month-one, month-three and every three months thereafter. Serial HIV testing is the standard of care using three antibody based, third generation assays. Screening for HIV exposure in the 72 hours preceding PrEP initiation to determine Post-Exposure Prophylaxis (PEP) eligibility, was routinely implemented from October 2018. All seroconversions reported in Lesotho's community programme from January 2018 - November 2019 were evaluated for the performance of PEP eligibility screening, time on PrEP and adherence. Information was drawn from service registers and reports.
LESSONS LEARNED: Eight seroconversions following PrEP initiation were reported among 12 462 users in the period under review. Seven tested positive at the month-one post-initiation retest, and one at the month-four visit. Good adherence was reported for all but two clients. The month-four client had 70% adherence and one of the month-one clients took 60% of prescribed doses. Only three of the seroconverters were screened for PEP before starting PrEP. Seventy-eight percent (78%) of new PrEP users during the period reviewed did not return for their first refill and were subsequently not retested.
CONCLUSIONS/NEXT STEPS: Almost all seroconversions (87.5%) in our case series were detected at the first retesting opportunity, suggesting HIV infection just before or soon after initiating PrEP. Early seroconversion on PrEP may be an unavoidable consequence of successfully reaching at-risk individuals. All new PrEP clients in high incidence settings should be counselled to return for repeat testing one month after initiation regardless of continuation intentions. Equally important is the need for PrEP providers to diligently screen for PEP versus PrEP eligibility.

PEE1545

THE UTILITY OF RENAL FUNCTION SCREENING FOR PRE-EXPOSURE PROPHYLAXIS (PREP) USERS: A REVIEW OF BASELINE CREATININE CLEARANCE RESULTS IN LESOTHO

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BACKGROUND: Tenofovir (TDF), recommended for PrEP, is associated with long-term side effects during HIV treatment. The WHO recommends routine creatinine monitoring for PrEP clients at baseline and 6 monthly thereafter. PrEP is contraindicated when estimated creatinine clearance (CrCl) is below 60 ml/min. Less frequent monitoring is suggested when baseline CrCl is above 90 ml/min. While

implementation of creatinine screening has obvious cost implications, phlebotomy has also been flagged as a possible access barrier. PrEP clients are generally younger, healthier and exposed to TDF for shorter periods than clients on TDF for HIV treatment. PrEP use is typically transient and only 4% of clients in Lesotho's community program continue PrEP beyond six months.

DESCRIPTION: Using data from service registers, we analyzed baseline CrCl results for clients assessed for PrEP eligibility through Lesotho's community PrEP project between June and November 2019. CrCl was estimated using the Cockroft-Gault equation. Analysis of renal function was done by age, sex and weight.

LESSONS LEARNED: Of 2622 client records, 247 were eligible for analysis by virtue of completeness of age, sex, weight and creatinine data. There were 219 females and 28 males. Clients were mostly young with an average age of 22.8 years (range 15-68 years). At 135 ml/min, average CrCl was high, with a range of 46-319 ml/min. One client, a 68 year old hypertensive man, had CrCl less than the 60 ml/min PrEP eligibility threshold. Ninety-three percent (219/236) of clients below 40 years of age had an estimated CrCl above 90 ml/min in contrast to only 36% (4/11) of older clients. Comparison by weight was less remarkable as 84% (43/51) of clients weighing less than 50kg had CrCl above 90 ml/min compared to 92% (180/196) of clients with higher weights.

CONCLUSIONS/NEXT STEPS: Except for one client with renal disease risk factors, creatinine screening did not add value to clinical decisions. In addition, a large majority of clients younger than 40 years had high baseline CrCl estimates (>90 ml/min). To offset costs and reduce access barriers for young PrEP users free of renal stigmata, we recommend serum creatinine screening after six months of use rather than at initiation.

PEE1546

PREP INITIATION AND CONTINUATION AMONG PREGNANT WOMEN ARE ASSOCIATED WITH CO-DELIVERY OF HIV SELF-TESTS FOR AT-HOME MALE PARTNER TESTING: RESULTS FROM AN IMPLEMENTATION PROGRAM IN KENYA

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BACKGROUND: Programmatic provision of HIV self-tests to antenatal care (ANC) attendees for secondary distribution to male partners is scaling up in Kenya and could influence PrEP decision-making. We evaluated PrEP outcomes among ANC attendees at clinics delivering PrEP alone or with self-test distribution in the PrEP Implementation for Young Women and Adolescents (PrIYA) Program.

DESCRIPTION: The PrIYA Program approached HIV-uninfected pregnant women seeking routine ANC at 16 clinics in Kisumu, Kenya from 11/2017-06/2018. ANC attendees were screened for PrEP per national guidelines and those eligible were offered PrEP at the same visit. Eight clinics were purposively assigned to also distribute HIV self-tests to women for at-home partner testing; women could accept either self-tests, PrEP, or both. Self-test acceptors received instructions on use and a minimum of 2 OraQuick Advance kits. We used Poisson regression models, clustered by site, to evaluate the relationship between self-test distribution and PrEP initiation and continuation among women with partners of unknown HIV status. In a subset, we conducted in-depth interviews (IDIs) to elucidate reasons for PrEP discontinuation.

LESSONS LEARNED: We screened 4912 HIV-uninfected pregnant women for PrEP, of whom 1446 (29%) had partners of unknown HIV status and were included in the analysis. Overall, 593/1446 (41%) women were from clinics co-delivering PrEP and self-tests. Median age was 24 years (IQR 21-28), median gestational age was 26 weeks (IQR 20-31), and 84% were married. PrEP initiation was more frequent in clinics distributing self-tests compared to PrEP-only clinics (36% vs. 29%, prevalence ratio[PR]=1.23, 95% CI 1.02-1.48, p=0.027). At clinics co-delivering PrEP and self-tests, 60% of women accepted self-tests to distribute to partners; PrEP uptake was similar among self-test decliners and acceptors (36% vs. 39%, p=0.384). Among PrEP initiators at clinics co-delivering PrEP and self-tests, those who accepted self-tests more frequently discontinued PrEP at 3-months (89% vs. 78%, PR=1.14, 95% CI 1.00-1.25, p=0.003) and 6-months (97% vs. 89%, PR=1.09, 95% CI 1.00-1.19, p=0.05). In IDIs, women commonly reported discontinuing PrEP after their partners self-tested HIV-negative.

CONCLUSIONS/NEXT STEPS: Distributing self-tests for male partners in ANC may influence PrEP decision-making. Comprehensive HIV prevention should be offered in ANC to meet the diverse needs of pregnant women.

PEE1547

QUALITATIVE ASSESSMENT OF BARRIERS AND FACILITATORS OF PREP USE BEFORE AND AFTER IMPLEMENTATION OF A PREP PROGRAM FOR KEY POPULATIONS IN RAKAI, UGANDA

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BACKGROUND: Uganda began providing HIV preexposure prophylaxis (PrEP) through selected PEPFAR-funded implementation projects in 2017. We explored perceptions of PrEP before its rollout and user experience after it was introduced to understand programmatic barriers and facilitators in Rakai, Uganda.

METHODS: We collected qualitative data before (2016-2017) and after (2019) PrEP rollout in hyperendemic fishing communities and trading centres in south-central Uganda. We conducted 75 in-depth interviews, and 93 individuals participated in 12 focus group discussions. We purposively selected female sex workers, fishermen, healthcare providers, HIV-discordant couples and community members to explore PrEP awareness, hypothetical uptake and adherence before roll-out. After rollout, we further selected individuals who had started, discontinued, and refused PrEP to describe experiences along the PrEP cascade. Interviews were audio-recorded and transcripts were thematically analysed using a team-based framework analysis approach.

RESULTS: Early concerns about unskilled/untrained volunteers distributing prescriptions, price gouging, and manipulation by community distributers were no longer described as concerns after program implementation. However, despite community sensitization, some participants felt rollout occurred too quickly and reported poor knowledge and rumours about PrEP after rollout. Both before and

after program rollout, study participants described medical mistrust and stigma (fear of being perceived as promiscuous or HIV-positive) as barriers to PrEP use. After rollout, community stigma influenced adherence to daily pill intake (e.g. desire for secrecy led to missed doses), adherence to refill schedules, relationship consequences, and partner support for uptake and adherence. Mobility and pill fatigue were additional barriers. Desire to remain HIV-negative while having an HIV-positive/unknown partner was consistently considered to be the main benefit of PrEP. After rollout, additional facilitators of PrEP uptake and adherence included support from opinion leaders and greater control over HIV risk in high-risk occupations (e.g. sex work) and social contexts (e.g. fishing communities).

CONCLUSIONS: While the PrEP program in Rakai addressed many early concerns, HIV stigma and rumours remain barriers to PrEP uptake and adherence. Community-initiated communication about PrEP with successful PrEP users as opinion leaders may promote uptake and adherence by addressing fears and rumours, while flexible delivery and refill models may facilitate PrEP continuation.

PEE1548

PEER POWER: HARNESSING PEER MOBILISERS TO IMPROVE UPTAKE OF PREP AMONG ADOLESCENT GIRLS

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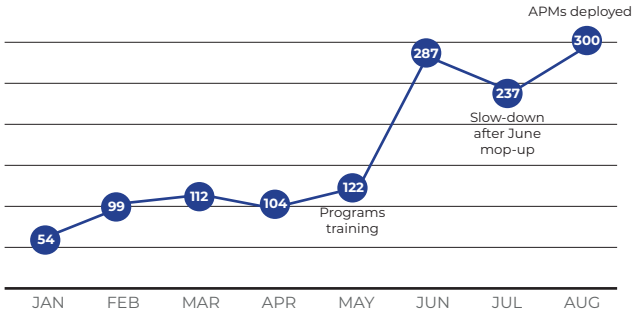
BACKGROUND: Nearly 1,000 Adolescent Girls and Young Women are infected by HIV daily in Sub Saharan Africa. Factors predisposing young women to HIV include early sexual debut and unprotected sex. Adolescent Girls (AGs) in Zimbabwe as in many African countries, face provider and community stigma preventing them from accessing HIV prevention services. Against this backdrop, PSI Zimbabwe deployed 23 former DREAMS club facilitators to mobilize and improve uptake of PrEP among AGs; 15-19 years in 6 DREAMS districts.

DESCRIPTION: Between July and August 2019, we deployed twenty-three Adolescent Peer Mobilisers (APMs) to recruit and refer AGs in selected high HIV- burden urban and rural areas for PrEP services. The APMs discussed the menstrual health and pregnancy link, positioning MHM as a 'socially acceptable' hook in promoting the uptake of PrEP. They integrated PrEP mobilization with other HIV prevention programs such as Voluntary Medical Male Circumcision and Condoms. Mobilization was implemented concurrently with service outreach to offer immediate access to AGs. Before deployment, the APMs accessed services as mystery clients to identify opportunities for provider youth friendliness. They formed a Youth Advisory Board, to mentor providers on youth friendliness.

LESSONS LEARNED: Using program data for the period January and August 2019, we observed a sustained uptake of PrEP among AGs between June and August (Fig 1). The increase in PrEP uptake between May and June is explained by improved program fidelity. This increase was sustained by the introduction of APMs in August.

CONCLUSIONS/NEXT STEPS: Using APMs to recruit AGs for PrEP, while positioning menstrual health as an entry point and program implementation fidelity is associated with increased uptake of PrEP. APMs provide safe spaces for AGs. Bringing PrEP services to where AGs feel most comfortable and messaging from whom they desire can increase uptake. Programs seeking to improve PrEP uptake among AGs need to consider these elements.



[Figure 1. AGs PrEP enrolment 2019]

PEE1549

ACADEMIC DETAILING INSTITUTES AS A NOVEL CAPACITY BUILDING STRATEGY FOR UNITED STATES HEALTH DEPARTMENTS SEEKING TO EXPAND PREP PRESCRIBING

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BACKGROUND: PrEP is a core prevention strategy of the U.S. plan to end the HIV epidemic. However, only 10% of the estimated 1.2 million individuals eligible for PrEP are receiving it. Clinician capacity to offer PrEP limits access, with less than a third of primary care providers reporting comfort with PrEP prescribing. Using HIV and sexually transmitted disease surveillance data, public health departments (HDs) are uniquely poised to engage clinicians with a significant number of PrEP eligible patients. Academic detailing (AD) is a research-proven strategy that uses targeted one-on-one educational visits with providers to encourage adoption of evidence-based practices. We developed AD Institutes (ADIs) and evaluated their impact in helping HD staff establish and sustain PrEP AD programs.

DESCRIPTION: In 2018 and 2019, a team of national capacity building assistance (CBA) programs recruited two cohorts from 18 local and 15 state HDs interested in implementing AD for PrEP. Using a Knowledge-to-Action implementation framework, each cohort participated in 2.5-day highly interactive face-to-face skills building workshops, which reviewed the conceptual and practical aspects of AD programming and offered technical assistance to HDs crafting their jurisdictional plans. A longitudinal 6-12-month post-Institute assessment tracked program implementation and challenges faced.

LESSONS LEARNED: ADI evaluations indicated significant increases in knowledge and self-efficacy to conduct provider visits, with the peer feedback received during mock-detailing practice sessions being the most highly valued aspect of the training. All participants would recommend the workshop to colleagues. Among post-Institute assessment respondents, a majority (70%) of jurisdictions implemented PrEP AD programs; primary barriers included staff turnover, funding cuts, and clinical provider resistance. Unanticipated challenges included acknowledgment of social media campaigns spreading misinformation about PrEP safety, as well as recent FDA approval of Descovy® as an oral PrEP agent which could alter already-developed key messages for providers.

CONCLUSIONS/NEXT STEPS: ADIs are a highly effective and replicable capacity-building strategy to support HDs seeking to expand the number of PrEP prescribers. Post-Institute peer-to-peer learning collaboratives may support ADI participants over time as they refine plans, confront challenges, and integrate new information about PrEP and advances in HIV prevention.

PEE1550

REACHING KEY AND PRIORITY POPULATIONS WITH PREP: LESSONS FROM EASTERN UGANDA

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BACKGROUND: Oral PrEP, when taken consistently and correctly, can reduce the risk of HIV infection to near-zero and is recommended as a prevention choice for people at substantial HIV infection risk. In August 2017, the Ministry of Health (MoH) Uganda adopted the WHO policy on Pre-Exposure Prophylaxis (PrEP) for HIV negative key and priority populations (KPs/PPs). In August 2018, the USAID-funded Regional Health Integration to Enhance Services in Eastern Uganda (RHITES-E) Activity collaborated with the MoH to roll out PrEP services in Mbale Regional Referral Hospital and Namatala Health Centre IV.

DESCRIPTION: PrEP eligible clients were provided with a 30-day supply of daily oral tenofovir-emtricitabine and instructed to return for follow-up after a month. Those that returned were provided with a three-month supply and instructed to return for quarterly follow-up and refills, including HIV risk screening and testing, PrEP side effects, STI screening and adherence counseling, and every 6 months creatinine clearance testing. RHITES-E reviewed monitoring data on project-supported PrEP services provided to different groups of KPs and PPs through the two facilities from October 2018 to September 2019 to inform programmatic delivery and scale-up.

LESSONS LEARNED: Of 1203 HIV-negative individuals assessed for PrEP from key and priority populations at the two facilities, 398 (33%) were eligible for PrEP, 56% (222/398) were initiated, and 30% (66/222) returned for follow-up within 6 months. Client-reported reasons for discontinuing PrEP were: voluntary stoppage by clients due to low perceived risk; stoppage by clinicians after indications of reduced risk; and mobility/frequent change in location (mostly female sex workers). Challenges observed by peer navigators included stigma associated with PrEP drug packaging being similar to antiretroviral drug packaging; fear of side effects; and health workers being too busy to initiate PrEP due to burdensome documentation requirements.

CONCLUSIONS/NEXT STEPS: In response, the project has strengthened peer engagement, adopted a differentiated service delivery model and is mentoring facility health workers to reduce initiation and discontinuation challenges and improve PrEP retention. Despite deploying peer navigators, PrEP discontinuation remains a challenge. Evidence from this work will inform the next steps for wider delivery of PrEP in Uganda and other programs in resource-limited settings globally.

TESTING AND TREATMENT AT SCALE: ISSUES AND LESSONS

PEE1551

CASE STUDY OF EFFECTIVE IMPLEMENTATION OF ASSISTED PARTNER NOTIFICATION SERVICES IN OBER KAMOTH SUB-COUNTY HOSPITAL, KISUMU COUNTY, KENYA

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BACKGROUND: Assisted partner notification services for index patients with HIV infections involves elicitation of information about sex partners and contacting them to ensure that they test for HIV and link to care. Current HTS approaches are not enough to get to the first 90.Assisted partner notification services (aPNS) has been shown to be effective in improving HIV testing yield and augmenting HIV case finding among individuals exposed to HIV.

DESCRIPTION: Assisted partner notification services from May 2018 was scaled up by the Ministry of Health in 16 health facilities in Kisumu county in collaboration with Afya Ziwani Program and Kisumu County department of Health. Findings based on implementation of aPNS from a selected facility implementing aPNS in Kisumu County, Western Kenya was analysed.

LESSONS LEARNED: During the period May 2018 to 10th November 2019, 1037 females were tested at Ober Kamoth Hospital in Kisumu. The newly diagnosed HIV-positive females ≥15 years of age were screened for eligibility, consented and offered aPS. Those who accepted provided contact information of their male sexual partners in the past 3 years. Healthcare providers notified partners of their potential HIV exposure and provided HIV testing and referral services.The program identified 53 (yield of 5.1%) newly diagnosed females of whom 50 were reached for aPNS (94%) and reported 75 male sexual partners (partner to index ratio=1.2). The male partners identified by the female index were traced and reached for aPNS 66 (88%) . Overall, 66 (88%) of male partners named were contacted and tested for HIV 100%(N=66). Of partners tested, 16 (24%) were newly diagnosed HIV-positive and 19 (29%) were known HIV-positive. The majority of partners who were known positive were already on ART (95%).

CONCLUSIONS/NEXT STEPS: Tracing and testing of male sexual partners of newly diagnosed HIV-positive female clients is a high yield strategy to reaching newly diagnosed HIV positive persons. Most male partners preferred to be tested outside of the clinic, highlighting the importance of community-based testing options.Use of eligibility screening tools improves the positivity rates. aPNS therefore is an effective strategy to increasing uptake of partner HIV testing within routine healthcare settings.

PEE1552

LEVERAGING ON INDEX CLIENT TESTING TO OPTIMIZE HIV CASE IDENTIFICATION IN UGANDA. A COUNTRY PROGRESS

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BACKGROUND: Index client testing using the Assisted Partner Notification (APN) approach was introduced in Uganda in 2018 through feasibility pilot studies. By September 2019, 1,225 out of the 2,800

targeted health facilities were implementing APN. We present a 12 months (July 18-June 2019) APN implementation successes, challenges and next steps.

DESCRIPTION: The country adopted WHO APN guidelines in 2017. Data capture and reporting tools (HMIS) were developed together with the APN training curriculum. Capacity building through national and regional trainings was conducted in Mid-July 2017 and implementation started same month, using a scale up approach. We conducted 3 days' facility based trainings of health workers in APN and implementation at trained facilities started same week. APN data was analysed quarterly at Ministry of health level, dis-aggregated by gender.

LESSONS LEARNED: A total of 152,512 index clients (58% females, 42% males) were eligible for APN, of these, 65% (n=99,155, 59% females, 41% males) were interviewed, enlisting 146,961 (48% females, 52% males) sexual contacts in the last 12 months. Of the enlisted sexual contacts, 82% (n=124,391, 42% females, 58% males) were notified about their potential exposure to HIV and of these 75% (n=92,624, 50% females, 50% males) were tested for HIV with 22,970 (55% females,45% males) clients testing HIV positive hence a yield of 25% (28% in females, 22% in males. Of the newly identified HIV positive, 94% (n=21,224, 91% females and 95% males) were linked to care. Up to 12%(n=15,338) of all those that had been contacted were found to be already in care.

[Figure]

CONCLUSIONS/NEXT STEPS: Index client testing (APN) is a novel strategy in identifying the diagnosed people living with HIV. Next steps shall focus on curbing losses along the cascade.

PEE1553

CHARACTERISTICS OF CHILDREN LIVING WITH HIV WHO DIED BEFORE ART INITIATION IN UGANDA

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BACKGROUND: Early HIV testing and immediate initiation on ART is critical for the survival of children living with HIV. The objective of this study was to describe characteristics of children who died before ART initiation and to learn where gaps and needed progress lie.

METHODS: Data was abstracted from facility records for children aged 0–18 months diagnosed with HIV between April 2018 and December 2019 from 14 health facilities providing Early Infant Diagnosis (EID) for HIV in selected facilities in Central Uganda. For this analysis, we included all children that ever-tested HIV-positive, including those lost to follow-up. Data were abstracted from patients' testing forms, facility HCT and ART registers and mother-infant records.

RESULTS: At the selected study facilities, 107 children tested HIV-positive; 87 (81%) were initiated on ART. Of 20 (19%) children not initiated on ART, 8 (38%) died before ART could be initiated despite a policy of counseling and offering ART on the same day of diagnosis. Of those who died, 63% had their initial test at age 6-8 weeks; 75% of deaths occurred before age 12 weeks. The median age at HIV testing among children who died before ART initiation was 7.6 weeks compared to 7.8 weeks for those who did not die; 6/8 (75%) children who died had received their HIV results before death. The median time from sample collection to caregiver receipt of results was 0 days in these sites; median time from testing to death was 7 days. Among infants who died before ART initiation, 38% of mothers were not receiving ART themselves.

CONCLUSIONS: Death was not associated with delayed EID testing, lack of caregiver receipt of results, or lack of access to ART. Thirty-eight percent of women whose children died before ART initiation were not on ART themselves; it is unclear if this had a negative influence on the decision for their children to receive ART. Further data are needed to assess how to enhance the policy of counselling for same-day ART initiation in children.

PEE1554

UNDISCLOSED ART USE AT PRIMARY HEALTH CARE CLINICS IN RURAL UMKHANYAKUDE, KWAZULU NATAL, SOUTH AFRICA: A CROSS SECTIONAL STUDY

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BACKGROUND: People living with HIV (PLHIV) who present for HIV testing to primary health clinics (PHCs) are typically presumed to be antiretroviral therapy (ART) naïve. However, recent data have suggested that undisclosed ART use might be common. Non-disclosure of ART is not often measured in routine ART care programmes and can increase costs and decrease quality of care. . We assessed the prevalence of viral load suppression (VLS) and non-disclosure of ART among people testing for HIV in the public healthcare setting in South Africa.

DESCRIPTION: The Delivery Optimization of ART (DO-ART) clinical trial recruited PLHIV who self-reported as ART naïve or having defaulted for the past 3 months. Dried Blood Spots (DBS) were used to measure viral load. After identifying a frequent occurrence of VLS amongst participants screened for the study between February to November 2018 at 2 PHC clinics in uMkhanyakude, we pursued additional testing of DBS samples for tenofovir (TDF) and emtricitabine(FTC). We summarized the data about VLS, antiretroviral (ARV) use, and prior HIV testing from the DO ART study questionnaire.

LESSONS LEARNED: A total of 62 of 202 (30%) participants screened for the DO-ART study had an undetectable viral load. Of these 37/62 (60%) had ARVs detected in DBS samples. To answer the question have you ever tested for HIV, 1/62 answered don't know (ARVs detected), 29/62 answered no – I found out today (18/29(62%) had ARVs detected), 31/62 answered yes – I knew my status(17/31(55%) had ARVs detected), 1 No answer (ARVs detected).

CONCLUSIONS/NEXT STEPS: Undisclosed ART use among people presenting to care at PHC clinics appears to be common in rural KwaZulu-Natal. It can lead to a duplication of ART prescriptions and

mis-estimation of HIV diagnosis and treatment data. Future research should explore reasons for non-disclosure to identify solutions to this issue.

Participant responses to the question: "Ever tested for HIV"	N=62	ARVs detected in DBS
No, I found out today	29 (47%)	18/29 (62%)
I knew my status but am not on ART	31 (50%)	17/31 (55%)
I don't know	1 (2%)	1/62 (2%)
No answer provided	1 (2%)	1/62 (2%)

[Table 1. Self reporting HIV status versus ARV detection]

PEE1555

INITIATION OF ANTIRETROVIRAL TREATMENT IMPROVES RETENTION OF PEOPLE LIVING WITH HIV IN LARGE SCALE TREATMENT PROGRAMS - THE INDIAN EXPERIENCE 2012–2017

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BACKGROUND: India's free antiretroviral (ART) program initiated in 2004, was rapidly scaled-up with 355 ART-centers (ARTC) by 2012 and another 176 in 2017, serving 10,50,326 People Living with HIV (PLHIV) 'on-ART'. ART was provided at CD4 count ≤350/mm^3 during 2012-16, ≤500/mm^3 during July 2016–June 2017 and regardless of CD4 thereafter (test-and-treat). PLHIV registered but not qualifying for ART (Pre-ART PLHIV), were called back every six months, till the CD4 dropped to ART initiation cut-off, while PLHIV 'on-ART' visited monthly for drug pick-up. PLHIV missing scheduled visits for 3 consecutive months and untraceable were defined as lost to follow-up (LFU).

Sustainable success of large-scale treatment programs depends upon regular engagement with PLHIV in care, posing an implementation challenge. We estimated ART retention rates and its determinants among PLHIV registered during 2012-2017.

METHODS: Records of PLHIV aged ≥15 years and registered between April 2012 and March 2017 in 81/396 ARTC distributed across 33 Indian states/Union territories were reviewed. Life-table method, Cox proportional hazards model, Chi-square test helped estimate retention probability and potential determinants.

RESULTS: Of 154154 registered PLHIV, 82.3% received ART ('on-ART') during 2012-18. LFU proportions were significantly higher among 'pre-ART' PLHIV [28.9% vs 11.1% p<0.001)]. LFU was maximal at higher CD4 counts among 'pre-ART' PLHIV, while it was greatest at lower CD4 among PLHIV 'on-ART'. Five-year retention probability for 'pre-ART' and 'on-ART' PLHIV was 57% and 81%, respectively (overall). It was 46% when CD4 at registration was 351-500/mm^3 among 'pre-ART' PLHIV. LFU incidence was 4.3/100 and 12.9/100 person-years among PLHIV 'on- ART' & 'pre- ART', respectively. Overall, 'pre-ART' PLHIV had significantly higher chances of being LFU (Adjusted HZ 2.95, 95% CI 2.85-3.05) as compared to 'on-ART'. Other determinants of becoming LFU (Adjusted HZ, 95% CI) included PLHIV being 'male' (1.08, 1.05-1.11); having CD4 count 351-500/mm^3 (1.21, 1.16-1.26); and having tuberculosis (1.15, 1.10-1.19).

CONCLUSIONS: Offering ART immediately upon linkage to care, irrespective of CD4 count seems to be the key intervention to retain PLHIV in large-scale treatment programs, especially at CD4 counts >350/mm^3. Other innovative interventions to enhance PLHIV engagement with ARTCs is recommended.

PEE1556

SURGE STRATEGIES IMPROVE HIV TESTING EFFICIENCY AND LINKAGE TO TREATMENT AMONG FEMALE SEX WORKERS IN NAIROBI, KENYA

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BACKGROUND: Kenya has made significant progress in the fight against HIV/AIDS but is unlikely to achieve epidemic control by 2020—hence, the need for accelerated optimized testing and treatment strategies. We sought to optimize case finding and linkage to treatment among female sex workers (FSWs) in Nairobi, Kenya through the implementation of surge strategies.

DESCRIPTION: Bar Hostess Empowerment and Support (BHESP), a key population (KP)-led organization working with the USAID/PEPFAR-funded LINKAGES project led by FHI 360, implements KP programming for FSWs by providing comprehensive HIV services at the drop-in center (DIC) or through outreach as part of differentiated service delivery models. In July–November 2019, the program initiated a surge strategy to accelerate case identification through the adoption of risk network referral (RNR), whereby FSWs at high risk for or living with HIV were asked to mobilize members of their social networks with similar risk profiles to access HIV testing at the organization's DIC or outreach locations. To ensure prompt linkage to HIV treatment among those testing HIV positive, service providers undertook individualized follow-up through phone calls and escorted referrals to the linkage facilities/DIC.

LESSONS LEARNED: BHESP increased HIV case-identification rates from 2.1% (64/3,043 FSWs who tested January–June 2019) to 9.7% (220/2,275 FSWs who tested July–November 2019), representing a four-fold increase in the case-identification rate. Of the 220 new cases identified, 193 (88%) resulted from RNR and 12% from routine outreach and testing. During the same period, the linkage rate increased from 65% to 98%. Creating buy-in from the FSWs living with HIV in identifying their higher-risk social networks was instrumental in identifying more cases. Involvement of clinical staff was also key, as the staff took ownership of the surge strategy, including setting weekly targets and reviewing results.

CONCLUSIONS/NEXT STEPS: Surge approaches enable programs identify implementation gaps and put in place more effective approaches. The lessons learned from these approaches should be built into routine program activities, thus optimizing outcomes. BHESP will continue to use these approaches with the aim of further improving case identification and linkage to HIV treatment.

PEE1557

UNDERSTANDING THE CURRENT STATUS AND BARRIERS TO INTEGRATING HIV ASSISTED PARTNER SERVICES (APS) INTO THE KENYAN NATIONAL HEALTH SYSTEM

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BACKGROUND: HIV assisted partner services (aPS) has been recommended as a strategy to increase awareness of HIV positive status among HIV exposed individuals and link persons living with HIV (PLWH) to care. As the Ministry of Health (MOH) in Kenya scales up aPS into HIV testing services (HTS) nationally, understanding the main barriers and facilitators can help optimize integration, defined as the degree of coordination, collaboration, and consolidation of an intervention as it occurs.

METHODS: We conducted qualitative interviews with key aPS stakeholders in Kenya in 2018 (August, September) in Kisumu, and 2019 (January to June) in Homa Bay using semi-structured interview guides. Using an organizational systems model, aPS integration was analyzed across five HTS subsystems: adaptive (planning), supportive (procurement), maintenance (recruitment, training), production (service delivery) and managerial (monitoring, evaluation). We categorized aPS integration into three phases: introduction, routine aPS provision, and sustained aPS service delivery. Interviews were audio-recorded, transcribed, coded - both inductively and deductively - and analyzed using thematic content analysis with Dedoose software.

RESULTS: Twenty qualitative interviews were conducted (MOH policy-makers: 4 [20%], HIV implementing organizations: 5 [25%], county/sub-county AIDS coordinators: 4 [20%], facility in-charges: 7 [35%]). aPS integration activities were ongoing across the five HTS sub-systems, were predominantly at the introductory phase, and included development of aPS guidelines and training materials (adaptive), procurement of test kits (supportive), hiring and training HTS providers on aPS (maintenance), aPS service delivery (production), and monitoring of aPS indicators (managerial). Key challenges were limited HTS funding, weak legal frameworks, and human resource shortages to hire and train HTS providers, and to support phone and physical tracing of sexual partners.

CONCLUSIONS: Overall, lack of funding was noted to be a major barrier to aPS integration, while government involvement was a key facilitator. As aPS is scaled up and integrated into routine HIV testing services across sub-Saharan Africa, decision makers will require adequate resources to recruit and train HTS counselors in aPS, and to support tracing of sexual partners.

PEE1558

RELATIONSHIPS TYPES, AGE DISPARATE AND SEXUAL NETWORK TREES AMONG KEY POPULATIONS IN ZIMBABWE

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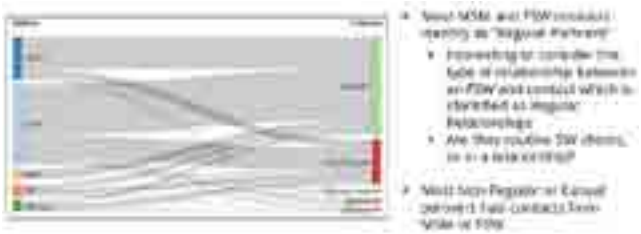
BACKGROUND: HIV index case testing (ICT) is increasingly an important approach for finding the remaining HIV positives given that such cases have become isolated. Zimbabwe is embracing this approach through a large national HIV program funded by USAID. To strengthen ICT it is important to routinely analyze sexual networking data to actively inform better programming.

DESCRIPTION: We used 798 index cases recruited through both private and public sector facilities and 1380 contacts for the period of June to August 2019 to examine relationships present in ICT sexual network trees using descriptive analysis and logistic regression modeling using R. Logistic regression predicted HIV positive status as explained by age mixing. High risk groups comprised men who have sex with men, female sex workers and their clients.

LESSONS LEARNED: We found that sexual networks among high risk populations are not isolated to high risk populations (Fig 1). As many as 38% and 4.4% of female sex worker indices are linked to the general population and high risk males (MSM) respectively. We also observed considerable age differences. About 5% of ages 15 to 24 years indices or contacts were partnered with ages over 45 years. Furthermore, we found that men had 1.85 times more positive contacts than women (OR=1.85; 95% CI 1.55-2.20) and that older ages were more likely to be positive (OR=1.015; 95% CI 1.01-1.03) while contacts in age-disparate relationships (younger or older) had 1.38 times greater odds of a positive test (OR=1.38; 95% CI 1.01-1.88).



[Figure 1. Characteristics of relationships - risk groups & relationship status]

CONCLUSIONS/NEXT STEPS: These findings suggest that index testing can be better yielding if targeted based on relationship type, inter-alia age disparate between the indices and contacts.

PEE1559

IMPROVING TARGETED HIV TESTING SERVICES (HTS) THROUGH AN HIV RISK ASSESSMENT QUESTIONNAIRE IMPLEMENTED AT SELECTED HEALTH FACILITIES IN HAITI: ISSUES, LESSONS LEARNED AND IMPLICATIONS FOR THE NATIONAL AIDS CONTROL PROGRAM

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BACKGROUND: The UNAIDS set a goal of delivering HIV testing services (HTS) to 95% of people infected. In Haiti, only 86% of the people living with HIV are aware of their HIV positive status. To achieve the UNAIDS goal, the National Control AIDS Program (PNLS) revised the National HIV testing guidelines and recommended targeted HTS. However, patients' risk factors for HIV infection are not assessed by providers prior to ordering HTS. Consequently, HTS report showed an over-testing of HIV negative individuals and a low positivity yield. We present here the outcomes of an intervention aiming at improving targeted HTS and HTS yield at selected health facilities in Haiti.

DESCRIPTION: In response to HIV over-testing reported during FY19Q3 (April-June2019), EQUIP developed and implemented a HIV-risk assessment questionnaire at 46 selected health facilities to foster reduction of routine HIV-testing practices and the adoption of targeted HTS. Targeted HTS implies the offer of HTS to people found to be at risk for HIV. We conducted training sessions on the revised HTS guidelines for providers followed by regular technical assistance (TA) visits to ensure providers' compliance and implementation of provider-initiated testing (PITC). Additionally, we conducted weekly review of HTS data to monitor progress and address challenges timely.

LESSONS LEARNED: Initially, the results of HTS-yield with the over-testing were as follows: In FY19Q1 the HTS yield was reported at 2.24% (N=872/38797) then at 2.05% (N=786/38265) in FY19Q2. After the implementation of the HIV-risk assessment questionnaire, HTS yield increased at 2.58% (N=921/35685) in FY19Q3 and reached 2.62% (N=798/30400) on FY19Q4. The implementation of the questionnaire resulted in an uptake of provider-initiated testing and counselling (PITC). Continuous onsite TA visits are critical for standardized implementation of targeted HTS. Overall, our interventions have helped address the HIV over-testing while improving HIV-positivity rate (HTS-yield).

CONCLUSIONS/NEXT STEPS: The implementation of a HIV-risk assessment questionnaire, led to an increase in the proportion of individuals newly tested positive for HIV while the overall number of persons tested decreased. HTS strategies targeting at risk populations can help PNLS/MOH in reaching the first 95 of the UNAIDS goal in Haiti.

PEE1560

RETENTION WITH SAME-DAY ART INITIATION AMONG HIV POSITIVE PEOPLE WITHIN TEST AND TREAT SETTINGS IN KIAMBU COUNTY, KENYA: A RETROSPECTIVE COHORT STUDY

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BACKGROUND: Universal test and treat of newly-diagnosed PLHIV was envisioned to improve the retention of PLHIV in care.
This study assessed if time to ART initiation, within routine test and treat settings, among newly diagnosed PLHIV affected their retention at 12 months post ART initiation.

METHODS: Medical records of PLHIV aged ≥ 16 years, diagnosed HIV positive and started on ART between January and December 2017, at four public health facilities in Kiambu County were retrieved from the Electrical Medical Records (EMR) platform and analyzed. Transfer-ins and incomplete records were excluded from the analysis. Kaplan-Meier survival methods were used to determine the probability of being retained in care at 1-year post ART initiation. Multi-variate analysis was performed using cox regression. The study's significance level was set at $p \leq 0.05$.

RESULTS: Of 772 records reviewed, 661(86%) were eligible for analysis. Of these, 458 (69%) were females, 75.9% (502) were aged between 25-50 years while 17% aged 16-24 years. Of the 661, 252 (38.1%) began ART on the same day of diagnosis,31% began between day 1- 14 post-diagnosis while 30.8% took more than 14 days post-diagnosis before starting ART.
Among those who were lost to follow-up at 12 months, 75 (51.3%) were from for same-day ART group. Taking longer than 14 days after diagnosis to start ART was associated with a higher likelihood (0.85) of retention in care at 1-year post initiation, than starting on the same-day of diagnosis (0.65) or between day 1-14 (0.75), [P(log rank)= 0.000, 2 d.f]. Sex, marital status, residential settings, baseline WHO stage and age were not associated with an increased hazard of attrition post ART start.

CONCLUSIONS: Uptake of test and treat was sub-optimal and 1-year retention in care was poorer among those who opted for the same-day of diagnosis treatment as compared to those who took a day or longer before starting ART. This is contrary to findings that informed the test and treat policy. Therefore, factors behind the poor retention with same-day ART initiation should be explored contextually with a view of improving the retention of PLHIV in the area and informing practice locally, regionally and internationally.

PEE1561

TARGETING DIVORCED, SEPARATED AND WIDOWED PARENTS TO MAXIMIZE HIV CASE FINDING AMONG CHILDREN AND ADOLESCENTS IN ETHIOPIA

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BACKGROUND: The USAID Caring for Vulnerable Children (CVC) Activity is a five-year project (2018-2022) implemented by FHI 360 in Ethiopia. As a PEPFAR-funded project, one of CVC's priorities is to identify new cases of children living with HIV in the community and link them to antiretroviral treatment.

DESCRIPTION: In Ethiopia, the HIV testing positivity rate among children/adolescents <18 is below 1% making it difficult to identify HIV positive cases. CVC implemented a six-month initiative to accelerate HIV case finding among children and adolescents <18 in Addis Ababa (July-December, 2019) . Given that Divorced, Separated and Widowed (DSW) adults have shown a higher HIV positivity rate, we tested a new case finding strategy of using DSW parents as an entry point to identify new HIV cases among children/adolescents.

In addition, the project's regular case finding strategy of identifying children based on the following risk factors was used: being an AIDS orphan, double orphan, sexually active adolescent, chronically sick, sibling of infected child, or sexual partner(s) of adolescents with HIV. We used community peer mobilizers and social service workers to identify eligible parents and their biological children for HIV testing.

LESSONS LEARNED: A total of 3,245 DSW parents were tested for HIV, of which 175 (5.4%) tested HIV+. All 382 children of these newly diagnosed women were tested for HIV using ICT (Index Case Testing) of which 22 tested HIV+ (5.8% positivity rate). For children tested based on the regular risk factors, the following positivity rates were found: 2.6% (13/500) for AIDS orphans, 1.2% (3/260) for double orphans, 1% (9/880) for sexually active adolescents, 0.7% (1/146) for chronically sick children. No cases were detected among 32 siblings of HIV infected children and 49 sexual partners of HIV infected adolescents. The odds of HIV positivity from ICT was 4.3x (95% CI 2.3-8.0) higher compared to testing at risk children with the regular approach.

CONCLUSIONS/NEXT STEPS: The HIV positivity rate of 5.8% among children of newly diagnosed DSWs indicates that ICT among this population is an effective HIV case finding strategy for children and adolescents. Family centered HIV testing targeting DSWs should be prioritized to identify HIV positive children.

PEE1562

DIFFERENTIATED HIV TESTING TO REACH THE MALE SUB-POPULATION IN MUBENDE REGION-UGANDA

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BACKGROUND: According to the Uganda Population HIV/AIDS (UPHIA) survey 2016, the HIV prevalence of men is 4.7%. It is approximated that 126,341 males greater than 15 years need to be initiated on ART in Uganda (PEPFAR, Uganda 2019).

With a primary objective of ensuring that 65% of the total positives identified in the region are men, Mildmay Uganda has implemented differentiated HIV testing(HTS) approaches tailored towards reaching men. Here we present the impact of the different testing approaches in the project implementation area from October 2018 to September 2019.

DESCRIPTION: With PEPFAR support, Mildmay Uganda has been implementing a 5-year project aiming at "Accelerating Epidemic control in Mubende Region" since April 2017. The geographical scope for this project is 8 districts in the central region of Uganda (Luwero, Nakaseke, Nakasongola, Mityana, Mubende, Kiboga, Kassanda & Kyankwanzi).The Differentiated HTS approaches for men included Assisted Partner Notification (APN) through female index clients, Social Network strategy(SNS) testing at 55 facilities, Flexi Hour testing in the late evenings at 25 designated high volume facilities, HIV Self-testing targeting spouses of pregnant and lactating women and workplace HTS in communities using male champions targeting plantation workers, brick layers, cattle keepers and fisher folks.

LESSONS LEARNED:

- Two thousand eight hundred ninety-eight (2,898) men tested positive from the above testing approaches, contributing 44% of the total positive identified in COP18
- The highest yielding testing approaches have been APN at 20% and SNS at 18%
- The lowest yielding approaches were flexi hour testing at 4% and work place testing at 5%

CONCLUSIONS/NEXT STEPS: Scaling up high yielding testing approaches like APN and SNS is important in identifying HIV positive men.

PEE1563

UTILIZATION OF SURGE STRATEGY TO ACCELERATE HIV CASE FINDING THROUGH INDEX PARTNER TESTING: LESSONS LEARNT FROM IRINGA AND MOROGORO REGIONS IN TANZANIA

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BACKGROUND: Reaching the first 90 in Tanzania is still a challenge, according to Tanzania HIV impact survey in 2016, only 61% of PLHIV in Tanzania were aware of their HIV status. USAID Boresha Afya Southern Zone Program implemented surge approach in its two supported regions with high HIV burden. Surge was conducted for a period of six weeks and index testing among sexual contacts was one of the main strategies for HIV case finding.

DESCRIPTION: Surge was implemented in Iringa and Morogoro regions in 83 priority high volume facilities but was scaled in facilities with hotspots as catchment areas. Implementation index testing through surge involved listing PLHIV enrolled between April and August 2019 and initiating elicitation campaigns. Index contacts with missed opportunity for testing were actively tracked through assisted partner notification methods. Program technical staff were assigned as facility backstops and sensitization of the regional, district, and facility-level management teams was done. PLHIV peers volunteering at HIV clinics were actively engaged in tracking index contacts. In facilities with limited human resources, additional testers were deployed to overcome the deficit. Index elicitation and testing was extended beyond working hours and during weekends.

LESSONS LEARNED: A total of 20,363 sexual contacts were tested during the surge implementation period, three times increase compared to pre surge period (6,073). Positive cases identified among sexual contacts tested were 6,381, males were 2,969 (47%) and females were 3,412 (53%). Positive sexual contacts identified during surge period were 2.5 times higher compared to pre surge period (2,592) and contributed to 76% of the total positive cases identified (8,319) in the two regions.

A decrease in yield from 43% in pre -surge period to 31% during surge period was due to increased testing coverage. The yield for females during surge was significantly high 33% (p=.00001, 95%CI 32% -34%) compared to male positive yield of 30%.

CONCLUSIONS/NEXT STEPS: The results showed effectiveness of surge approach in accelerating HIV case finding through index sexual partners testing. Further, close site monitoring, involvement of regional and district health management teams and daily data monitoring for continuous improvement were key to the success of surge implementation.

PEE1564

CHANGES IN PRE-TREATMENT LABORATORY MONITORING PRACTICES UNDER "TREAT-ALL" GUIDELINES IN 28 COUNTRIES

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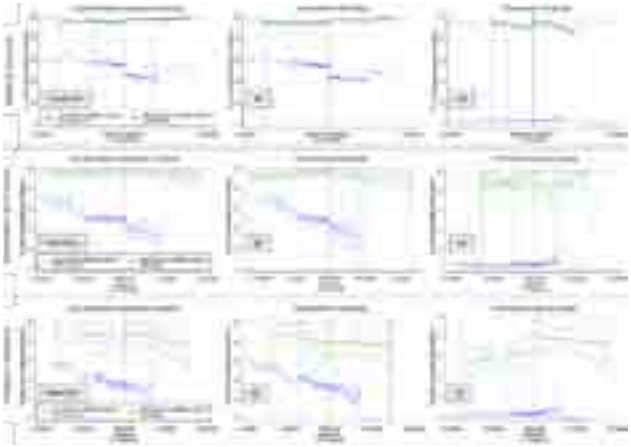
BACKGROUND: While antiretroviral therapy (ART) has expanded rapidly, the effect of Treat-All policies on pre-treatment laboratory monitoring practices is under-researched.

METHODS: We examined the effect of Treat-All policies on pre-treatment CD4 and viral load (VL) testing using a regression discontinuity design with data-driven bandwidths and data from 523,854 patients enrolling in HIV care and initiating ART between 2006 and 2018 in 28 countries at 434 sites participating in the International epidemiology Databases to Evaluate AIDS (IeDEA) consortium. Changes in the proportion of patients with any pre-ART laboratory monitoring, along with CD4- and VL-specific proportions, were estimated among adults (aged ≥20 years), adolescents (aged 10-19) and children (aged <10) in low-/lower-middle income countries (L/LMICs) and in high/upper-middle income countries (H/UMICs).

RESULTS: In L/LMICs, national adoption of Treat-All policies was followed by an immediate decrease in the proportion of adult patients with any pre-treatment laboratory monitoring [Panel A(1)], from 54.4% to 47.8% (-6.7 percentage points [pp]; 95%CI: -8.4 to -4.9), with a comparable change observed among adolescents [Panel B(1)], from 50.7% to 43.3% (-7.4pp; 95%CI: -12.4 to -2.4), and no change observed among children [Panel C(1)].

Changes in the proportion of adults and adolescents with any pre-treatment laboratory monitoring were largely due to decreases in pre-treatment CD4 testing [Panel A(2) and B(2)]. In H/UMICs, the proportion of patients with any pre-treatment laboratory monitoring was very high prior to national adoption of Treat-All, and increased slightly among adult patients.

CONCLUSIONS: There are major disparities in pre-treatment laboratory monitoring by country income group. A concerning proportion of patients in L/LMICs start ART without any pre-treatment laboratory tests, and this has been exacerbated by Treat-All policy implementation. Current policies and practices in L/LMICs should be revised, especially around pre-treatment CD4 monitoring, to ensure the ability to provide differentiated care and adequately monitor progress toward earlier diagnosis and treatment initiation.



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PEE1565

IMPROVING LINKAGE TO ANTIRETROVIRAL TREATMENT USING A PEER ATTACHMENT MODEL IN SELECTED FACILITIES IN THE SOUTHERN HIGHLAND ZONE, TANZANIA

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BACKGROUND: Linkage of HIV positive individuals to antiretroviral therapy (ART) remains a challenge in Tanzania, reducing progress towards epidemic control. In April 2019, the PEPFAR Tanzania program launched a national intervention targeting 241 high volume facilities to boost performance in key indicators, including linkage and early retention on ART. To address this gap in the Southern Highlands, we sought to build on evidence from the Bukoba Combination Prevention Evaluation study, which had previously demonstrated good outcomes for linkage and early retention through a Peer Attachment Linkage Case Management (LCM) model.

DESCRIPTION: HJFMRI, an implementing partner of the U.S. Military HIV Research Program, adopted LCM in 54 high volume health facilities. All newly identified and consenting PLHIV are assigned and attached to a case manager, a trained expert client. The case manager provides escort and ART clinic navigation, in-person meetings or phone calls for psychosocial support and appointment reminders. During the meetings, they offer counselling on the importance of same-day ART initiation, remaining on ART for life and disclosure of status. The expert clients assess and resolve enrollment and retention barriers during each session. They closely manage clients through their second ARV refill. LCM activities are monitored through a dedicated register, while linkage and retention information is extracted from the facilities' routine monitoring system.

LESSONS LEARNED: During the first six months, 13,050 of the 13,656 adult PLHIV newly diagnosed in the 54 facilities consented to be attached to expert clients for LCM. Of these, 12,034 (92%) consented for

rapid ART initiation, including (88.6%) who were initiated on ART on the day of diagnostic. After six weeks, 10,661 (88.6%) were retained on treatment. In these facilities, the intervention increased linkage to 90%, compared to 84% before the introduction of LCM. The LCM model also had a significant impact on index testing, increasing the percentage of acceptance of index testing from 77% to 96%, while the average number of elicited contacts increased from 0.9 to 2.

CONCLUSIONS/NEXT STEPS: LCM is a successful strategy for active linkage and early retention amongst adult PLHIV and is likely to improve program performance if implemented in other PEPFAR countries.

PEE1566

GAPS AND BARRIERS FOR HIV DNA PCR TESTING AT REGIONAL REFERENCE LABORATORIES (RRLS) ACROSS INDIA UNDER EARLY INFANT DIAGNOSIS (EID) PROGRAMME

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BACKGROUND: Regional Reference Laboratories (RRLs) play crucial role for HIV DNA PCR testing on Dried Blood Spot (DBS) samples under Early Infant Diagnosis (EID) programme of India. We assessed the gaps for testing of DBS samples pertaining to total Turn Around Time (TAT) from sample collection till receipt of result,sample rejection, infrastructure and logistic issues.

METHODS: Programme RRL data (2013-2016) was analysed and facility survey was conducted across four RRLs along with data collection. In Depth Interviews (IDI) were conducted among service providers to assess implementation gaps.

RESULTS: TAT for DBS testing had declined from 53 median days (2013) to 29 days (2016) due to reduced sample processing time; however there was no improvement in transport and dispatch time. There was interstate variation with median TAT from 16 days in Karnataka state to 63 days in Odisha state. Sample transportation time was high for states of Odisha (33 days) and West Bengal (27 days) while processing and testing time was more in Southern Indian states (28 days).

Two of four RRLs were nationally accredited. At all RRLs personal protective equipment, biomedical waste management procedures and calibrated equipment were available. Overall discordant result on confirmatory testing was observed for 11% to 19% samples. Overall 2.6% (414) samples were rejected mainly because of inadequate quantity (164) and delay in receipt of DBS (125) at RRL. After rejection, repeat samples were received only from 55 cases (13.4%) after a median delay of 141 days, of which 4 samples later on turned as positive. Qualitative data revealed testing challenges like inadequate collection and storage of DBS, discrepancy in sample and data form, missing information of child and labelling issues. Improper postal or email address, long waiting for postage, receipt of result courier during non-working hours were communication challenges. Inadequate collection and packing of DBS and ART initiation before confirmatory diagnosis were quoted reasons for discordant results. Inadequate funds and human resources were leading to delayed testing and increasing work load.

CONCLUSIONS: The observed gaps highlight the need for decentralization of HIV diagnostic DNA PCR testing, capacity building of laboratory personnel and for national accreditation of existing laboratories.

PEE1567

TARGETED HIV TESTING IMPROVES POSITIVITY YIELD AND REDUCES TESTING VOLUMES AMONG THE GENERAL POPULATION IN ZAMBIA

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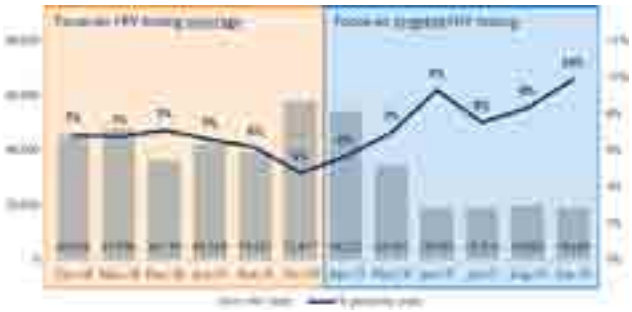
BACKGROUND: HIV testing is critical to ensure early diagnosis and treatment of people living with HIV (PLHIV) which reduces transmission to others. As we move towards HIV epidemic control, index testing and HIV screening tools have been shown to be efficient and effective targeted testing strategies to identify the remaining undiagnosed PLHIV.

DESCRIPTION: The USAID SAFE program supports the Ministry of Health (MOH) in 114 health facilities in Central Province, Zambia to implement HIV case identification, treatment and retention services since October 2018. Initially, widespread testing focused on increasing coverage but led to high numbers of HIV test kits being used and declining yields. USAID SAFE shifted to targeted HIV testing: (1) Enhanced index testing through administering an Index Interview Guide to all newly identified PLHIV and those already on ART each time they came to the facility to determine sexual risk behaviors and assess eligibility for partner notification services, (2) Enhanced use of MOH HIV screening tool in all testing points to screen all (except antenatal women) seeking HIV testing, only clients with one or more risk factors or HIV defining condition were offered an HIV test.



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LESSONS LEARNED: The initial focus on increasing HIV testing coverage led to declining positivity yield from 7% in Oct-2018 to 5% by Mar-2019, while targeted testing increased yield to 10% in Sep-19. HIV testing volumes reduced remarkably by 67% (from 57,817 to 19,064) representing a potential savings of over 35,000 HIV test kits in one month.

CONCLUSIONS/NEXT STEPS: Targeted HIV testing through enhanced index testing and HIV screening tools improve the positivity yield while reducing the testing volumes. As we progress toward HIV epidemic control, MOHs and implementing partners should embrace effective and efficient testing techniques to identify the remaining pockets of HIV to avert new infections and attain epidemic control.

PEE1568

FINDING PEOPLE LIVING WITH HIV AND AIDS IN THE SOUTHERN HIGHLAND ZONE, TANZANIA: STRATEGIC USE OF A NATIONAL HIV ELIGIBILITY SCREENING TOOL

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BACKGROUND: Chronic HIV over testing has been a major challenge in Tanzania. To avoid this, HJFMRI, an implementing partner of the U.S. Military HIV Research Program, aims to increase targeted HIV testing and to reduce repeat testing of low-risk individuals. The program adopted the standardized national screening tool to identify individuals at high risk of HIV infection among outpatient department (OPD) attendees in the Southern Highlands Zone. The goal of the HIV screening tool is to decrease the number of people needed to test to identify one positive individual, thereby improving testing efficiency and yield.

DESCRIPTION: Group pre-test counseling was offered to all OPD patients in waiting areas. All patients were referred for screening on HIV testing eligibility, and screening outcomes were documented in a register. All OPD patients were given a testing slip and routed to a provider-initiated testing and counselling (PITC) room for opt-out testing. Those eligible were tested for HIV while maintaining their place in the clinic queue. Testing was conducted by clinicians, nurses and counselors. Screening and testing data were monitored weekly, and regular supportive supervision visits ensured the quality of the services provided in the facilities.

LESSONS LEARNED: Between April 1 to September 30, 2019, 535,616 patients attended the OPDs for various services in 132 health facilities. Of these, 448,317 (83%) were screened for eligibility of HTS and 113,392 (25%) of those screened were eligible. HIV testing was successfully provided to 108,288 (95.5%) of the eligible clients and 5,721 (5.3%) were diagnosed HIV positive. This is a 1.9-fold increase in testing yield compared to the previous 6 months, when PITC yielded 2.8% positivity rate.

CONCLUSIONS/NEXT STEPS: Eligibility screening is a successful strategy for targeted HIV testing in medical entry points and has substantially improved testing yield amongst adults and children visiting health facilities for treatment. Remaining challenges to be addressed include: a shortage of human resources in facilities, inadequate knowledge and accountability of the testers, and lack of space for screening and OPD testing. In tandem with these improvements, the eligibility screening strategy should be extended beyond PEPFAR-supported facilities in Tanzania for maximal impact.

PEE1569

FACILITATORS AND BARRIERS TO KNOWLEDGE ON 'UNDETECTABLE VIRAL LOAD IS UNTRANSMITTABLE' AMONG SEXUALLY ACTIVE ADULTS ON ANTIRETROVIRAL THERAPY IN LUSAKA, ZAMBIA

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BACKGROUND: In Zambia, sub-optimal adherence to antiretroviral treatment (ART) is among the main reasons deterring attainment of the 90% viral load (VL) suppression among adults. Limited knowledge about 'undetectable VL is untransmittable' is envisaged as a barrier for optimal adherence to ART especially among asymptomatic people living with HIV (PLHIV). In order to attain at least 90% of sustained VL suppression rate, it is inevitable that PLHIV are knowledgeable about 'undetectable VL is untransmittable'. Thus, the study explored the barriers and facilitators on knowledge about 'undetectable VL is untransmittable' among PLHIV on ART in Lusaka.

METHODS: Data were collected between December 2018 and January 2019, in three busy ART facilities in Lusaka. Semi-structured interview schedules were used to explore PLHIV's perceptions and knowledge on 'undetectable VL is untransmittable'. Purposive sampling was used to select a mix of PLHIV with suppressed (n=41) and unsuppressed (n=14) VLs. A total of (n=25) men and 35 women, aged 18-58 years participated in the study. All the participants were on ART for at least nine months. Data were analysed thematically.

RESULTS: We identified facilitators and barriers to knowledge on 'undetectable VL is untransmittable'. The facilitators were: (1) Various sources of knowledge including friends on ART, learning by being in a discordant relationship, self-taught through internet, radio, health care providers, and through enhanced adherence counseling especially among those with unsuppressed VL, and (2) benefits of 'undetectable VL is untransmittable' consisting of reduced stigma and worry-free sexual relationship due to negligible risk to infect partner. The barriers comprised: (1) inadequate literacy on VL and its implication on HIV transmission but with more emphasis on CD4 count literacy, (2) waiting time affected follow up of VL results and to attend literacy sessions, (3) extended fast track short-visits limited interaction with literacy sessions, and (4) undetectable VL is perceived transmittable.

CONCLUSIONS: Achieving a sustained third 90 goal requires increased knowledge of the efficacy of 'undetectable VL is untransmittable' among PLHIV. Therefore, there is need to prioritise health literacy on 'undetectable VL is untransmittable' to both virally suppressed and unsuppressed PLHIV, and to address barriers of waiting time and extended fast track short-visits.

PEE1570

MISDIAGNOSIS OF HIV INFECTION AND THE DILEMMA OF THE INDETERMINATE RESULT: A COMMUNITY CROSS-SECTIONAL STUDY AMONG HIV-POSITIVE WOMEN AND CHILDREN IN SOUTHERN MOZAMBIQUE

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BACKGROUND: Universal "Test and Treat" in pregnant women began in 2012 to prevent HIV mother-to-child transmission (MTCT). In most sub-Saharan African settings, HIV rapid diagnostic tests (RDT) are the main diagnostic tool, and yet there is limited data on women and children misdiagnosed . During surveillance campaigns, there is also a lack of standardization on how indeterminate lab-confirmatory results (ILCR) are classified. While WHO excludes ILCR, the Mozambican population-based survey considered ILCR HIV-negative. We aimed to estimate the magnitude of HIV misdiagnosis among women and children, applying three ILCR interpretation scenarios, in Manhiça, Mozambique.

METHODS: This analysis was nested in a cross-sectional household HIV-testing survey conducted between October 2017 and April 2018 to measure community MTCT among children under-4. A total of 5000 mother-child pairs were randomly selected for participation. HIV serostatus of all pairs was ascertained through documentation or age-appropriate testing following national guidelines for RDT using serial Determine and Unigold for mothers and children >18-months. For the purpose of this analysis, only children>18-months were included. HIV-positive participants provided a dry blood spot sample (DBS) for a laboratory-confirmatory test (Bio-Rad Geenius HIV 1/2) which provided one of three possible results: positive (HIV-true-positive), negative (HIV-false-positive) or indeterminate. For analysis we considered three potential scenarios, varying in how ILCR was classified. Classification as 1) HIV-true-positive in the study-scenario, 2) HIV-negative in the Surveillance-scenario and 3) excluded in the guideline-scenario. Prevalence of misdiagnosis was calculated as HIV-false-positives/all-positives for all scenarios.

RESULTS: Overall, 3069/5000 (61.4%) mothers-child pairs were recruited. Among them, 864 mothers and 30 children were identified as HIV-positive and provided a DBS sample. Lab-confirmatory testing identified 808 (93.5%) of mothers as HIV-true-positive, 18 (2.1%) as HIV-false-positive and 38 (4.4%) with ILCR. Estimates of prevalence of misdiagnosis in mothers was 2.1% (95% CI 1.2-3.3) in the Study-scenario, 2.2%(95% CI 1.3-3.4) in the Guideline-scenario and 6.5%(95% CI 4.9-8.3) in the Surveillance-scenario. Among children, no ILCR were obtained, thus prevalence of misdiagnosis was 6.7% (95% CI 0.8-22.1).

CONCLUSIONS: To avoid HIV-false-positive results and unnecessary ARV-exposure, systematic confirmatory testing should be done, however a unified approach to classify indeterminate confirmatory-results is needed to better monitor true prevalence of HIV-misdiagnosis.

PEE1571

SUPPORTING SCALED-UP OPTION B+: LESSONS FROM MALAWI'S PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION (PMTCT) COMMUNITY FACILITY LINKAGE (CFL) MODELS

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BACKGROUND: In Malawi, several large community facility linkage (CFL) models support the national prevention of mother-to-child HIV transmission (PMTCT) and antiretroviral (ART) programmes to strengthen engagement and retention in care and treatment. Training lay health workers to carry out clinic and community-based activities, Malawi's CFL programmes (e.g. Mentor Mothers, Expert Clients, Tingathe Community Health Workers) are currently largely NGO-financed and administered. We explore the nature and sustainability of current governance arrangements and implications for future programming.

METHODS: Using a case-based design, we conducted eight in-depth facility assessments comprising a facility/CFL model survey; 43 semi-structured interviews with PMTCT clients; 30 focus group discussions with Ministry-employed professional and lay providers and CFL providers; between 2-4 hours of onsite observation per site; and in-depth interviews with 13 CFL program coordinators and Ministry officials. Thematic analysis was used, drawing on institutional governance theories that promote relational analysis.

RESULTS: Although Ministry stewardship of health services was universally acknowledged by NGO partners, the donor-driven priorities of NGOs were often noted as dominant. Multiple district stakeholders described NGO's need to demonstrate impact and resultant preference for operating in high-performing sites as detrimental to district attempts to strengthen service quality or improve coverage in poorer performing sites. The burden of coordinating multiple NGOs to enable CFL scale-up placed strain on district human resource capacity and was inefficient. Moreover, the largely project-based nature of CFL programmes saw cyclical defunding of trained CFL providers weakening motivation and impacting service consistency. While acknowledging the much-needed contribution CFL models make retention and engagement outcomes and recognising that Government of Malawi cannot currently absorb programme costs, stakeholders at facility, district, provincial and national levels nonetheless characterized the current CFL governance arrangements as sub-optimal.

CONCLUSIONS: In the era of Option B+ and 'treat all' policies for HIV effective strategies to strengthen engagement and retention in care are critical. However the embeddedness and sustainability of those strategies is also important. Short term and duplicative programs absorb scarce resources and risk demotivating precious human resources on whom retention and engagement programmes rely. Findings point to the importance of innovating governance models that support Ministry-led, donor financed human resource strategies.

PEE1572

TEST AND TREAT, THE DILEMMA OF THE WOMAN IN ANC IN MALAWI

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BACKGROUND: Malawi's introduction of Option B+ policy improved uptake and retention in prevention of mother to child transmission (PMTCT) and resulted in impressive gains in the number of pregnant and breastfeeding women initiating antiretroviral therapy (ART). Despite this, retention-in-care of women has remained a key challenge. In the context of a study examining the impact of linkage-programs on PMTCT outcomes, we sought to understand key factors that continue to influence women's engagement in care.

METHODS: Across five districts and eight clinics we interviewed 43 PMCTC-enrolled mothers, and conducted 30 focus groups with professional, lay and NGO health workers. Thematic inductive analysis was used to identify and synthesis findings.

RESULTS: Findings revealed complex interaction between social, structural and individual motivations for starting and remaining in care. However a dominant theme in both client and health worker accounts was the tension between women's socially-sanctioned motivation to engage in PMTCT to '*protect my unborn child*' and their equally socially driven fears that treatment would result in their '*being accused of being the one who brought the virus into the home*' resulting in abandonment by (particularly) husbands. While many emphasized initial engagement in care as driven by a desire to 'save' the life of the child, some mothers felt pressured by the system to comply with government policy despite ongoing fears about the consequences for their own social security. In the context of this dominant narrative, facilities' capacity to respond to women's fears, through provision of counselling, community follow-up and psychosocial and peer support were often predictive of improved long-term engagement and retention.

CONCLUSIONS: While preserving their child's life remains a key motivation for enrolling in PMTCT for pregnant and breastfeeding women, it does not remain a strong motivation for remaining engaged in ART once the child is born. For Option B+ to deliver on its promise, health facilities must be able to respond to women's need for counselling, linkage and support in the critical post-partum phase, and PMTCT and ART programmes must further engage with social programming to address still-prevalent, gendered, community-based HIV stigma.

PEE1573

OUTCOMES OF HIV INFECTED CLIENTS WHO PRESENT WITH ADVANCED DISEASE AT ENROLLMENT INTO CARE WITHIN PACT TIMIZA-SUPPORTED FACILITIES IN WESTERN KENYA

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BACKGROUND: Globals trends indicate that median CD4+ count at antiretroviral therapy(ART) initiation is <350cells/mm^3 across all income groups indicating late presentation despite implementation of Test and Start guidelines. Studies have focused on trends, reasons for late presentation and mortality amongst those with advanced disease and less on, viral suppression(VS, viral load<1000copies/ml), and lost to follow up(LTFU, >30days missed doses) which may influence patient management.

METHODS: A retrospective cohort analysis of patients initiated on ART between October 2017-September 2018 was undertaken to evaluate association between late presentation and VS and retention among patients >15 years in 4 UMB-supported facilities in Kisii and Migori counties. Participants with a baseline CD4+ count<200cells/mm^3 were classified as having advanced disease. Multivariate logistic regression models were used to evaluate the association between advanced disease and VS at 6 and 12 months on ART at 95% significance level. Kaplan Meier Survival Curves were used to assess LTFU.

RESULTS: Overall, 609 clients were initiated on ART and at 12 months of follow-up 28(4.6%) had transferred out, 32(5.3%) were LTFU and there were no documented deaths. Of 533 individuals with VL results, only 326(53.5%) had baseline CD4+ count and VL results, and therefore included in this analysis. Participants median age was 32(interquartile range 26–40)years and 67/326(20.6%) had advanced disease. VS at 6 and 12 months was 91.6% and 93.7% respectively. Patients presenting with advanced disease had decreased odds of VS at 6 months on ART, [adjusted odds ratio (aOR) 0.23(CI 0.10 – 0.55)]. There was no difference in VS between those with and those without advanced disease at 12 months (aOR of 0.6(CI 0.22 – 1.65).
Cumulative incidence of LTFU at 6 and 12 months was 2.7% and 7.1% respectively among those with advanced disease compared to 0.7% and 3.4% among those classified as well (log rank test p = 0.07).

CONCLUSIONS: Patients with baseline CD4 count<200copies/ml were less likely to be VS at 6-months of follow-up compared to those with CD4≥200copies/ml and more likely to be LTFU even beyond 6-months of follow up. This finding highlights the utility of a baseline CD4 count and need for differentiated, individualized care at HIV diagnosis.

PEE1574

CONTRIBUTION OF ASSISTED PARTNER NOTIFICATION TO IDENTIFICATION OF UNDIAGNOSED HIV INFECTION AMONG SEXUAL PARTNERS OF HIV POSITIVE INDEX CLIENTS IN MID-WESTERN UGANDA: A RETROSPECTIVE REVIEW OF PROGRAM DATA

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BACKGROUND: In order to reduce the proportion of people with undiagnosed HIV infection, it is vital to implement effective and efficient HIV case identification strategies. There was limited data on the successes of Assisted Partner Notification (APN) in identification of undiagnosed HIV infections and its contribution to overall HIV case identification. We documented the contribution of APN to HIV case identification in eight districts of mid-western Uganda.

DESCRIPTION: In May 2018, the Ministry of Health adopted Assisted Partner Notification (APN) as an effective HIV case identification strategy. In eight districts of mid-western region, scale up of APN began in June 2018 with training of 60 regional trainers of trainees

(TOTs) who thereafter were facilitated to train lower level health workers. With funding from CDC-Uganda, a total of 145 peripheral health facilities received onsite didactic training in APN with focus on identification of eligible HIV positive clients, elicitation of their sexual partners and delivery of HIV testing services. By October 2018, 131/145 (90.3%) health facilities had initiated APN services to eligible HIV positive individuals. We conducted a retrospective review of facility APN reports for the period October 2018 to September 2019 to ascertain the contribution of APN to HIV case identification.

LESSONS LEARNED: Of the 14,879 individuals who tested HIV positive, 9826 HIV positive individuals aged 15 years or older were interviewed and accepted to receive APN services. Majority (55.7%) were female. Following enrollment into APN, 18,217 sexual partners were elicited translating to an index client to sexual partner ratio of 1:2. Ninety one percent (16,721/18,217) of elicited sexual contacts were followed up and offered HIV testing services. Of these, 21.4% (3,476/16,271) tested HIV positive translating to a 23.4% (3,476/14,879) contribution to overall HIV case identification during the twelve months period. Fifty five percent (2,052/3,746) of HIV positive sexual partners were female and of these, 57% (1,165/2,052) were aged 15-29 years. Among the HIV positive male sexual partners, 65% (1121/1694) were aged between 30 and 49 years.

CONCLUSIONS/NEXT STEPS: APN was feasible in a rural setting and significantly contributed to overall HIV case identification.

PEE1575

EXPANDING TO ELIMINATE: INCREASED ACCESS OF PMTCT SERVICES TO PREGNANT WOMEN IS PAVING THE WAY TO EMTCT. EXPERIENCE FROM GLOBAL FUND SUPPORTED AHANA PROJECT IN INDIA

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BACKGROUND: India is aiming to achieve EMTCT with highest number of annual estimated pregnancies (29 million) in the world by 2020. While, 94% of the estimated pregnancies are registered for ANC package of services the evidence suggests that the access to HIV testing remained at 18% during 2014-15 in the 14 states contributing 14 million annual pregnancies. Complementing Govt. of India's response, Ahana project funded by The Global Fund aimed to saturate all pregnant women with HIV testing and facilitate treatment provision.

DESCRIPTION: A longitudinal study of pregnant women receiving HIV testing recorded in Strategic Information Management System of Govt. of India and a cohort of 13 thousand HIV positive pregnant women received treatment and care services was analysed along with desk research of Public health service facilities to conclude on the findings.

LESSONS LEARNED: Based on the situational analysis a 360 degree approach was adopted to increase the testing and treatment facilities at scale. While, testing earlier was only limited at the 6 thousand district hospitals; with expansion of service provision through project intervention, HIV testing made available at more than 25 thousand village level Primary Health Clinic (PHC) and at the community level through Village Health Sanitation and Nutrition Committee (VHNSC). This increased access immediately resulted in improving results for HIV testing among pregnant women increased from 18% during 2014-15 to 44% during 2017-18 and to 73% (against estimated pregnancies) during 2018-19 in the intervention states. The access has resulted in more than 6 million pregnant women receiving HIV testing, and identification of additional 2,100 HIV positive pregnant women and linkages with treatment services during last year.

CONCLUSIONS/NEXT STEPS: Without community involvement it is impossible to attain the saturation of pregnant women with HIV testing or reaching out to first 90. The programme model demonstrate the rapid scale up of community level testing at the village level has ensured to scale up HIV testing exponentially. Taking HIV testing services at the doorstep of pregnant women has resulted in improved health seeking behaviour resulting in identification of HIV positive cases for treatment and care and support.

PEE1576

MAXIMIZING SAME-DAY ANTIRETROVIRAL TREATMENT (ART) INITIATIONS BY IMPLEMENTING AN HIV TESTING AND ART INITIATION ESCALATION PLAN

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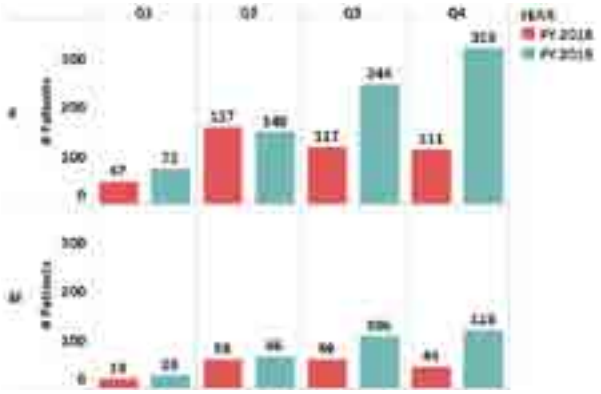
BACKGROUND: The Luke Commission (TLC) provides free HIV/AIDS testing and treatment in Eswatini as part of a comprehensive healthcare platform reaching 95,000 underserved clients annually. UNAIDS 2019 estimates for Eswatini suggest that across all ages, 92% of people know their status and 86% of PLHIV are on ART. Those untested or HIV+ yet not on treatment often prove difficult to engage. When junior-level staff attempt to assist, these late adopters frequently resist testing or ART initiation. In March 2019 (close of FY19Q2), TLC implemented an escalation plan to bring together patients and senior-level staff trained to advocate for HIV testing and ART initiation.

DESCRIPTION: TLC implemented an escalation plan to connect clients to senior-level staff at the first sign of resistance to testing or ART initiation. Male and female staff champions were selected to interact with resistant clients for HIV testing, ART initiation, and follow-up. In addition, counselors and clinical staff were retrained on the importance of encouraging testing and same-day initiation, especially in key age/sex bands. In all cases, the decision to test or to initiate rested solely with the client.



[Figure. ART initiations (reporting quarters - gender)

LESSONS LEARNED: Implementation of the escalation plan significantly increased the number of newly identified HIV+ clients and ART initiations. Implementation resulted in percentage increases in ART initiations for female clients of 109% (from 117 to 244) in FY19Q3

and 188% (from 111 to 319) in FY19Q4. For male clients, the escalation plan resulted in respective percentage increases in ART initiations of 80% (from 59 to 106) and 168% (from 44 to 118).

CONCLUSIONS/NEXT STEPS: Providing immediate access to senior-level staff for late adopters significantly increased testing and initiation through TLC. It is hoped that this escalation model might be replicated by other health facilities to move more rapidly toward epidemic control.

PEE1577

HIGH LINKAGE RATES FROM COMMUNITY HIV INDEX TESTING PROGRAM IN NAMIBIA

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BACKGROUND: Namibia adopted the Test and Treat Policy and scaled up country wide in 2016. This policy requires linking all newly-diagnosed HIV positive individuals to ART treatment services within seven days after a confirmatory HIV diagnosis. Development Aid from People to People-Namibia (DAPP) is a PEPFAR implementing partner providing community index partner testing (IPT) by recruiting consenting index clients at health facilities and testing their sexual partners who provide consent in the community. Index clients are primarily newly diagnosed HIV positive individuals aged >18 years and patients on antiretroviral therapy (ART) with unsuppressed viral loads. HIV-positive individuals diagnosed within communities are then physically escorted by DAPP field workers to the nearest health facility for ART services. Repeat home visits are made to enroll those individuals that are not linked the same day.

METHODS: DAPP program data were analyzed from seven high HIV burden regions for the period of October 2018-September 2019. Linkage rates were calculated by time from date of initial HIV diagnosis to date of linkage to ART services.

RESULTS: A total of 1,619 index partners were identified positive during the period under review. The total number linked to ART were 1,586 which is a 98% linkage rate. Of these, 1,017 (64%) were linked within the same day of initial HIV diagnosis, 449 (28.3%) within seven days, 89 (6%) within 30 days, 31 (2%) after 30 days, and 33 (2%) were not linked. Within seven days 92% were linked to ART.

CONCLUSIONS: These results show that very high linkage rates within seven days can be achieved by community-based testing providers through the provision of physical escorting as well as continued follow ups through home visits.

PEE1578

TRANSITIONING WOMEN OF CHILD BEARING AGE TO DOLUTEGRAVIR BASED REGIMEN COUPLED WITH INTEGRATION OF FAMILY PLANNING (FP) AND HIV SERVICES: LESSONS LEARNT FROM ZAMBIA-COPPERBELT, CENTRAL, AND NORTHWESTERN PROVINCES

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BACKGROUND: The USAID-funded Supporting an AIDS Free Era (SAFE) works with the Ministry of Health (MOH) in Copperbelt, Central, and North-Western Provinces in Zambia to enroll and transition clients on ART to the Dolutegravir based regimen (TLD). SAFE employs an integrated approach in the implementation of services at facility level which includes the integration of family planning into HIV services.

DESCRIPTION: The transitioning of women on ART to TLD in the three SAFE supported regions was greatly affected by the Tsepamo study findings which led to clinicians initially not enrolling women of child bearing age on TLD. USAID SAFE intensified the integration of FP services into the HIV program at all supported facilities to increase the confidence of clinicians to enroll more women on TLD. Retrospective program level data was reviewed and analyzed to evaluate the trend of transitioning of women of child bearing age by clinicians coupled with the integration of FP services in the ART clinics.

LESSONS LEARNED: The proportion of women to men enrolled on TLD increased from 20% in October 2018 to 48% in August 2019 (almost 1:1 ratio between men and women enrolled on TLD). A three-fold increase (26%==>77%) among women of child bearing was also observed which was mainly due to the intensification of integration of FP services into the ART clinics and increased number of HIV+ women accessing FP services from 1659 in October 2018 to 28,000 in October 2019.

[Figure]

CONCLUSIONS/NEXT STEPS: This is a clear demonstration that even in the midst of the challenges of transitioning women of child bearing age, upon intensification of integration of FP services in the HIV program, the SAFE project supported the MoH and saw an exponential increase in the enrolment of women of child bearing age on TLD. SAFE will continue enrolling and transitioning women of child bearing age to TLD.

PEE1579

HIV CASE FINDING AMONG SEXUAL CONTACTS OF CLIENTS WITH HIGH VIRAL LOAD AT KILOSA DISTRICT HOSPITAL IN MOROGORO TANZANIA: RESULTS FROM TARGETED INDEX TESTING STRATEGY

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BACKGROUND: In Tanzania, an estimated 1.6 million people are living with HIV however only 61% are aware of their HIV status. In 2018, Tanzania scaled up implementation of index testing as one of the targeted testing strategies in order to reach the first 90. Index partner testing focused on partners of newly identified positives and new on treatment patients. Other potential target groups for index testing such as partners of clients with high viral load (≥ 1000 c/ml) and partners of lost to follow up clients with unknown HIV status were often forgotten.

DESCRIPTION: At Kilosa District Hospital, USAID Boresha Afya Southern Zone Program introduced sexual contacts of clients with high viral load as one of the targeted groups for index testing in August 2019. In addition to other target groups, health care workers were sensitized on elicitation and testing of eligible sexual contacts of clients with high viral load . After receiving viral load results, all unsuppressed clients were listed in a dedicated index register and elicitation of the listed clients was incorporated in first enhanced adherence session. HIV testing of the listed contacts was conducted at clients' preferred location and time mostly done during extended working hours and weekends.

LESSONS LEARNED: Between August and October 2019 index partner elicitation was done to 108 patients who had high viral load (≥1000 c/ml) . Elicited index clients had 151 sexual contacts listed and contacted for HIV testing, 90 were males (median age 39 years) and 61 were females (median age 39 yrs). Out of 151 sexual contacts tested, 59 were found to be HIV positive which was equivalent to 39% yield, a high yield compared to overall program yield for index testing (33%). Of the positive cases identified, 30 were males and 29 were females with high yield among females (48%) as compared to males (33%).

CONCLUSIONS/NEXT STEPS: The findings show high HIV case finding among sexual contacts of clients with high viral load highlighting the need to scale index testing in this group. Targeting high viral load clients' sexual contacts with unknown HIV status is important in reaching the first 90 therefore eliminating treatment gap.

PEE1580

TESTING ONLY THOSE WHO REALLY NEED TESTING: USE OF HIV RISK ASSESSMENT TOOL IN THE USAID DISCOVER-HEALTH VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM IN ZAMBIA

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BACKGROUND: The USAID DISCOVER-Health Project (DISCOVER), implemented by JSI Research & Training Institute Inc (JSI), supports the Ministry of Health to improve access to and utilization of quality HIV services in Zambia. Support incorporates SBCC and service delivery to ensure that groups most vulnerable to HIV, including males 20-34 (key to HIV epidemic control goals) are effectively reached with information/programs/services, including VMMC. Zambia VMMC guidelines include pre-surgery HIV testing as part of the minimum service package, with at least 95% of clients tested, nationally, with HIV positivity yield of around 0.1% (general male population average yield is 5%). Using the HIV-risk screening tool in this population would identify those at high HIV-risk and reduce unnecessary/costly HIV testing.

DESCRIPTION: With a five-year life-of-project VMMC target of 360,000, we introduced the intervention, the HIV-risk screening tool, in the VMMC program in April 2019. The screening tool was administered by a trained HIV counsellor during pre-surgery counselling. HIV risk was determined based on client responses to six questions including: HIV testing within 3months; unprotected sexual contact; sexually transmitted infection symptoms; and alcohol/drug use. We analysed VMMC HTS pre-intervention (July-December 2018) and post-intervention (July-December 2019), comparing HTS numbers and computing estimated cost savings.

LESSONS LEARNED: The table below summarizes the findings:

Indicator	Pre-intervention July to Dec 2018	Post-intervention July to Dec 2019
VMMC_CIRC	11,885	17,878
VMMC_CIRC Tested	11,594	5,057
VMMC_CIRC Tested HIV+	20	14
% Tested	98%	28%
%Yield Rate	0.17%	0.28%

[Table]

Implementation of the HIV-risk screening tool led to: significant reductions in testing volumes from 98% to 28%; significant increase in positivity yields from 0.17% to 0.28%; and more effective HIV counselling (with reduced volume HTS counsellors spent more time with at-risk clients). Using a $7 cost-rate/HIV testing/person, the estimated program cost-saving is $62,741.

CONCLUSIONS/NEXT STEPS: In VMMC programs in resource-limited settings, using the HIV-risk screening tool increases HTS efficiency, significantly reducing HTS volumes, increasing HIV positivity yields, and providing significant cost-savings that can allocated to other uses. With a higher VMMC_CIRC volume post-intervention, the reduction in absolute HIV+ raises concerns about sensitivity and specificity. DISCOVER will evaluate these aspects to inform future implementation.

HIV SELF-TESTING FOR HIV AND LINKAGES TO PREVENTION AND CARE

PEE1581

HOW DO LOCAL DRUG SHOPS SELL AND PRICE HIV SELF-TEST KITS? DESCRIPTIVE EVIDENCE FROM TANZANIA

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BACKGROUND: Drug shops are an underutilized channel to distribute HIV prevention products like HIV self-testing to hard-to-reach populations. However, little is known about how owners set prices on new products, how much prices vary both within and across shops, and whether HIV self-test kits are commercially viable. We observed how drug stores set prices for self-test kits and tested for evidence of price discrimination.

METHODS: From August to December 2019, we provided free self-test kits to 26 Accredited Drug Dispensing Outlets (ADDOs) and pharmacies in Shinyanga, Tanzania to sell to the local community in a setting where oral-fluid self-test kits were not yet available. We collected data on sales quantity, price, and customer characteristics (age and sex) using shop records, cross-validated with anonymous customer feedback forms. We calculated descriptive statistics on sales and price variation over time and across shops. Using a multiple linear regression model, we conducted F-tests to determine whether shop, age, sex, and time (week) respectively were associated with (log) price.

RESULTS: A total of 324 self-test kits were sold over the study period; 69% of purchasers were male, 40% were aged 25-34 and 30% aged 35-44. Retail prices set by shops ranged from 1,000 to 10,000 Tsh (mean 3,500 Tsh; ~$1.50 USD) and followed a bi-modal distribution that clustered around 2,000 Tsh (26% of sales) and 5,000 Tsh (39% of sales). Prices varied little by age (p=0.60), sex (p=0.42), or over time (p=0.43). Although shop significantly (p<0.001) predicted price, price variation within shop was concentrated among 6 (23%) shops, and 7 (27%) shops sold at a uniform price over the study period.

CONCLUSIONS: Contrary to our expectations based on existing qualitative literature, there was limited variation in prices and no evidence of price discrimination by age or sex in Shinyanga. Given that observed retail prices were below the current global negotiated wholesale price ($2 USD or ~4,600 Tsh, excluding various delivery costs), further demand creation and/or cost-reduction is required before self-test kits may become a commercially viable product in this setting. Further research is required to understand pricing strategies over a longer period and outside of an experimental setting.

PEE1582

UNASSISTED PEER-BASED DISTRIBUTION OF HIV ORAL SELF-TESTING FOR THE HARD TO REACH IN RURAL KWAZULU NATAL, SOUTH AFRICA

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BACKGROUND: A population-based survey conducted by Médecins Sans Frontières (MSF) in Eshowe, KwaZulu Natal, South Africa reported the achievement of the UNAIDS 90-90-90 targets in 2018. Innovative delivery models with HIV oral self-tests (OST) provide an opportunity to reach the hard-to-reach population (young men aged 15-24 years and those never tested). We present preliminary results from a study evaluating peer distribution of OST to scale–up HIV testing under programmatic conditions.

METHODS: In this single arm, uncontrolled study, counsellors provided OST kits to peers for distribution to their sexual partner, anyone in their social network or for self-testing (termed secondary recipients) from September 2018 to October 2019. The study was conducted at 25 MSF-supported HIV testing sites in Eshowe/Mbongolwane area, rural KwaZulu--Natal. A structured questionnaire was administered during recruitment and follow-up, when people came for confirmatory HIV testing.

RESULTS: Among 31,746 people approached, 7,904(24.9%) accepted to be peer-distributors; 24,491 OST kits were distributed, a median of three (IQR: 2-4) per peer. Median age was 28 years (IQR: 23-36) and 5540(70.1%) were women. Peers were recruited through waiting room talk (43.0%), HIV testing and counselling services (27.1%), self-referral (24.5%), and services at mobile clinics (5.4%).

During the study period, 886(3.6% of tests distributed) individuals reported OST use. Median age was 28.5 years (IQR: 23.4-35.5) and 606(67%) were women. Furthermore, 86(29.5%) of men were aged 18-24 years, 164(55.8%) were aged 25-40 years and 44(15%) were above 40 years. Among these, 533(60.1%) tested themselves, while 353(39.9%) received kits from peer-distributors. Fourteen (1.6%) reported testing for the first time and 713(81.4%) people came back even after testing negative on OST. HIV positivity among people coming for follow-up was 17.7%(157/886). Among these, 75.1%(118) were initiated on ART during the study period.

CONCLUSIONS: These preliminary data suggest distribution of OST among general population is acceptable with 1 out of 4 accepting to be peer-distributors. Few of those secondary recipients who reported were first time testers or young men, suggesting that these populations remain hard to reach. This distribution strategy warrants further study to explore motivators and barriers for peer-distributors and experiences while engaging with whom they distributed OST kits to.

PEE1583

IRANIAN FEMALE SEX WORKERS PERCEPTION AND ATTITUDE TOWARD USING OR DISTRIBUTING HIV SELF-TEST: A QUALITATIVE STUDY

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BACKGROUND: HIV self-testing has potential to be reached by key populations who would otherwise not access to or use routine HIV testing services. We aimed to assess perception and attitudes of using and distributing HIV self-test among Female Sex Workers (FSW), as the first population ever used HIV self-test in Iran.

METHODS: This qualitative study was conducted among 37 FSW in two cities (Tehran and Isfahan) in Iran, spring 2018. Eligible participants were aged 18 + years and sold sex in the last month. Data collection was conducted through semistructured interviews and Focus Group Discussions based on purposive and theoretical sampling until data saturation. Content analysis was utilized to analyze the transcribed interviews.

RESULTS: Participants were 35.8±7.7 years of age, 36.1% reported drug use in the last year, 83.9% were tested for HIV recently, and 12.9% were HIV positive. About half find their clients at street/park locations and had experienced violence by their husband, boyfriend and clients in 38.1%, 32.4% and 36.4% of the cases, respectively.

Majority indicated how important it is for a FSW to know her HIV status, and high acceptance of HIV self-testing. Being able to do the test in private, find out the result rapidly, and to receive HIV self-test free of charge would be strong motivators for FSW to use HIV self-test. There were concerns of finding out the positive result by themselves which would be frightening in their opinion. Majority mentioned they would accept HIV self-test if offered by a peer, and it is more likely to suggest self-test to their husband or permanent partners rather than casual clients. However, participants believed most clients would not accept HIV self-test and FSW may lose their clients upon the offer and would be at risk for violence.

CONCLUSIONS: Results suggested that Iranian FSW would be willing to use HIV self-test. They had some concerns about distributing the HIV self-test to their clients/partners. To have FSW offer the HIV self-test to their clients successfully, training about self-tests and skills such as marketing and negotiations are required.

PEE1584

DEMOGRAPHIC CHARACTERISTICS OF HIVST USERS AND PREDICTORS OF USING HIVST AMONG PRIORITY POPULATIONS IN ZAMBIA

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BACKGROUND: As a critical intervention for HIV epidemic control, HIV Self-Testing complements other testing modalities to reach difficult-to-reach populations with HIV services. Successful implementation of HIVST, which started in Zambia in 2015, has the potential to contribute to achieving the UN's 95-95-95. This abstract investigates demographic characteristics of HIVST users and predictors of using HIVST in priority populations (AGYW and their sexual partners, mobile populations, discordant couples and other hotspots populations) reached by the USAID-Z-CHPP program in Zambia to uncover dynamics of HIVST use that can be used for improved targeting.

METHODS: Routine HIVST program data from the PEPFAR/USAID–funded Z-CHPP program were analyzed. Between October 2018 and September 2019, 4,964 people categorized as priority populations in community hotspots and in DREAMS centers were recruited and offered HIVST from the program. Cross–tabulations with a Chi–square test for associations were performed, along with multivariate analysis using binary logistic regression to identify factors associated with using HIVST.

RESULTS: Of the 4,964 people recruited in the program,51% were 20-29 years of age and 52.5% were males. Mobile populations comprised 62.5% followed by AGYW and their sexual partners at 34.8%. 4,699 (94.7%) received HIVST. Assisted HIVST modality accounted for 51% of all HIVST with 64.7% for mobile populations and AGYW with their sexual partners at 32.3%. Using HIVST was significantly associated with population category, with the highest proportion (96.7%) among AGYWs and their sexual partners and the lowest among other populations (91.9%) ($p<0.001$). Multivariate logistic regression analysis showed that compared to females, males were nearly three times more likely to receive HIVST (aOR 2.91, $p<0.001$). In terms of population category, compared to AGYW and their sexual partners, mobile population were 59% less likely to receive HIVST (aOR 0.41, $p<0.001$). Although 40-49 years age group were 94% more likely to receive HIVST than under 20 years group, the effect was not statistically significant (aOR 1.94, $p>0.05$).

CONCLUSIONS: HIVST is an effective and convenient modality to reach hidden populations. HIVST program should be tailored to reach more mobile populations who are at an elevated risk of contracting HIV and subsequently link them to care.

PEE1585

LESSON LEARNED FROM IMPLEMENTING ASSISTED PARTNER NOTIFICATION SERVICES AMONG GAY, BISEXUAL, AND TRANSGENDER PEOPLE IN COASTAL KENYA

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BACKGROUND: Assisted partner notification services (APNS) have great potential in finding undiagnosed HIV infections. However, data are limited on how to offer APNS to gay, bisexual, and transgender people (GBT) in Sub-Saharan Africa (SSA). We present our lessons learned from implementing APNS among GBT in coastal Kenya.

DESCRIPTION: Since April 2019, APNS has been offered to GBT testing HIV positive (index cases) in two research clinics in coastal Kenya. For each sexual partner, index cases could choose a notification strategy: extension of an oral HIV self-test (OraQuick) by the index case, index referral, or provider referral. For a subset of index cases (n=18) potential social harms were assessed with a questionnaire one month after initiating APNS.

LESSONS LEARNED: APNS was offered to 37 index cases and was accepted by 73.0% (27/37). Out of 78 unique partners with contact details, index cases opted for an index-extended self-test to 18.0% (14/78) of partners, index referral to 9.0% (7/78) of partners, and provider referral to 73.1% (57/78) of partners. Proportions of partners presenting for HIV testing were 14.3% (2/14) for partners who were provided a self-test, 42.9% (3/7) for partners through index referral, and 64.9% (37/57) for partners through provider referral. In total, 21.4% (9/42) partners were newly diagnosed with HIV. Notifying partners with the WHO recommended message "You might have been exposed to HIV" did not solicit partner testing. The message "We would like to discuss important health related issues" was received better and enabled partner testing. Furthermore, one notification phone call by the provider was not sufficient for most partners, approximately 2-3 follow-up calls were necessary to build rapport before partners presented at the clinic for HIV testing. Among partners who did not own a phone, multiple field visits from providers and GBT peers were necessary to successfully engage partners. No social harm was reported after completion of APNS.

CONCLUSIONS/NEXT STEPS: Majority of partners were notified through intense provider follow-up, supported by GBT peers, which enabled HIV testing. Delivering culturally tailored messages and building rapport with partners is an ongoing process necessary to achieve partners coming forward for HIV testing.

PEE1586

TAKING HIV PROGRAMMING TO SCALE BY IMPROVING THE EFFICIENCY OF COMMUNITY INDEX TESTING THROUGH USE OF HIV SELF TESTING ON THE USAID/FHI360 ZIMBABWE HIV CARE AND TREATMENT (ZHCT) PROJECT

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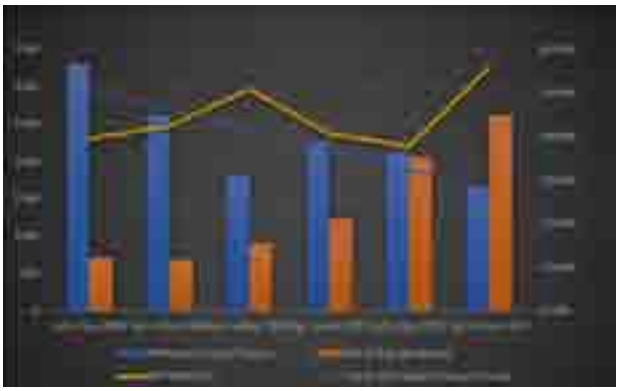
BACKGROUND: In Zimbabwe, of the 1.4 million people living with HIV (PLHIV), 74.2% know their status. Finding the remaining PLHIV, with limited resources, requires innovative and efficient approaches. FHI360 in Zimbabwe is implementing HIV self-testing (HIV-ST) in the context of community-index testing towards epidemic control in the country.

DESCRIPTION: In June of 2018, FHI360 introduced HIV-ST in the (ZHCT) project, whose goal is to increase access of HIV-testing-services (HTS), primarily at community-levels to sub-populations that would not ordinarily access HIV services at the health facility. The project is implemented in eight districts across three provinces. FHI360 supported community cadres, known as expert patients, working closely with the health-facilities, line-list all newly diagnosed-PLHIV and contacts that opt for community testing. The expert patients, after obtaining consent, visit the household of contacts to prepare them for HTS and provide HIV-ST. The specialized nurse then provides confirmatory HIV testing to contacts with a reactive HIV-ST. Program data was captured using District-Health-Information-Software2.

LESSONS LEARNED: The project reached 20,495 people with HIV-testing services from Jul 2018 when HIV-ST was introduced as a forerunner to community index-testing. Figure 1 shows the reduction in the specialized nurses' testing volume with the introduction of HIV-ST. The testing volume per quarter decreased from 3307 in Jul 2018 to 1655(50%) by Dec 2019 while the number of HIV-ST kits that were distributed through community index-testing steadily increased. The FHI360 project continued to achieve and sustain high HIV yields rates of an average of 39%. Of the 7,993 PLHIV identified, 7,433(93%) were linked to ART.



[Figure 1. FHI360/ZHCT project testing volume and sustained high yields with introduction of HIV ST, Jul 2018 - Dec 2019]

CONCLUSIONS/NEXT STEPS: HIV-ST improved the efficiency of community index-testing in identifying the missing by reducing the testing volume. The project achieved and sustained high HIV yields rates with HIV-ST introduction. The scale-up of HIV-ST conducted by expert patients, as a forerunner for community index-testing, is recommended in Zimbabwe towards epidemic control.

PEE1587

PEER-LED HIV SELF-TESTING SUCCESSFULLY REACHES KEY POPULATIONS IN RURAL EASTERN UGANDA

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BACKGROUND: Key populations (KPs) in Uganda, including female sex workers (FSWs), men who have sex with men (MSM), transgender women (TG), people who inject drugs (PWID), and incarcerated men are disproportionately affected by HIV. Uptake of testing remains low. HIV self-testing (HIVST) is a discreet, convenient way to reach KPs who don't know their status. In 2017, the government introduced an oral HIVST kit to complement existing strategies in the fight against HIV. In 2018, peer-led HIVST was introduced and evaluated by USAID's Regional Health Integration to Enhance Services (RHITES-E) in Eastern Uganda Activity led by IntraHealth International. Using monitoring data, RHITES-E assessed effects of HIVST on uptake, identification of HIV-positive persons, and linkage to care.

DESCRIPTION: Between October 2018-September 2019 KPs were offered HIVST by peer-leaders at 12 health facilities. Self-testers were given the choice to test with or without assistance. HIVST kits were distributed directly to individuals from facilities and attached community distribution points. Those receiving kits were provided information on performing the test; meaning of test results; need for confirmatory testing for a reactive test, and test result feedback to service providers. Clients were provided with appointment cards to a facility of their choice and a counselor's phone contact. Those testing HIV-positive were advised to go to a facility for a confirmatory test.

LESSONS LEARNED: 2,640 HIVST kits were distributed from October 2018-September 2019 (1326 clients opted for directly assisted and 1314 for unassisted HIVST). 14 clients were confirmed HIV-positive (4 females, 10 males) and initiated on ART. Clients who opted to confirm their results included MSM (139), FSWs (322), TG (12), PWIDs (55), and incarcerated men (32). The majority of FSWs preferred assisted self-testing while MSMs opted for unassisted self-testing. During the first quarter, there was a low return rate from unassisted testers. In following quarters, RHITES-E developed guidance for peer-leaders to contact within 2 days all who had taken kits.

CONCLUSIONS/NEXT STEPS: Peer-led HIVST successfully reached KPs; including those never tested. Offering HIVST with different support may increase testing uptake among KPs. Unassisted HIVST may be particularly beneficial for reaching MSM but rates of return were low.

APPROACHES TO VIRAL LOAD MONITORING AT SCALE

PEE1588

MAKING HIV VIRAL LOAD ACCESSIBLE IS NOT ENOUGH, OPP-ERA PROJECT!

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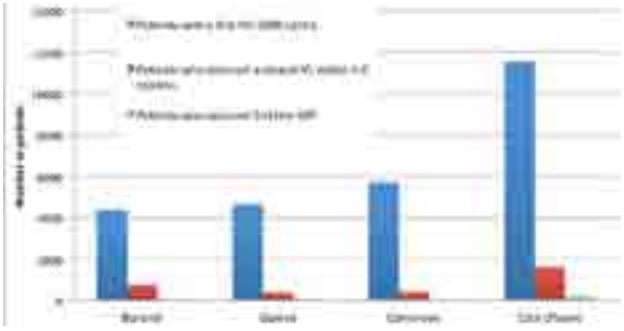
BACKGROUND: In resource-limited countries, access to HIV viral load (VL) has increased, providing information to the "third 90%". From a clinical point of view, is VL prescribed and are VL results used by prescribers? We took advantage of the OPP-ERA project, which enabled the implementation of VL through open polyvalent platforms in 4 countries in West and Central Africa (Burundi, Cameroon, Cote d'Ivoire, Guinea) to study these issues.

METHODS: Access to VL and the implementation of national recommendations for monitoring virological failure were studied from the databases for the 13 OPP-ERA laboratories from 2014 to 2019.

RESULTS: In total, nearly 230,000 VL measurements were performed between 2014 and 2019. The median number of VLs per patient was 1.3 (1.1-1.5 depending on the country) for the period 2016-2019. In the medical facilities benefiting from the project, the proportion of patients who received at least one viral load averaged 32% in 2018 (19-42% depending on the country) with a great variability between facilities. Overall 81% (78-89% depending on the country) of patients were in virological success (VL<1000 cp/mL), this rate has remained stable over time.

Among the 26268 patients with a first VL>1000 cp/mL between 2014 and 2018, a control VL was performed in 12% of patients within the recommended time frame of 3 to 6 months. The rate of switch in the 2nd line ART regimen was estimated at 3%.



[Figure. Virological failure management cascade, OPP-ERA project (2014-2019)]

CONCLUSIONS: Despite the availability of VL for a period of 6 years, the prescription and use of VL appears to remain limited as evidenced by the low number of VL measurements per patient, the virological failure management cascade and the lack of impact on the virological success rate.

The reasons for the low use of VL and its results need to be further explored in order to make access to VL more beneficial to patients.

PEE1589

FACTORS ASSOCIATED WITH VIRAL NON-SUPPRESSION AFTER ENHANCED ADHERENCE COUNSELLING AMONG PATIENTS WITH PERSISTENTLY ELEVATED VIRAL LOADS IN MILITARY ART CLINICS IN UGANDA

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BACKGROUND: The national HIV/AIDS treatment guidelines recommend enhanced adherence counselling (EAC) to persistently non-suppressing persons with elevated viral load before a decision to change antiretroviral regimen due to treatment failure is made. The PEPFAR funded URC-Department of Defense HIV/AIDS Prevention Program (DHAPP) provides technical support to 28 military health facilities in comprehensive HIV/AIDS care. We undertook an assessment to determine the proportion of and factors associated with persistent non-suppression despite EAC procedures.

DESCRIPTION: A retrospective review of patient files was conducted for all patients with high HIV viral loads (VL) ≥1000 copies/ml in all 28 ART prescribing military between April 2018 and April 2019. Data on initial VL test results, EAC sessions, repeat VL test results, and documented barriers to adherence from a sampled group were abstracted for detailed analysis using logistic regression.

LESSONS LEARNED: A total of 1,433 (7.3%) of 20,001 patients enrolled on ART had had at least one viral load above 1000 copies/ml over the study period. Average time on ART was 2.5 years. A sample of 168 of those with a detectable VL who had completed the recommended three EAC sessions and had a repeat VL test were sampled from 9 facilities for detailed analysis. Overall, only 41% (68/168) achieved viral suppression following EAC. Factors associated with subsequent suppression were having good adherence at the 1stEAC session (OR 0.3, p 0.005) while being less than 19 years (OR 2.5, p0.001) was associated with persistent non-suppression. Common barriers to adherence cited were lack of adequate food (25%); alcohol abuse (20%); other social problems (10%); transport barriers (10%) and stigma/disclosure challenges was reported by 8%.

CONCLUSIONS/NEXT STEPS: EAC among non-suppressing persons achieved sub-optimal results and may not be sufficient to guide treatment failure management. Additional screening techniques and targeted structural interventions to address nutritional challenges and alcohol abuse are warranted in the management of potential treatment failure. Exploration of additional interventions beyond EAC is also recommended especially in the management of childhood treatment failure.

PEE1590

IMPROVING MANAGEMENT OF PEOPLE LIVING WITH HIV ON FIRST-LINE ART REGIMENS WITH VIRAL NON-SUPPRESSION IN 19 DISTRICTS SUPPORTED BY INFECTIOUS DISEASES INSTITUTE IN UGANDA

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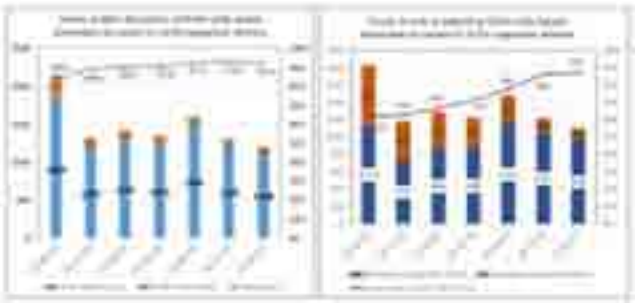
BACKGROUND: Delayed switching of people living with HIV (PLHIV) on first-line ART regimens with virologic failure is a challenge in Uganda. We aimed to improve rates of regimen optimization among PLHIV on 1st ART from 62% to 90% in 19 districts of Kampala, mid-Western and West Nile regions of Uganda. We report program interventions undertaken to achieve this aim.

DESCRIPTION: Infectious Diseases Institute (IDI) with support from PEPFAR through CDC, implemented district level viral load (VL) interventions including; functionalization of district mentorship teams; monthly visits to all ART facilities, targeted visits to poorly performing facilities and quarterly district VL sharing sessions. Facility level interventions included: functionalization of existing multidisciplinary teams (MDT) and formation of new ones where they were missing; peer-peer mentorship during MDT switch discussions and twinning of health workers at better performing facilities, provision of VL job aides for management of non-suppressed clients, review of VL non-suppressed cascades and implementation of improvement projects to address identified gaps, functionalization of PLHIV peer support groups, improving linkage to available orphaned and vulnerable services (OVC) and home-based support by para-social workers for challenging cases.

LESSONS LEARNED: The rates of switching eligible PLHIV on 1st line ART to optimal ART regimens increased from 62% in the quarter January-March 2018 to 87% in July-September 2019. The proportion of PLHIV with two consecutive detectable VL results not switched decreased from 38 percent (695/1828) in January-March 2018 to 13 percent (140/1108) in July-September 2019. Discussion of PLHIV with consecutive detectable VL results in MDT increased from 84% in January-March 2018 to 93% in July-September 2019.



[Figure]

CONCLUSIONS/NEXT STEPS: Timely switching of PLHIV with virologic failure is feasible but requires ongoing capacity building and addressing of psychosocial challenges to affected families. There is need to scale up this package of interventions to bridge the remaining gaps in regimen optimization.

PEE1591

PROVIDING TAILORED SERVICES FOR UNSTABLE CLIENTS: ADAPTING DIFFERENTIATED SERVICE DELIVERY MODELS AND LESSONS FROM THE LANGO SUB-REGION IN NORTHERN UGANDA

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BACKGROUND: In Uganda, HIV care services, including antiretroviral therapy (ART) are provided through differentiated service delivery models (DSDM) to improve prevention, identification, diagnosis, treatment, and support for people who require HIV services. The models adapt the location, providers, frequency, and intensity of services to meet client needs and desires. Though usually reserved for stable clients, the USAID Regional Health Integration to Enhance Services-North, Lango project uses some of these approaches for clients with unsuppressed viral load (VL) results to improve client outcomes. Unstable clients, defined as ART-naive clients, are those newly initiated on ART and those with unsuppressed VL results (over 1,000 copies/mL).

DESCRIPTION: From March to September 2019, the project supported health care providers to identify and line-list all non-suppressed clients identified between September 2018 and June 2019 in 54 health facilities. They designated a clinic day for these clients and trained service providers on age appropriate psychosocial support. The listed clients were mobilized to attend the designated clinic days during which intensive adherence counselling (IAC) was provided.

LESSONS LEARNED:

Age	unsuppressed	returned for 1st IAC	completed 2nd IAC session	completed 3 IAC sessions	received 2nd VL test	unsuppressed after IAC	Switched to 2nd line
0-14 years	1683	1152	1078	853	517	243	218
		80%	80%	79%	61%	47%	90%
15-24 years	1353	492	421	324	196	81	59
		36%	86%	77%	60%	41%	73%
25 and above	5516	3775	2952	2478	1576	506	378
		68%	78%	84%	64%	32%	75%
All	8552	5619	4451	3655	2289	830	655
		66%	79%	82%	63%	36%	79%

[Table. Non suppressed cascade from 54 health facilities March to September 2019]

8,552 clients with unsuppressed clients enrolled on IAC over four months. Overall 5,619 (66%) clients started intensive adherence counseling (IAC); 78% completed three recommended sessions of IAC with a good adherence, and 63% of these clients had a repeat viral load test and 64% had a suppressed VL result after a repeat VL test and 79% of the unsuppressed switched to second line. Although re-suppression was lowest among those below 15 years (53%) and 90% were switching to second line.

CONCLUSIONS/NEXT STEPS: Designating specific days for one-stop clinics provides an opportunity for increased peer support and tailored comprehensive IAC, service delivery, and VL suppression.

PEE1592

TIME TO REPEAT VIRAL LOAD TESTING FOLLOWING AN UNSUPPRESSED VIRAL LOAD AMONG ADOLESCENTS AND YOUNG ADULTS IN KENYA

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BACKGROUND: Viral load (VL) information is key in determining success and changes required in HIV care for adolescents and young adults (AYA). We assessed VL data to determine its utilization in the care of AYA on ART in Kenya.

METHODS: VL data for AYA ages 10-24 years in the period April 2017 to May 2019 in 117 sites in 28 counties were abstracted from the Kenya national HIV program database. Eligible records included being on ART for at least 6 months with at least 6 months of follow-up time following the first monitoring VL in the dataset. We summarized demographics, treatment after first VL, and repeat testing following unsuppressed VL (≥1000 copies/ml). Among records with unsuppressed VL, we calculated the proportion with any repeat VL, a repeat VL within 6 months, and median (interquartile range [IQR]) number of months between first unsuppressed VL and the repeat VL.

RESULTS: We abstracted 40,928 VL records for 23,969 AYA, of whom 16,722 (70%) were eligible for this analysis. Of those, 11,845 (71%) were female, median age 19 (IQR: 13-23), with 6105 (37%) from counties with a HIV prevalence ≥10%. Median ART duration was 39 months (IQR: 18-77), while 13,830 (83%) were on a nevirapine/efavirenz based regimen and 2,539 (15%) on a protease inhibitor.

Among 16,722 eligible AYA, 3,928 (23%) had an unsuppressed VL at first measurement. Only 2,268/3928 (58%) had any repeat VL in the dataset. Further, only 1,397 (36%) had a repeat VL within 6 months after the unsuppressed VL. Among the 2,268 with a repeat VL, the median time between unsuppressed and the repeat VL was 5 months (IQR: 4-8). Among 1,303 AYA with 2 consecutive unsuppressed VL, 715 (55%) had information on ART regimen after their second VL, with 483 (68%) indicating no change of regimen.

CONCLUSIONS: A substantial proportion of AYA on ART had unsuppressed VL, with less than half receiving a repeat VL assessment within 6 months, and less than half of those with persistent VL failure having a change of regimen. Strategies to improve VL testing practices among health care workers are needed to improve outcomes of AYA on ART.

PEE1593

ASSESSMENT OF ROUTINE VIRAL LOAD TESTING INTERVALS AMONG VIRALLY SUPPRESSED AND UNSUPPRESSED ART PATIENTS IN CENTRAL AND NORTHERN CÔTE D'IVOIRE

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BACKGROUND: Viral load (VL) monitoring can play a substantial role in improving HIV care in Côte d'Ivoire, as it can be used to evaluate treatment outcomes and diagnose treatment failure. Côte d'Ivoire adopted the Test and Treat approach in February 2017. We sought to determine if time between VL tests aligns with differentiated guidelines for virally suppressed or unsuppressed patients.
METHODS: We analyzed laboratory data for ART patients who received a viral load test processed at three regional laboratories in Bouaké, Abengourou, and Korhogo between 2015-2018. Patient-level data and validated VL results from paper-based forms were entered into the OpenELIS Global laboratory software system by trained data clerks. We merged data for patients who received multiple VL tests by matching on unique patient ID. We excluded patients who initiated ART 6 months before the first VL test in the database or who were missing ART initiation dates. We defined viral suppression as a VL test result of <1,000 copies/mL. We used the Kaplan-Meier survival estimator to analyze time between first and second VL tests following ART initiation.
RESULTS: 12,469 patients from 17 districts and 223 clinics were included in the analysis. 9,081 (72.8%) were females, 11,737 (94.1%) were 15 years or older. 3,704 (29.7%) patients received a second VL test during the 4-year study period. The median time from ART initiation to first sample collection for VL testing was 7.8 months (IQR: 6.2 to 13.4). The median time between the first and second VL test was 24.9 months (IQR: 14.7 to >40). Of the 2,545 (20.4%) who were not virally suppressed within 12 months of ART initiation, 9 (0.4%) had a second test within 6 months; 485 (19.1%) had a second test within 12 months.
CONCLUSIONS: We identified poor follow-up of testing in accordance with national guidelines between the first and second VL tests among patients who were not virally suppressed between 2015 and 2018. VL monitoring should strengthen targeted efforts to reach virally unsuppressed patients for routine testing and potential ART regimen change. OpenELIS is a useful tool to assess viral load suppression and the quality of ART.

PEE1594

IMPROVING HIV VIRAL LOAD COVERAGE IN RESOURCE LIMITED SETTINGS THROUGH ELIMINATION OF PATIENT AND STRUCTURAL BARRIERS: THE CASE OF THE CAMEROON MILITARY HIV PROGRAM

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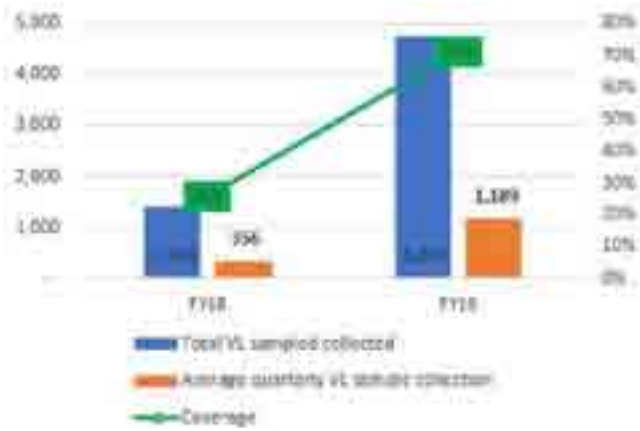
BACKGROUND: HIV viral suppression improves patient health outcomes and reduces deaths and new infections. Persons living with HIV (PLHIV) have better outcomes when they are on ART and are virally suppressed. Therefore, understanding HIV viral load suppression rates is crucial to ending the HIV epidemic, but impossible without enough viral load coverage. During fiscal year 2018 (October 2017 to September 2018), viral load coverage within the Cameroon Military program was 25.9%.
DESCRIPTION: From site visits, several barriers were identified: patient level were:
(1) official and unofficial fees
(2) time away from work or other duties to attend multiple HIV appointments a month; and at the structural level:
(1) limited days for sample collection due to lack of storage options, and
(2) infrequent and unreliable transportation.
Successful negotiations with military leadership to overcome financial barriers resulted in eliminated HIV patient user fees.
LESSONS LEARNED: Improvements included patient level: (1) improved identification of patients due for viral load testing by healthcare providers, (2) direct linkage by healthcare providers walking the patient to the sample collection unit when onsite, (3) scheduling viral load testing on ART pickup dates; and at the structural level: (4) daily viral load sample collection, (5) improvement in sample storage conditions to ensure viable samples, and (6) more frequent transportation of samples from healthcare facilities to the military laboratory. Viral load coverage increased from 26% in 2018 to 71% at the end 2019.



CONCLUSIONS/NEXT STEPS: The substantial increase in viral load coverage shows that a comprehensive approach was successful. The Cameroon military HIV program will build upon these accomplishments to further increase viral load coverage in 2020 and be able to utilize viral load results to identify stable verses non-stable patients in order to better tailor their HIV care accordingly.

PEE1595

ASSESSING THE VIRAL LOAD MONITORING CASCADE FOR CHILDREN IN RURAL LESOTHO: A CHALLENGE TO DECENTRALIZED CARE

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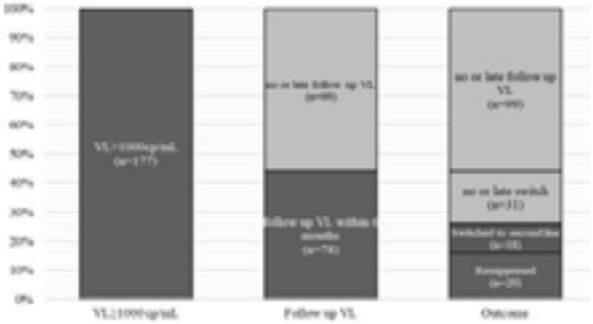
BACKGROUND: The World Health Organization (WHO) identifies HIV infected children taking antiretroviral therapy (ART) as a priority group for routine viral load (VL) monitoring. In 2016, Lesotho decentralised routine VL monitoring to the districts. We assessed the VL cascade for children with unsuppressed VL in the 12 health clinics in Butha-Buthe district.

METHODS: Data derived from a prospective cohort of children (< 15 years) attending one of the 12 health clinics. VL results are defined as suppressed (<1000 copies/mL) and unsuppressed (≥1000 copies/mL). As per WHO guidelines, children with unsuppressed VL should receive adherence counseling and follow-up VL within 3-6 months. Virologic failure (VF), i.e. two consecutive unsuppressed VLs, should trigger switch to second-line ART within 3 months.

RESULTS: From January 2016 until June 2019, 687 children of median age 10 years (interquartile range 7-13) received 2,525 VL tests. 57% were female, and 51% attended rural health clinics. Figure 1 displays the care cascade of the 26% (177) with an unsuppressed VL: 44% (78/177) received a follow-up VL within 6 months, of these, 62% (49/78) had confirmed VF and 18 were switched to second-line within 3 months. Overall, only 27% (47/177) were managed according to guidelines (i.e. follow up VL within 6 months and subsequent resuppression or switch to second-line within 3 months). Children attending rural clinics were less likely to have follow up VL (81% vs 93%), more likely to have VF (66% vs 54%) and less likely to be switched to second line (35% vs 52%).



[Figure 1. Viral load cascade of children with a first unsuppressed VL]

CONCLUSIONS: Despite access to VL monitoring, management of children with unsuppressed VL was not optimal because of delayed follow-up and untimely regimen switch in children with confirmed VF. Delays were particularly marked in rural clinics. Programs should employ models of care that ensure timely action after VL results, especially in rural settings with decentralized care.

PEE1596

ACHIEVING HIGH VIRAL LOAD UPTAKE AND SUPPRESSION WITHIN PACT TIMIZA SUPPORTED FACILITIES IN WESTERN KENYA

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BACKGROUND: In 2017, Migori and Kisii Counties had a respective viral suppression(<1000copies/ml) of 67% and 74%. In collaboration with the county governments, the University of Maryland Baltimore (UMB)-Center for International Health, Education and Biosecurity (Ciheb) implemented a bundle of interventions to improve viral load (VL) uptake among all eligible clients on ART for at least 6 months and suppression towards the last mile of the 95-95-95 UNAIDS targets in Kisii and Migori. This activity was part of PACT Timiza, a PEPFAR-CDC funded program. We examine outcome trends since the implementation of this intervention across 182 facilities in Kisii and Migori from January 2017 to September 2019.

METHODS: We conducted a cross-sectional analysis of routinely collected and aggregated programmatic data from adults>15 years and across 182 facilities in Kisii and Migori Counties between January 2017 and September 2019. The bundle of interventions included five strategies:

1) reviewing patient flow to ensure the entry point included VL monitoring;

2) developing a tracking system for VL testing;

3) training health workers on importance of returning VL results to clients;

4) educating clients on HIV health literacy; and,

5) enhancing management of high VL through viremia clinics including intense adherence support.

We evaluated trends using a non-parametric test of trend and differences in VL uptake and suppression between males and females using linear regression.

RESULTS: We found a statistically significant positive trend in VL uptake from January 2017 at 60% (28,449/47,516) to September 2019 at 97% (61,721/63,323) (p=0.01). Similarly VS increased from 70% at baseline (19,826/28,449) to 96% (59,008/61,721) at September 2019, a statistically significant positive trend in VS (p<0.01). VS within females increased from 71% to 96% and for males from 67% to 94% during the evaluation period. There was no significant difference between VL uptake (p=0.99) or VS (p=0.56) by gender.

CONCLUSIONS: A comprehensive approach focusing on clients, health providers and healthcare system processes resulted in reaching the 3rd 95 target and the approach benefited both genders equally.

PEE1597

ASSESSING FIRST HIV-1 DRUG RESISTANCE TESTING RESULTS AT BAYLOR CLINICAL CENTRE OF EXCELLENCE, LILONGWE, MALAWI

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BACKGROUND: With more than 15 years of sustained increases in antiretroviral therapy (ART) coverage in Malawi, the country's HIV care and treatment cohort has grown with several earlier initiates switched to second-line ART. However, significant number of second-line ART clients present at clinics with high viral loads (>1000 copies/ml), suggesting second-line ART failure. Management of such clients includes monthly intensive adherence counseling (IAC) for three months followed by viral load testing and genotypic testing of HIV-1 drug resistance for clients who still have high viral load despite good adherence. In 2019, Baylor-Malawi sent five samples for genotypic testing. This study describes the genotypic testing results of the five samples.

DESCRIPTION: The genotypic testing yielded different results across the five samples. One client showed resistance to (first-line) non-nucleoside reverse transcriptase inhibitors (Nevirapine, Efavirenz, Etravirine and Rilpivirin) and intermediate resistance to Doravirine; there was no evidence of resistance to second-line drugs (Tenofovir, Lamivudine, Atazanavir and Ritonavir). Two clients showed no resistance to any ART drugs as they had completely sensitive panels. The remaining two clients showed resistance to their second line ART drugs.

LESSONS LEARNED: While genotypic testing can identify clients with resistance to various ARVs, lack of adherence to ART remains a challenge among second-line ART clients. Questions remain on how best to capture adherence in this population as two clients with good adherence (by pill counts) had high viral loads and not resistant to any ART drugs; and whether IAC delivered at the facility is optimal. It is worth noting that while these clients likely have poor ART adherence, we cannot completely rule out presence of minority resistant viruses in their bodies which, unfortunately, could not have been picked by the genotypic testing that was performed.

CONCLUSIONS/NEXT STEPS: ART clinics should continue delivering IAC to clients on second-line ART presenting with high viral loads even after clients give samples for genotypic testing. Additionally, there's need to find ways to optimally deliver IAC as well as better and cost-effective ways to quantify ART adherence in this population since some of the clients with good adherence (assessed by pill count method) may not be adherent.

PEE1598

LOW ANTENATAL VIRAL LOAD COVERAGE AMONG PREGNANT WOMEN LIVING WITH HIV IN A NESTED COHORT STUDY IN PUBLIC HEALTH SECTOR FACILITIES IN ZIMBABWE

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BACKGROUND: Viral suppression during pregnancy and at delivery dramatically reduces mother-to-child transmission (MTCT) of HIV and is critical to achieving an HIV-free generation. Zimbabwe's national guidelines (2016) recommend viral load (VL) screening at the first antenatal care visit (ANC1) among pregnant women already on antiretroviral therapy (ART) to identify women with elevated viral load (≥1000 copies/mL) for targeted adherence counseling and if necessary, treatment regimen switch to prevent MTCT. We assessed the extent to which pregnant women in Zimbabwe received a VL monitoring test at their first antenatal care visit.

METHODS: As part of a larger implementation study on VL for prevention of MTCT (PMTCT) initiated in August 2019 at 20 public health facilities across two provinces in Zimbabwe, 889 women were enrolled at delivery during the first four months of the study. Social and demographic information was collected from women at enrollment, and clinical data from the pregnancy were collected retrospectively for those who received antenatal care at the facility using registry data and patient care cards.

RESULTS: In this cohort, the median age was 32 (IQR: 27-36) years; 92.9% (n=826) were married. ANC1 took place during the third trimester for the majority of women (61.5% of those with known gestational age at ANC1; n=491). 729 of the women had received their antenatal care at the same facility as delivery and had been on ART for at least 3 months at ANC1; of those, 8.2% (n=60) received a VL test at ANC1. Among those tested, 13.3% (n=8) had elevated VL (≥1000 copies/mL) and 86.7% (n=52) were suppressed.

CONCLUSIONS: In this large cohort, ANC tended to begin late in pregnancy and less than 10% of pregnant women received a VL test at ANC1. Moreover, among women with a valid VL test result at ANC1, more than 10% had an elevated VL, suggesting that a substantial proportion of women enrolled in ANC in this population are in need of prompt interventions to prevent MTCT. Emphasis on the importance of seeking early antenatal care and further scale-up of VL testing at ANC1 will be critical to achieving elimination of MTCT.

INNOVATIONS AND LESSONS FOR SUPPORTING ADHERENCE

PEE1599

LEAVING NO ONE BEHIND: ASSESSING THE IMPACT OF MSM COMMUNITY-BASED ADHERENCE CLUBS ON RETENTION AND VIRAL LOAD SUPPRESSION IN UGANDA

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BACKGROUND: Uganda continues to be a world leader in successfully engaging its HIV-affected and -infected communities in HIV program quality improvement. Atuhura et al. 2017 demonstrated that the community score card (CSC) effectively enables communities to advocate for such improvement. CSC findings have revealed community demand for adherence clubs to support viral load (VL) suppression among HIV-positive men who have sex with men (MSM).

DESCRIPTION: A retrospective observational evaluation of 2017-2018 Spectrum data across 8 facilities representing 3 regions reported that, of the 126 MSM enrolled on ART, only 15 (11.9%) had VL suppression. Between January 2018 to March 2019, clinicians screened 145 MSM, of whom 71 (49.0%) were eligible (VL suppression at screening, on ART for ≥1 year) to join adherence clubs. In this same timeframe, 10 adherence clubs (each consisting of 4 to 11 participants) were formed across the country. Each club's healthcare workers (HCWs) received gender and sexual diversity training, performed medical check-ups, refilled ART, and offered HIV care counseling. Participants were followed monthly from January 2018 through November 2019. The last VL test in November 2019 reported VL suppression among these 71 MSM was 100%.

LESSONS LEARNED: To our knowledge, this is the first time that adherence clubs have been demonstrated to enhance treatment compliance and retention in care among MSM in Uganda. HIV-positive clients, particularly key populations (KP), who continue to experience stigma and discrimination reported overwhelming support for these adherence clubs because accompanying healthcare workers were friendly and compassionate. Members agreed that monthly gatherings were an optimal frequency and qualitative data reveals that clients have reported increase in general confidence, ability to speak openly about their HIV status, and desire to mobilize their HIV-positive peers to strive for treatment adherence and VL suppression. Overall, communities have reported greater ownership and investment into reaching HIV epidemic control.

CONCLUSIONS/NEXT STEPS: ART adherence clubs will continue to expand for MSM clients and will be introduced to other KP groups. Successes with adherence clubs and other community engagement activities (e.g., CSC) continue to underscore the importance of recognizing the community as a critical stakeholder in the fight against HIV.

PEE1600

REACHING THE THIRD 90 IN THE PHILIPPINES: OUTCOMES OF THE CONNECT FOR LIFE MHEALTH ADHERENCE SUPPORT PROJECT

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BACKGROUND: The Philippines had a 203% increase in new HIV infections from 2010-2018, with the majority of infections among MSM. In 2018, an estimated 44% of Filipino PLHIV were on antiretroviral treatment (ART) and 39% were virally suppressed. Improving treatment coverage, retention, and adherence, and viral suppression are key to slowing the spread of the HIV in the Philippines.

METHODS: A 48-week cohort study enrolled ART patients in Metro Manila in a mHealth intervention, The intervention Connect for Life™ (CfL),supported by Johnson& Johnson, provided patients with individualized voice/SMS services – pill reminders, appointment reminders, symptom reporting, health tips, and adherence feedback. The analysis tracked changes in individual clinical and adherence outcomes over time. Additionally, visit attendance was compared between patients who received visit reminders and others who opted to not receive the service.

RESULTS: From October 2016 to December 2018, 462 patients received 13,506 voice calls reminding them to take their pills and/or attend their clinic visits. During these calls patients listened to 4,188 health tips. Patients who opted for SMSs received more than 24,000 SMSs including 7,004 visit reminders, 5,049 adherence feedback messages, 10,030 pill reminders and 2,844 health tips.

ART Adherence: The proportion of patients adherent to ART (self-reported >95% of pills in last 30 days) increased from 78.6% at baseline to 90.2% after 48 weeks of the intervention.

Visit Attendance: Patients who received visit reminders attended 38% of visits on the scheduled appointment date, while other patients attended 30% of visits as scheduled (F=9.00, p=0.0028).

Retention in care: 95% of study patients were still in care at SHIP or a transfer site after 48 weeks, 5% were lost to follow up or deceased.

VL Suppression: Among patients who had VL monitoring, the suppression rate was 91% with no significant change over the intervention. Access to laboratory viral load is a challenge in the country, and 21% (95/462) of patients did not have their VL monitored.

CONCLUSIONS: The CfL platform enhanced services for patients. The intervention led to improved visit attendance and pill-taking, sustained high rates of retention and viral suppression, and high levels of patient satisfaction.

PEE1601

PILL-TAKERS AND SUPERHEROES: IMAGE PREFERENCES FOR AN ANTIRETROVIRAL THERAPY (ART) ADHERENCE PICTOGRAM AMONG ADOLESCENTS AND YOUNG PEOPLE LIVING WITH HIV (AYPLHIV)

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BACKGROUND: The HIV epidemic among adolescents is one of the biggest public health challenges facing East and Southern Africa (ESA). AYPLHIV have documented poor adherence to antiretroviral therapy (ART), and AIDS-related illness is the leading cause of death amongst AYP in ESA. Evidence suggests that pictograms can support adherence to medicines amongst adults. Less is known about the efficacy of pictograms amongst AYP, and people living with HIV. Findings report on the piloting of a pictogram to support ART adherence among AYPLHIV.

METHODS: This research was undertaken as part of an intervention component of a longitudinal, mixed-methods study on ART adherence amongst AYPLHIV in South Africa (n=1057). The pictogram was developed based on study findings in collaboration with a graphic designer, a clinician, and two pharmacologists with expertise in visual pharmacology for patients in the Global South. Multiple pictogram options were developed and tested in a series of in-depth semi-structured interviews with AYPLHIV (n=6). Participants interpreted images, physically arranged them, acted out how they would like health workers to use the images, and provided input and advice into the images themselves as well as their use and modes of delivery.

RESULTS: Participants responded well to a 'comic book' style pictogram, colourful images, and imagery reflecting diversity in body sizes and ethnicities amongst young people. They preferred superhero images to demonstrate capability to overcome side-effects over other images of strength and resilience. Interviews revealed participant expertise in modes of administration of ART, facilitated conversations about side-effects and medicines-taking challenges, and the common misperception that ART must be taken with food.

[Figure]

CONCLUSIONS: Pictograms and empowering visual methodologies, in combination with other supportive and resilience-promoting factors may encourage AYPLHIV to take and persevere with their medication. Participatory methods that engage creative, young person-centred imagery can generate rich data that forefronts the expertise, preferences and voices of AYPLHIV.

PEE1602

FACTORS ASSOCIATED WITH SELF-REPORTED ADHERENCE AMONGST HIV POSITIVE PREGNANT AND BREASTFEEDING WOMEN IN AN HIV PEER SUPPORT PROGRAM: A MULTI-COUNTRY, MULTI-LEVEL ANALYSIS

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BACKGROUND: Consistent adherence to antiretroviral treatment is important for durable viral suppression, prolonged patient survival, and reduction of HIV transmission risk. Peer support programs using HIV positive lay health workers report high adherence amongst HIV positive pregnant and breastfeeding women. This study investigated multi-level factors associated with self-reported adherence amongst these women in an HIV peer support program.

METHODS: We conducted a secondary analysis of data collected from HIV positive pregnant and breastfeeding women in Eswatini, Lesotho and South Africa between 2016 and 2018. We augmented the data with population data from national Demographic and Health Surveys. The sample consisted of 12,551 HIV positive women registered into the mothers2mothers' Mentor Mothers program at health facility level. Adherence was defined as consistently reporting high adherence, 95% of the times they were seen by a Mentor Mother using at least one of two adherence self-reporting tools. We performed multi-level mixed-effects parametric survival analysis to identify factors associated with adherence at every time point in the program.

RESULTS: The median duration in the program in our sample from enrollment was 9 (IQR: 6-15) months. The median number of contact sessions with a Mentor Mother was 6 (IQR: 3-9). Every additional year in age at registration decreased adherence by 3% ($p<0.001$). An increase in the median number of contacts with postpartum women at the health facility increased adherence by 44% ($p=0.009$). An increase in the proportion of Mentor Mothers with high competence in ART initiation support and treatment monitoring increased adherence by 35% ($p=0.019$). An increase in the proportion of babies delivered in public healthcare facilities in a community linked to a health facility increased adherence by 1% ($p=0.004$). An additional month spent between contact sessions with a Mentor Mother, decreased adherence at every time point by 6% ($p<0.001$). Increase in the median daily caseload per Mentor Mother decreased adherence by 19% ($p<0.001$).

CONCLUSIONS: The results highlight the importance of having competent lay health workers in supporting client adherence to HIV treatment. Our findings also underscore the value of an optimum Mentor Mother caseload and an effective frequency and interval between contacts.

ADOLESCENT AND YOUTH PROGRAMMING

PEE1603

THE HIV TREATMENT CASCADE IN THE ERA OF RAPID ANTIRETROVIRAL INITIATION AMONG BEHAVIORAL HIV-INFECTED YOUTH THROUGH THE NATIONAL AIDS PROGRAM IN THAILAND

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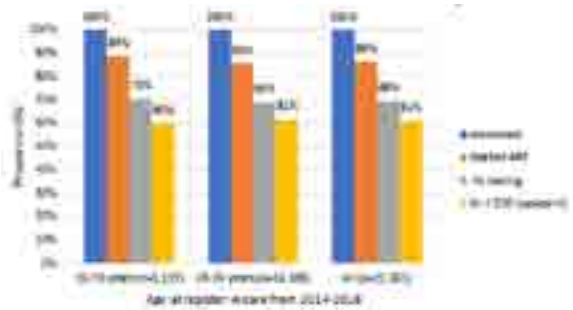
BACKGROUND: Thailand has effective universal coverage through the National AIDS program (NAP). Since 2014, national guidelines recommends antiretroviral treatment initiation at any CD4 level. Here we describe the HIV care cascade in youth and assess factors associated with attrition at each step.

METHODS: HIV-infected youth aged 15-24 years, diagnosed with HIV and registered to the NAP from 2014-2018 were studied. We classified youth into 2 groups: 15-19 years (adolescents) and 20-24 years (young adults). We described the proportion of youth at each cascade step: registration, starting treatment, first viral load (VL) testing, and achieving virological suppression (VL < 200 copies/mL). Subdistribution hazard ratios (SHRs) for predictors of loss to follow-up (LTFU) before ART initiation were calculated, with death considered as a competing risk.

RESULTS: 21,305 patients registered in HIV care (24% adolescent, 76% young adult). Median (interquartile range, IQR) CD4 count at diagnosis was 334 (177-490) cells/mm^3; 70% had asymptomatic HIV infection. A higher proportion of adolescents versus young adults initiated ART (89% vs 86%; P=<0.001, Figure). Overall, 86% started ART, mostly NNRTI-based (30% within 7 days, 62% within 30 days), 647 (3%) did not start ART, 494 (2%) died prior to starting treatment, and 1767 (9%) were LTFU. Youth with less advanced HIV stage (aSHR 1.23, 95%CI 1.06-1.43) and higher CD4 count at registration (≥ 350 vs < 350; aSHR 2.65, 95%CI 2.31-3.03) had a higher chance of LTFU before ART initiation. After starting ART, 14,790 (69%) had a VL test, 13,005 (61%) were virally suppressed and 7% had virological failure > 1000 copies/mL. Of 3,607 (17%) who had no VL test, 2,309 (11%) were LTFU, 351 (2%) died and 947 (4%) recently started ART and were not yet eligible for VL testing.



[Figure. The cascade of HIV care in Thai HIV-infected youth]

CONCLUSIONS: Comprehensive service delivery among Thai youth must be further strengthened to achieve higher rates of virological suppression.

PEE1604

AVAILABILITY AND AGE OF CONSENT FOR ADOLESCENTS' ACCESS TO SEXUAL AND REPRODUCTIVE HEALTH AND HIV PREVENTION SERVICES IN NORTH-CENTRAL NIGERIA

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BACKGROUND: Nigeria is a youthful country; ~25% of its 200 million people are adolescents 10-19 years old. Comprehensive, accessible sexual and reproductive health (SRH) services are important for all adolescents. We assessed the availability of preventive, adolescent-targeted SRH/HIV services at public health facilities.

METHODS: This cross-sectional survey was conducted at six of the largest hospitals in North-Central Nigeria between June-August 2019. Data on SRH/HIV service availability and costs were collected from healthcare worker interviews. Descriptive statistics were applied.

RESULTS: All six facilities had been delivering HIV services for >10 years, with 4/6 (67%) providing pediatric HIV services for >10 years, and 2/6 (33%) for 5 to <10 years.

For disease prevention: HIV testing, PrEP and male condoms were available at all facilities for free; syphilis screening was available at all facilities for a charge; gonorrhea/chlamydia screening were available and for a charge at 5/6 (83%) sites; genital herpes screening was available, and for a fee at 3 (50.0%) sites. HPV screening was not provided at any facilities surveyed.

Age of consent for access to HIV testing was between 14 and 17 yrs for 4 sites, 18 yrs for one, and no stated minimum for one site. Age of consent for condoms was 18 yrs at 4 sites, 10 yrs at one, and no stated minimum at one site. There was no data on availability for PrEP access to adolescent minors.

For contraception: Pregnancy tests were available at all facilities for a fee. Oral contraceptive pills, implants and injectables were available for free at 3/6 (50%) sites, for a charge at 2/6 (33%) sites, with one site stating no availability. Intrauterine devices were available at 5/6 (83%) sites, all for a charge.

CONCLUSIONS: The range of SRH/HIV services accessible to adolescents is limited by age stipulations, non-universal availability and fees. Age of consent for different services varied. Adolescents' access to PrEP was not institutionalized. Sub-optimal access to SRH/HIV services may limit the achievement of adolescent HIV prevention and treatment goals in Nigeria. There is a need to optimize and integrate adolescent SRH with HIV with respect to policy and service delivery in our study setting.

PEE1605

UPTAKE OF THE DREAMS INTERVENTION PACKAGE FOR HIV PREVENTION AMONG GIRLS IN EARLY ADOLESCENCE: FINDINGS FROM AN IMPACT EVALUATION IN URBAN KENYA

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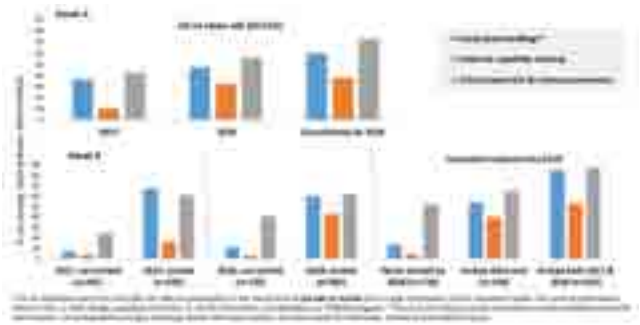
BACKGROUND: Provision of HIV prevention strategies in early adolescence (10-14 year-olds) may reduce new infections, yet few studies have evaluated programme implementation within this vulnerable population. We examined the extent to which a multi-sectoral complex intervention (the DREAMS Partnership) reached young adolescent girls in Kenya's Korogocho and Viwandani slums, where DREAMS was rolled-out from 2016.

METHODS: We utilized two annual rounds of data from a cohort study established in a sample of 10-14 year-old girls in 2017, randomly-selected from the Nairobi Urban Health and Demographic Surveillance System. We summarised proportions of self-reported invitation into DREAMS and uptake (defined as past 12 months' usage) of three primary interventions that were prioritised in this population. Analysis was restricted to girls followed-up in 2018.

RESULTS: In 2017, 606 10-14 year-old girls were enrolled into the study (response rate of 61% of n=1002 eligible), of whom 516 (85%) were followed-up in 2018. Self-reported invitation to participate in DREAMS increased from 49% (in 2017) to 77% (by 2018). Uptake in selected interventions increased over time: social asset building (37% and 47% uptake reported in 2017 and 2018 respectively (+10% [95%CI 5,16%])); school-based HIV and violence prevention (42% and 56% (+14% [8,20%])); and financial capability training (10% and 33% (+23% [18,27%])). By 2018, 59% had accessed at least two primary interventions, and 28% had accessed all three. Uptake was higher among those invited to DREAMS vs those not invited (e.g. 68% vs 7% for social asset building, and 17% vs 4% for financial capability training in 2017 (Figure 1)).



[Figure 1. Uptake of primary interventions among 10-14 year olds in Nairobi by round of interview overall (panel A), and by invitation to participate in DREAMS (panel B)]*

CONCLUSIONS: Delivery and integration of a multi-sectoral complex intervention is feasible and can reach young adolescent girls in challenging environments such as urban slums in Kenya. Additional time and effort may be needed to deliver the full DREAMS package of 3 priority interventions to targeted adolescent girls.

PEE1606

GROUP ANTENATAL/POSTNATAL CARE: A DIFFERENTIATED SERVICE DELIVERY MODEL OF CARE FOR PREGNANT AND BREASTFEEDING ADOLESCENT GIRLS AND YOUNG WOMEN (AGYW) IN UGANDA

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BACKGROUND: About 25 percent of pregnant women in Uganda are teenagers aged 10-19 years. Services delivery at ANC/PNC is homogenous for all, irrespective of mothers' age, needs and preferences. The WHO recommends Group ANC/PNC model as one of the best practices in differentiating pregnancy-care based on context and setting. Evidence around the full benefits of Group ANC in the Ugandan setting has largely been unknown. The 12-month pilot set out to determine G-ANC acceptability, utilization, retention, and preliminary effect on maternal and newborn outcomes among pregnant and breastfeeding AGYWs aged 10-24 years in Uganda.

DESCRIPTION: The G-ANC pilot targeted AGYWs 10-24 years, across 33 sites in 23 districts. The recruitment of eligible mothers was based on informed consent. Groups were made of 6 to 12 members characterized by age-bands (10-19 or 20-24 years), and gestational age, irrespective of their HIV status. Groups were tracked in cohorts that met monthly. The service package provided included group health education sessions, self-care activities and individualized obstetric exams by midwives. Linkages and referrals to other community services were integral to the model design. Midwives received pre-implementation training, on-site mentorships and collaborative learning sessions from peers. Duration in a group was 12 months for negative mothers and 18 for the HIV positive mothers and their infants.

LESSONS LEARNED: Findings: Cumulatively, 1,626 groups of 6-12 members had been formed. 15,219 AGYWs were enrolled. The overall mean length of stay in the group was 4.7 months. Among women who had delivered, the mean number of prenatal visits was 3.6 while each on average spent 6.8 months in the group. From group discussions, the majority of mothers highly approved the intervention recommending its scale-up.

What we have learned: Service differentiation may be more youth-friendly and beneficial for young mothers and a good predictor of skilled- birth attendance and good maternal and newborn outcomes.

CONCLUSIONS/NEXT STEPS: Differentiating services for mothers at high-risk of adverse maternal and newborn outcomes is strongly recommended. The Group-ANC/PNC model may have additional benefits for HIV positive AGYWs because of the retention dividend. There is a need to scale up this in Uganda with lessons learned from the pilot.

PEE1607

A DESIGNATHON TO CO-CREATE COMMUNITY-DRIVEN HIV SELF-TESTING SERVICES FOR NIGERIAN YOUTH: DESCRIPTIVE FINDINGS FROM A NATIONWIDE PARTICIPATORY EVENT

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BACKGROUND: Youth have a high risk of HIV infection in many LMICs but are infrequently involved in designing HIV interventions. Increased youth participation in HIV prevention may drive demand for HIV services. The purpose of this study is to describe how a designathon was used to develop HIV self-testing (HIVST) strategies for Nigerian youth. A designathon is an event that brings together diverse individuals, in teams that compete with one another, to solve a problem.

METHODS: We hosted a 48-hour designathon in which young people (aged 14-24 years) from across Nigeria designed HIVST project proposals tailored for youth. Each proposal included details about HIVST kit packaging, method of distribution, promotional strategies, and target population. Teams pitched their proposals on how to increase HIVST uptake and they were assessed based on desirability, feasibility, impact, and teamwork. A seven-member judging panel included youth, government officials, and HIV researchers. Judges ranked each team's proposal and invited teams with promising ideas to a four-week capacity-building program to further develop their ideas. We examined socio-demographic characteristics of participants and summarized themes from their HIVST proposals.

RESULTS: Forty-two youth on 13 teams participated in the designathon. The median team size was 3 participants (IQR: 2 – 4 participants). The median age was 22.5 years (IQR: 21 – 24 years), 67% were male, 47% completed tertiary education, and 50% resided in Lagos State. Themes from teams' proposals included HIVST integration with other health services, digital approaches, and student engagement. Three teams created HIVST proposals that integrated HIVST services with other self-care interventions (e.g. syphilis self-testing or other STD testing, condoms, lubricants, hand soaps), of which two were among the seven teams that planned to use social media to promote their HIVST approaches. Five teams focused on students within schools and outside-of-school settings. Judges identified seven teams with exceptional HIVST strategies; five were supported for further capacity building training.

CONCLUSIONS: Designathons provide a structured method for incorporating youth ideas, preferences, and styles into HIV prevention services. Youth development of HIVST strategies resulted in promising solutions, suggesting that youth have potential to contribute to HIV service delivery in the Nigerian context.

PEE1608

AWARENESS AND UPTAKE OF THE DREAMS HIV PREVENTION PACKAGE OVER TIME AMONG POPULATION-BASED COHORTS OF YOUNG WOMEN IN KENYA AND SOUTH AFRICA

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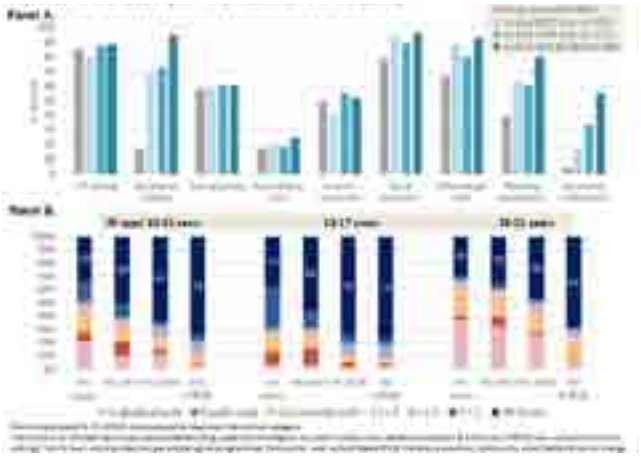
BACKGROUND: The DREAMS Partnership promotes a complex, multi-level package to prevent HIV among adolescent girls and young women (AGYW). We sought to identify changes over time in awareness and participation, including how interventions were combined, in three settings where DREAMS was implemented from 2016.

METHODS: Cohorts of ~1500 AGYW were randomly selected from demographic platforms in Kenya (Nairobi and Gem, western Kenya) and South Africa (uMkhanyakude, KwaZulu-Natal). AGYW aged 13/15-22 years were enrolled in 2017 (Nairobi and uMkhanyakude) or 2018 (Gem), with annual follow-up to 2019. We describe awareness of DREAMS, (self-)reported invitation to participate, and uptake of DREAMS interventions by: a) categories and levels of the PEPFAR Core Package; b) number of 'primary' interventions (7 intended for AGYW in Kenya; 5 in South Africa). Analyses were stratified by year invited (cumulative exposure to DREAMS) and age at enrolment.

RESULTS: Proportions aware and invited to DREAMS increased over time across all settings, to >80% aware and >50% invited by 2018 (highest among younger AGYW, e.g., 63% among 13-17s vs 39% among 18-22s in uMkhanyakude). HIV testing, school-based interventions (among younger AGYW), and social protection were the most accessed Core Package categories, while differences in uptake across categories of DREAMS invitation were greatest for novel DREAMS-specific interventions, e.g., social asset building (>75% among those invited in 2017&2018 in all settings, versus <20% among those never-invited) (figure).



[Figure. Uptake of DREAMS Core Package intervention categories (panel A) and 'levels' (panel B) among AGYW aged 13-22 years by invitation to participate in DREAMS (example of uMkhanyakude)]

Receipt of combinations of interventions (across individual, family and community levels) increased by year and cumulative exposure to DREAMS. Few AGYW accessed all intended 'primary' interventions by 2019 (e.g., <10% of 15-17s and ≤15% of 18-22s invited by 2018).

CONCLUSIONS: Over time, DREAMS reached high proportions of AGYW in all settings, particularly younger AGYW. Participation in combinations of interventions improved but uptake of the complete 'primary' packages remained relatively low.

PEE1609

INSIGHTS ON YOUTH LEADERSHIP IN HIV PROGRAMMING FOR ADOLESCENT GIRLS AND YOUNG WOMEN IN SOUTH AFRICA: LESSONS FROM PROGRAMME IMPLEMENTATION

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BACKGROUND: Youth leadership in the HIV response is critical in ending AIDS by 2030. With young women making up 67% of new HIV infections in sub-Saharan Africa, their leadership and participation in the design, implementation, monitoring and evaluation of HIV interventions is paramount. Supported by Johnson & Johnson (JnJ), in partnership with UNFPA South Africa, DREAMS Thina Abantu Abasha (DTAA) is a youth-led, peer-to-peer HIV prevention project, providing adolescent girls and young women (AGYW) aged 14-24 with leadership, employability and sexual and reproductive health and rights (SRHR) information and skills in four high-incidence districts in two provinces in South Africa.
DESCRIPTION: Three Youth Leadership Team (YLT) members conceived, planned and managed the programme in each province. Peer Educators (PEs) use their own community networks to recruit and enrol AGYW in a series of six structured workshops, one-day road shows and career days. Beneficiaries receive a workbook containing key programme content. Youth leadership includes Programme Trainers (PTs) who supervise and mentor PEs through weekly team meetings and Data Capturers (DCs) who capture and record reach. YLT, PTs and DCs meet weekly to monitor progress. YLT, JnJ and UNFPA support staff meet weekly for mentoring and support of youth leaders. DTAA is supplemented with social media and a radio drama.
LESSONS LEARNED: DTAA exceeded targets, reaching 1,198,380 beneficiaries between 2018-2019. Beneficiaries' health-related behaviour improved, with 16 % of sexually active programme participants aged 14-18 reporting having started to use condoms as a result of DTAA. 48% report starting to use contraception, and 41% testing for HIV. 64 % of programme participants aged 19-24 report having started to use condoms as a direct result of DTAA. 88% report starting to use contraception, and 100% testing for HIV. Entrepreneurial activity, employability and leadership increased amongst 19-24 year olds. Project success was attributed to age and geographic proximity of youth leaders. Complex communication chains and implementation logistics challenged programme efficiency. Lack of an exit strategy threatened project sustainability.
CONCLUSIONS/NEXT STEPS: Youth leadership increases the relevance and effectiveness of HIV prevention programmes for beneficiaries. Strengthening youth leadership and management skills and improving partner communication and implementation logistics can ensure greater programme sustainability.

PEE1610

ZAMBIA U-REPORT: STRENGTHENING YOUTH-LED HIV AND LINKAGES RESPONSE IN ZAMBIA THROUGH SMS AND DIVERSIFICATION

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BACKGROUND: The Zambia U-report platform was launched in 2016 by the National HIV/AIDS/STI/TB Council with support from UNICEF. Young people around the country do not have an electronic one stop access to health information. Access to applications like WhatsApp, Viber, Facebook, Skype and Twitter for communication using instant messaging or voice calling is on the rise. Close to 4,610,657 of Zambia's youth population are not on the SmS platform. Young people will increasingly access mobile phones over time and will continue to seek advice on health related issues from friends/internet access.
DESCRIPTION: Zambia U-report is a youth-led SMS-based HIV response initiative called that is using the shortcode 878. Initially, U-report is a platform that shares Sexual Reproductive Health (SRH) information with adolescent subscribers to promote behavioral change but the system's diversification over time, has enabled subscribers to have access to SMS information on a variety of topics. The answers and information received are confidential and available around the clock. U-Report in the last six years has proven to increase comprehensive HIV knowledge among adolescents and youths, addressing misconceptions about HIV prevention and treatment - increasing HIV treatment literacy and linkages to HIV services. The Zambia U-report system is able to carry out polls and campaigns through a feature that allows for polling questions to be sent out. This feature is essential for partners as the aggregated reports generated are used to create and implement tailored youth initiatives.
LESSONS LEARNED: Young people have a diverse range of questions and challenges - offering a one stop information center for access to information for integrated services offers for a wider scope. Implementing incentified initiatives is a best practice to increase engagement. Adolescent engagement is key for the platform's continued improvement and performance. Poll and campaign feature used by partners to reach a demographic of their interest.
CONCLUSIONS/NEXT STEPS: Intensify on the ground sensitization with influential young people and peer educators across the country. Maximise on social media engagement on platforms such as twitter and youtube. Create more linkages for specified services on the SMS platform. Increase polls sent out for partners to develop interventions from generated reports.

PEE1611

REACHING YOUNG MEN: EVALUATING THE IMPACT OF DREAMS ON HIV TESTING, CARE AND PREVENTION AMONG YOUNG MEN IN THREE DIVERSE SETTINGS

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BACKGROUND: DREAMS promotes combination HIV prevention amongst adolescent girls and young women. Acknowledging the role of young men missing from the care and prevention cascade in HIV transmission, we describe their uptake of HIV testing, care and prevention in three settings where DREAMS rolled-out from 2016.

METHODS: We describe uptake of HIV testing, voluntary medical male circumcision (VMMC) and antiretroviral therapy (ART) among 20-29 year-old men in general population cohorts in uMkhanyakude (KwaZulu-Natal, South Africa), Nairobi (Kenya), and Gem (Siaya, Kenya), following DREAMS roll-out (2016-2019).

RESULTS: In uMkhanyakude, N=1248, 1050, 585, and 1031 men aged 20-29 years participated in the 2015-2018 surveys. VMMC uptake increased steadily from 39.6% to 53.7% and 19.6% to 46.6% in men aged 20-24 and 25-29 respectively. Condom use increased, however by 2018 only 51.8% of 20-29 year olds who were HIV positive (based on anonymous serosurvey) were on ART.

In Nairobi, N=1833, 1902 and 1374 men aged 20-29 years participated in the 2017-2019 surveys. VMMC uptake was was 59.6% in 2017. There is no suggestion that VMMC or condom use improved. HIV testing in the past year was 66.2% in 2017 and 51.2% in 2019. Uptake of ART was low throughout.

In GEM, 994, 1855, and 1152 men aged 20-29 participated in the 2016-2018 surveys. HIV testing and ART almost doubled between 2016 and 2018, e.g. from HIV testing from 41% to 82% and ART from 39% to 80% in 20-24 year olds respectively. There was also an increase in condom use and VMMC, particularly in 20-24 year olds.

CONCLUSIONS: There is some evidence that following the rollout of DREAMS there was improvement in VMMC and condom use in both South Africa and Kenya. Improvements in engagement in the HIV treatment cascade was more heterogeneous with the greatest improvement seen in rural Kenya.

Setting	uMkanyakude, South Africa								Nairobi, Kenya						GEM, Siaya, Kenya					
Outcome	20-24				25-29				20-24			25-29			20-24			25-29		
Year	2015	2016	2017	2018	2015	2016	2017	2018	2017	2018	2019	2017	2018	2019	2016	2018	2019	2016	2018	2019
N (%) all men	792 (45%)	647 (37%)	370 (21%)	645 (46%)	456 (34%)	403 (28%)	215 (16%)	386 (36%)	971	1014	683	862	888	691	590 (16%)	1092 (29%)	702 (18%)	404 (14%)	763 (27%)	450 (16%)
HIV test past 12m	44.3%	46.8%	31.4%	43.7%	49.6%	53.6%	36.7%	41.2%	64.3%	57.7%	56.2%	68.6%	58.9%	55.1%	41%	82%	82%	44%	78%	73%
Ever VMMC	39.6%	41.7%	48.1%	53.7%	19.6%	27.8%	37.1%	46.6%	61.8%	55%	51.0%	57.1%	51.6%	46.4%	62%	75%	78%	46%	56%	59%
Aware of HIV status			69.0%	68.0%			58.5%	67.2%	N/A	N/A	N/A	N/A	N/A	N/A	39%	80%	81%	43%	79%	74%
ART ever			48.3%	48.9%			61.0%	53.7%	-	25.0%	11.1%	-	41.1%	14.3%	33%	79%	67%	53%	70%	71%
Men reported sex in the past 12m	371	324	88	181	248	231	50	105	652	646	460	767	767	608	259	745	491	286	671	396
Used condom at last sex	58.1%	50.5%	75.8%	67.6%	43.5%	49.6%	67.9%	66.0%	66.1%	64.7%	63.7%	37.4%	40.6%	35.7%	69.6%	86.2%	87.8%	69.4%	82.8%	70.2%

[PEE1611 Table]

KEY POPULATIONS IN HUMANITARIAN SETTINGS AND FRAGILE CONTEXTS (INCLUDING MIGRANTS)

PEE1612

SIERRA LEONE'S FIRST NEEDLE AND SYRINGE PROGRAM: LESSONS LEARNED

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BACKGROUND: Sierra Leone has a stable generalized HIV epidemic with a prevalence of ~1.5% and between 2.2-14% among key populations. Among an estimated 1500 people who inject drugs (PWID), HIV prevalence was 8.5% in 2015. Access to sterile syringes is low, with 25% of PWID reporting using sterile equipment at their last injection. To prevent HIV transmission among PWID, Sierra Leone's first Needle and Syringe Program (NSP) was launched in 2019.

DESCRIPTION: The three-year NSP pilot is supported by the Global Fund and implemented by Social Linkages for Youth Development and Child Link, with the support of the National HIV/AIDS Secretariat. The pilot aims to reach 1000 PWID in Freetown and the surrounding rural areas. In 2018, a feasibility assessment was conducted, followed by the development of an implementation plan and operational manual. Thirty staff were trained, and service delivery began in March 2019.

LESSONS LEARNED: PWID and stakeholders from the health, law enforcement, and government sectors were broadly supportive of NSP. Specific barriers to implementing NSP in-country included challenges in medical waste management and procurement and unavailability of drug treatment or medical care for PWID. NSP implementation also benefited from strengths including a well-established PWID peer network, a newly optimized unique identification code for key populations, and relationships with law enforcement. In its first 10 months of operation, the NSP distributed approximately 3000 sterile syringes to 317 unique clients, of whom 20.5% were female or transgender. Used supplies are collected and safely incinerated every two weeks.

CONCLUSIONS/NEXT STEPS: The successful implementation of NSP in Sierra Leone can serve as a model for harm reduction service scale-up in West Africa. Long-term sustainability of NSP in Sierra Leone will require ongoing efforts to align policing and law enforcement with public health goals; police remain hesitant to enter a for-

mal agreement to recognize the NSP. To address the holistic HIV prevention and health needs of PWID, service pathways for sexual and reproductive health, wound care, overdose prevention, and opioid substitution need to be developed with support from diverse funding partners. A 2020 IBBS survey will provide an updated population size estimate and evaluation targets.

PEE1613

FACTORS ASSOCIATED WITH ART DEFAULTING IN HIV PATIENTS THAT STARTED ART DURING THE TEST AND TREAT STRATEGY IN ANGOLA, 2018

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BACKGROUND: Non-adherence to antiretroviral therapy (ART) is related to therapeutic failure, proliferation of drug resistant strains and need for expensive second-line regimens. We aimed to investigate the factors associated with ART defaulting among PLHIV followed in tertiary hospitals in Angola after introduction of Test and Treat (T&T) strategy.

METHODS: A cohort study was conducted in Cajueiros and Sanatorio (National Tuberculosis Reference) Hospitals in Luanda. All HIV patients starting ART in February 2018 were included and followed up for a period of 12 months. The outcome of interest was non-adherence to ART at 12 months. Semi-structured questionnaires and review of clinical files were used for data collection. Significance level was set at $p<0.05$ for all hypothesis tests. Pearson chi-squared ($\chi 2$) tests, followed by multivariable logistic regression modelling were used to identify factors associated non-adherence to ART.

RESULTS: The majority (72%) of our cohort was female, between 29-39 years old (44.4%) and single (48.2%). More than half (54.3%) had advanced disease upon HIV. Over half of the patients (54,3%) were hospitalized at HIV diagnosis and 56.8% started ART on the day of the diagnosis. More than 70% of patients changed doctors during the 12 months follow-up period. Only 39.1% had a VL at 6 months and only 55% at 12 months follow-up.

After 12 months, only 46.4% were being followed and adherent to ART. Younger patients (18-28 years) and Sanatório hospital patients were more likely (OR: 4.5 and OR; 4.3, $p<0.05$, respectively) to be non-adherent.

CONCLUSIONS: Our study is the first in Angola to provide insightful data on factors associated to ART defaulting in Angola. The majority of patients were non-adherent at 12 months, which calls for caution when planning T&T expansion in country. Strategies to improve ART adherence are needed for younger and co-infected (TB/HIV) patients in Angola.

PEE1614

SOCIAL AND SEXUAL NETWORK STRATEGIES FOR TARGETED IDENTIFICATION OF HIV-POSITIVE CLIENTS AMONG KEY POPULATIONS (KP) IN DEMOCRATIC REPUBLIC OF THE CONGO (DRC)

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BACKGROUND: ICAP at Columbia University has partnered with the Ministry of Health in DRC to increase population access to comprehensive HIV prevention, care and treatment services. Among KP, increasing identification of HIV-positive individuals and linking them to ART is a major goal of ICAP's current work in DRC.

DESCRIPTION: During FY 2018-19, ICAP implemented social and sexual network testing and self-testing at KP-friendly facilities in Kinshasa province to specifically increase programmatic reach among partners of HIV-positive clients, hard-to-reach female sex workers (FSWs, above 35 years age) and men who have sex with men (MSM), and those at higher risk of HIV infection (living with partners having possible HIV infection or those having herpes or condyloma). Under this initiative, each eligible client is given up to 3 coupons to provide to their sexual partners or peers, and coupons are tracked bi-weekly through phone calls or text for 3 months. If the contacts who received coupons do not show up at facility, a team of counselors or providers advocate self-testing to such individuals, and they are then tracked in a similar manner for 3 months. Self-testing is also provided directly to partners and peers if the client is not comfortable using coupons.

LESSONS LEARNED: Between October 2018 and August 2019, 633 FSWs (among 1163 eligible) and 61 MSM (among 134) accepted coupons from ICAP-supported health facilities. 348 contacts of FSWs (36% of the coupons distributed) and 38 contacts of MSM (41%) returned the coupons, resulting in detection of 48 new HIV-positive clients (13.8% seropositivity) from the FSW-network, and 5 from the MSM-network (13.2% seropositivity).

Simultaneously, between December 2018 and August 2019, self-testing kits were provided to 214 FSWs and 90 MSM, resulting in a 47% rate-of-return (101 FSWs and 42 MSM). 24 new HIV-positive FSW clients (23.8% seropositivity) and 18 new HIV-positive MSM clients (42.9% seropositivity) were identified.

CONCLUSIONS/NEXT STEPS: These early results clearly demonstrate that ICAP's strategies for identification of HIV-positive KP clients have the potential to vastly improve programmatic reach among targeted groups. The approach would require further evaluation in terms of linkage-to-care and replication in similar high-burden settings.

PEE1615

OUTCOMES OF TRACKING LTFU IN POST-CONFLICT SETTING WITH HIGH POPULATION MOBILITY

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BACKGROUND: South Sudan is the youngest country in the world with a population of 11 million and an estimated HIV prevalence of 2.5%. Fewer than one in four people living with HIV (PLHIV) know their HIV status, contributing to low antiretroviral (ART) coverage (16%). Through the USAID-funded Strengthening the Provision of

Primary Health Care HIV Services (SPPHC) project, Jhpiego has been providing comprehensive HIV services across 8 facilities with a focus on identifying and linking newly identified PLHIV to ART and ensuring they are retained in care and achieve/maintain viral suppression.

DESCRIPTION: The SPPHC team works with community health workers (CHWs) and mentor mothers through civil society organization (CSO) partners to systematically follow-up clients who missed appointments and attempt to re-engage those lost to follow-up (LTFU) back into care. Clinical providers schedule appointments for all ART clients using an appointment book. A list of clients who missed appointments is abstracted weekly and passed on to CHWs for tracing by phone calls or a home visit. Outcomes of follow-up are documented, the data is aggregated into a LFTU database and outcomes are analysed and communicated back to the providers.

LESSONS LEARNED: SPPHC has improved systems to follow-up clients at community level, largely due to engagement of CSOs. Through close coordination with facility-based providers and supportive supervision, there has been an improvement in documentation, weekly reporting and action planning. One-third (29%) of the 994 clients LTFU and successfully traced Jan-Sep 2019 left care due to travel (many to Uganda); 10% self-transferred; 9% had issues with transport; and 8% reported stopping ART due to stigma. Challenges identified in the tracing process include closing of a widely used telecommunications provider leading to inability to phone clients, and inadequate documentation of physical landmarks near client homes.

CONCLUSIONS/NEXT STEPS: High population mobility accounts for a significant number of LTFU in the South Sudan context. Collaboration at country level and across borders is essential if clients are to be assured consistent access to care and treatment.

MENTAL HEALTH AND HIV

PEE1616

HIV/STI AND SOCIO-BEHAVIORAL PROFILES OF MEN WHO HAVE SEX WITH MEN ENGAGING SEXUALIZED DRUG USE BEHAVIOR IN AN INTEGRATED CHEMSEX CARE SERVICE IN TAIWAN

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BACKGROUND: The rising trend of sexualized drug use (SDU/chemsex) in men who have sex with men (MSM) in Taiwan has become a critical contributor to the HIV epidemic. HERO integrated service (Healing, Empowerment, Recovery of Chemsex) was established in southern Taiwan in November 2017 to provide care and prevention services for HIV, mental health and substance use. The objective of this study was to describe the HIV/STI and socio-behavioral profiles of MSM engaging SDU at the HERO integrated service.

DESCRIPTION: HERO provided three major SDU-related intervention services: chemsex recovery group, counseling using Chemsex Care Plan, and psychiatric referral and treatment. At each visit, clients filled out a survey including sociodemographics, PrEP history, risk behaviors, depression, and anxiety. Survey data were linked to administrative data that recorded services they utilized at each visit. SDU at the baseline was defined as more than 0% of their sex life involving substance, such as ecstasy, ketamine, methamphetamine, and GHB/GBL.

LESSONS LEARNED: HERO had 1602 visits up to August 2019. There were 115 MSM who reported having SDU at the baseline and 29% were HIV positive, followed by syphilis (26%). One-fifth of HIV-negative SDU clients currently used PrEP. Methamphetamine was the most popular choice of substance (45%), followed by erectile-dysfunction drugs (44%), Rush (36%) and alcohol (24%). Half of the MSM less than 25 years old used methamphetamine. Thirty percent had moderate or severe anxiety and 23% for depression. Ten SDU clients used the psychiatric services at HERO and half of them used more than half a year. Among 115 MSM with SDU, 13% attended our recovery group. For those who participated less than or equal to five times of recovery group (41%), self-reported SDU decreased. Yet, the decreasing trend was not observed among those who attend more than five times.

CONCLUSIONS/NEXT STEPS: Integrated health services for chemsex are necessary and in high demand. Recovery group members stay engaged with our group by continuing to attend them. An alarming trend for methamphetamine use was observed among the younger population and warranted more outreaching services. Besides SDU-related interventions, increasing uptake of PrEP among MSM engaging SDU should also be a priority.

PEOPLE LIVING WITH HIV AND TB

PEE1617

ADULT AND PEDIATRIC TUBERCULOSIS PREVENTIVE THERAPY IN SELECT PEPFAR-SUPPORTED COUNTRIES

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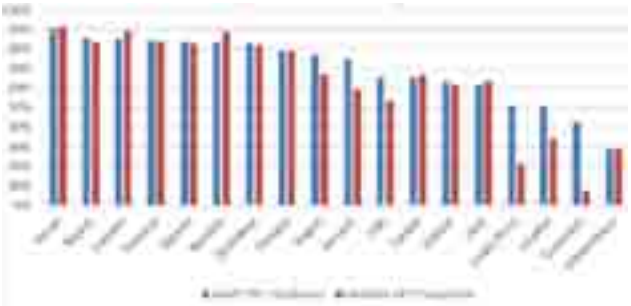
BACKGROUND: Tuberculosis (TB) is the leading cause of death among people living with HIV (PLHIV) worldwide and children with HIV are particularly vulnerable. TB preventive therapy (TPT) has been shown to decrease mortality among PLHIV, however scale-up has been limited. In 2018, the President's Emergency Program for AIDS Relief (PEPFAR) set ambitious targets for PEPFAR-supported countries to treat all PLHIV with TPT by 2021. This report describes the completion rates of TPT in PEPFAR-supported countries among adults and children.

DESCRIPTION: We conducted a descriptive analysis of TPT completion data collected in PEPFAR-supported countries from October 2018 – September 2019. During that time, a total of 24 programs reported TPT data to PEPFAR; five countries and one regional program where less than 5% of patients on ART initiated TPT were excluded. Using country-specific data, we determined TPT completion rates among PLHIV on ART during the one-year analysis period and compared completion rates among adults (≥15 years) and children (<15 years).

LESSONS LEARNED: Among 18 countries, seven had TPT completion rates of >80% for both adults and children. TPT completion rates ranged from 29% to 91% for adults and 8% to 92% among children. Completion rates for adults and children were within 5% of each other in 11 countries, but adults had TPT completion rates ranging from 10-35% higher than children in six countries. The greatest discrepancies between adult and pediatric TPT completion were in Cameroon (adults 43%, children 8%), South Africa (adults 51%, children 21%), and Lesotho (adults 50%, children 34%).



[Figure. TPT completion by age PEPFAR results, October 2018 - September 2019]

CONCLUSIONS/NEXT STEPS: In the majority of PEPFAR-supported countries that have launched TPT programs for PLHIV, completion rates among adults and children were comparable. However, pediatric TPT completion lags significantly behind adult TPT completion in 1/3 countries. Barriers to pediatric TPT should be identified and addressed to reduce TB morbidity and mortality among children.

PEE1618

OPTIMIZATION OF HIV TESTING AMONG PATIENTS WITH RESPIRATORY SYMPTOMS IN A TB CLINIC IN LUANDA, ANGOLA

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BACKGROUND: Angola, with a generalized HIV epidemic and 2% prevalence, is a country with a high burden of TB (estimated 107,000 cases in 2017) and 33% HIV/TB co-infection rate. Since 2015, ICAP at Columbia University has supported the Ministry of Health with HIV prevention and control efforts, including providing high-quality technical assistance in Luanda province. The national HIV counseling and testing guidelines established since 2013 recommend universal HIV testing for all diagnosed TB patients. However, opportunities to optimize and extend HIV testing services (HTS) to additional groups, including symptomatic respiratory patients, remain.

DESCRIPTION: In 2017, ICAP supported establishment of TB management services at the Cajueiros General Hospital (HGC) in Luanda, including the operationalization of the One-Stop Shop Model for TB/HIV co-infection patients. Under this program, HTS were not only offered to all diagnosed TB patients, but ICAP optimized and extended this service to all symptomatic respiratory patients referred for TB assessment and follow-up, as well as those diagnosed TB patients with a prior negative HIV test (within last 3 months) and recognized to be at risk for HIV. Systems were established for in-service mentoring of health providers, and routine monitoring of data with provision of feedback to clinical personnel.

LESSONS LEARNED: Between July 2018 and September 2019, 1,685 patients underwent HIV testing within the TB service at HGC. Of those, 886 (52.6%) were previously diagnosed TB patients who were re-tested, and 43 (4.9%) found to be HIV-positive. The remaining 799 (47.4%) were symptomatic respiratory patients, with 51 (6.4%) testing HIV-positive. Thus, among the 94 patients testing HIV-positive within the TB service during this period, 54.2% were symptomatic respiratory patients without current diagnosis of TB at the time of HIV test.

CONCLUSIONS/NEXT STEPS: These early results demonstrate the impact of expanding the offer of HTS within TB services to all symptomatic respiratory patients, leading to increased identification of new HIV-positive clients. ICAP is currently advocating with the National HIV program for a revision of the current testing guidelines to incorporate this important and impactful testing approach in Angola.

PEE1619

IMPLEMENTATION OF ROUTINE TB SCREENING AND LINKS TO TPT INITIATION IN 24 PEPFAR-SUPPORTED COUNTRIES, OCTOBER 2018-SEPTEMBER 2019

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BACKGROUND: Tuberculosis (TB) is the leading cause of death for people living with HIV (PLHIV) and routine symptom-based TB screening of antiretroviral (ART) patients and initiation of TB preventive therapy (TPT) are critical health services in countries with dual epidemics. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) monitors TB screening and TPT initiation efforts to assess program implementation. We analyzed this program data to assess screening and TPT treatment efforts.

DESCRIPTION: We analyzed data from 24 PEPFAR supported countries to determine the number of PLHIV on ART screened for TB symptoms and of those who screened TB negative, how many were initiated on TPT between October 2018-September 2019*.

We compared program results for two 6-month-intervals: October 2018-March 2019 and April 2019-September 2019 and evaluated screening and TB initiation rates by agender and age (<15, and 15+).

[Figure 1. Key TB screening and TPT initiation in 24 PEPFAR-supported countries, October 2018 - September 2019]*

LESSONS LEARNED: As shown in Figure 1, 84.0% of ART patients were screened for TB during period 1 however only 76.4% were screened during period 2. Of those, screened 96.1% and 97.2% were

TB symptom negative for period 1 period 2, respectively. The proportion of those who screened TB negative and were initiated on TPT increased from 6.9% in period 1 to 11.6% in period 2. In terms of subpopulations, for both time periods, the highest percentage of males <15 were screened for ART, and the lowest category was for males 15+. The increase in TPT initiation occurred across all age and sex categories.

CONCLUSIONS/NEXT STEPS: Most PEPFAR-supported programs were routinely screening ART patients, however gaps remain. The proportion of PLHIV on ART screened for TB symptoms decreased during these two time periods. The proportion of PLHIV on ART initiated on TPT increased between periods 1 and 2. Improving rates of TB symptom screening and TPT initiation are necessary as TPT scale-up efforts continue.

DIFFERENTIATED SERVICE DELIVERY

PEE1620

UNDERSTANDING HOW COMMUNITY-BASED ANTIRETROVIRAL DELIVERY INFLUENCES ENGAGEMENT IN HIV SERVICES: A QUALITATIVE ASSESSMENT OF SOUTH AFRICA'S DIFFERENTIATED CARE CCMDD PROGRAMME

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BACKGROUND: Providing antiretroviral therapy (ART) for millions of people living with HIV requires efficient, patient-centred models of differentiated ART delivery. In South Africa, the Centralised Chronic Medication Dispensing and Distribution (CCMDD) programme allows over 1 million people who are clinically stable to collect ART from community pick-up points and private pharmacies, instead of attending clinics. We aimed to understand how the CCMDD programme influences patients' engagement in HIV care.

METHODS: Between March-August 2018 we conducted in-depth interviews and focus group discussions with patients receiving ART and health-care workers in Durban, South Africa. We audio recorded interviews and discussions which we then transcribed and translated. We used Nvivo software to perform a deductive thematic analysis, with a framework informed by social practice theory, which highlights the *materialities*, *meanings*, *competencies* and *other social practices* that underpin patients' engagement in HIV care.

RESULTS: We conducted 25 interviews and four focus groups with a total of 55 patients (median age 31, 56% women), and interviewed eight healthcare workers (median age 39, all nurses). For standard clinic-based HIV care, participants reported long waiting times, poor confidentiality, and restricted opening hours as major barriers to engagement. In contrast, CCMDD allowed quicker and more convenient ART collection in the community, which reduced disruption to patients' lives. This particularly benefitted some employed patients, helped to normalise HIV, and was seen as a reward for taking ART well. Some patients used this to motivate better adherence. Patients also understood that they would receive less clinical oversight in CCMDD, but could return to the clinic for additional care. At private pharmacies some patients reported receiving inferior treatment compared to paying customers, and some worried about inadvertently revealing their HIV status. Patients and healthcare workers also had to negotiate problems with implementation of CCMDD, including some pharmacies reaching capacity or only allowing ART collection at restricted times.

CONCLUSIONS: In South Africa, the CCMDD programme reduced *material* barriers to attending clinics, changed the *meanings* associated with collecting ART and was less disruptive to *other social practices* in patients' lives. Expansion of community-based ART delivery programmes may help to facilitate and sustain engagement in HIV care.

PEE1621

ASSESSMENT OF CLINICAL OUTCOMES AND RISK OF LTFU AMONG PATIENTS RECEIVING DIFFERENTIATED HIV CARE: RESULTS FROM A PROSPECTIVE COHORT STUDY IN NORTHERN TANZANIA

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BACKGROUND: Provision of HIV services in Tanzania is centred at the facility level. With an increasing number of patients due to the Universal Test and Treat policy and longer survival, facilities become increasingly overwhelmed. Differentiated Care Models (DCM) provide various time-saving care packages to HIV clients, based on their needs as an alternative. It is important to tailor such models to local settings. This study assessed the effectiveness of an ongoing community DCM intervention in Shinyanga, Tanzania, in comparison to the standard of care (SoC, facility-based model), in terms of retention in care, treatment adherence, stability over time and loss to follow-up (LTFU).

METHODS: This prospective cohort study included stable patients (stability defined as adherence >95%, viral load <200cp/ml, on ART >6 months, no pregnancy or opportunistic infections) attending routine HIV care in Bugisi (rural) and Ngokolo (urban) health facilities between July 2018 and September 2019. Eligible patients were offered to participate in the DCM, nurse-overseen and Community Health Worker (CHW)-led. Retention and adherence were compared using Chi-square; logistic and Cox proportional hazards regression models were used to analyse factors associated with patients' stability over time and the risk of LTFU respectively.

RESULTS: Of 2,521 patients, 24.7% received DCM and 75.3% SoC. DCM patients were slightly older (mean 42.6 versus 37.8 years) and less likely to be male (32% versus 36%). One-year retention in care and treatment adherence were better among DCM patients than SoC: 92% versus 82% and 99.2% versus 95.7%, respectively (p=0.001). SoC

patients were more likely to be unstable over time (OR=2.27; 95% CI:1.44-3.55). Urban patients were more likely to become unstable over time than rural (OR= 3.05; 95%CI: 2.05-4.56). There was no difference in LTFU between patients attending SoC and DCM (HR=2.42; 95%CI: 0.71-8.19).

CONCLUSIONS: Patients attending DCM demonstrate better retention in care, treatment stability and good treatment adherence. This highlights the effectiveness of DCM and the potential of CHW in delivering community-based HIV services that fit local Tanzanian context. The risk of LTFU was not different between patients attending SoC and DCM. Results from this study could be used to extend this DCM to other similar settings.

PEE1622

DIFFERENTIATED SERVICE DELIVERY MODEL FOR ADOLESCENTS: EXPERIENCE FROM WESTERN KENYA

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BACKGROUND: In Kenya, an estimated 133,000 adolescents are living with HIV. As of September 2019, the national estimate for viral suppression (VS) among adolescents was 81%, well-below the program target of 95%. In 2017, HIV care and treatment programs in Kenya initiated a differentiated service delivery (DSD) model designed for adolescents called Operation Triple Zero (OTZ). OTZ focuses on empowering adolecents to maintain zero missed appointments, zero missed drugs/medications, and zero viral load (VL) copies. We examined trends in uptake of VL testing and suppression among OTZ participants.

METHODS: We conducted a cross sectional analysis of routinely collected and aggregated data from January 2018-September 2019 from adolescents (10-19 years) participating in OTZ at 70 sites supported by UMB Timiza program in Kisii and Migori counties. Outcomes of interest were attendance to scheduled appointments, uptake of VL testing and suppression. We evaluated trends in outcomes using a non-parametric test of trend and differences in outcomes between boys and girls using linear regression.

RESULTS: During the study period a total of 2,882 adolescents participated in OTZ including 1,663 (58%) girls and 1,219 (42%) boys. Overall, an average 91% of the enrolled adolescents attended their scheduled appointments, uptake of VL testing was 79% and VS was 82%. Sex was not associated with uptake of VL testing (p=0.29), adherence to scheduled appointments (p=0.33) and VS (p=0.86). For girls and boys, we found a statistically significant positive trend in VS during the course of the program from 80% to 89% (p<0.01). There was no change in appointment adherence (p=0.13) nor uptake in VL testing (p=0.52).

CONCLUSIONS: Among adolescents who participated in the OTZ, there was a significant increase in the proportion of adolescents who were virally suppressed during the implementation of OTZ. Strenghtening VL uptake is needed to capitalize on high adherence to the program.

PEE1623

SMALL CHANGES IN ELIGIBILITY CRITERIA COULD HAVE SIGNIFICANT IMPLICATIONS FOR DIFFERENTIATED SERVICE DELIVERY MODEL UTILIZATION IN ESWATINI, MALAWI, TANZANIA AND ZAMBIA

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BACKGROUND: Differentiated service delivery (DSD) models can support adults on ART to achieve optimal clinical outcomes. Given significant variability in definitions of criteria for DSD models, we assessed how differences in criteria could impact the number of participants eligible, to better inform DSD expansion.

METHODS: We estimated DSD cohort sizes under scenarios of differing eligibility criteria using data from the Population-based HIV Impact Assessment Project, nationally-representative, cross-sectional, household surveys. We estimated proportions of adults eligible for DSD in Eswatini, Malawi, Tanzania, and Zambia (among those ≥18 years, on first-line ART regimen, not undergoing evaluation or treatment for tuberculosis, and <5 missed ART doses in prior 30 days) for scenarios: varying viral suppression levels (<40, 200, or 1000 copies/mL), time on ART (≥3, 6, or 12 months), and pregnancy/breastfeeding. All estimates use survey weighting with jackknife variance estimation. We then applied these proportions to UNAIDS 2019 midyear treatment coverage estimates among adults in each country.

RESULTS: The proportion and number of adults eligible for DSD varies greatly based on the definition used. The highest proportion of adults eligible for DSD (65.0%; 95% CI: 56.7-72.6%) would be achieved by including pregnant/breastfeeding women (Model D); and the lowest proportions would result from defining viral suppression as <40 copies/mL (52.3%; 95% CI: 44.8-59.6%) (Model B) or by requiring individuals to be on ART for ≥12 months (53.1%; 95% CI: 44.2-61.8) (Model F). Depending on criteria used, cohort sizes for DSD programs could increase by up to 20-30%, approximately equivalent to an additional 150,000 adults in Tanzania and Zambia, 100,000 in Malawi, and 32,000 in Eswatini.

	Eswatini (n=2369) % (95% CI)	Malawi (n=1569) % (95% CI)	Tanzania (n=1026) % (95% CI)	Zambia (n=1434) % (95% CI)	Overall (n=4964) % (95% CI)
Model A: ≥18 years, on first-line ART regimen at time of survey, on ART ≥6 months, not suspect for TB in prior year (in MW and ZM) or not currently on TB treatment (in ES and TZ), <5 doses of ART missed in prior 30 days, not pregnant or breastfeeding (if female), viral load (VL) <1000 copies/mL	66.4 (64.5-68.3)	62.3 (59.2-65.2)	51.6 (47.6-55.5)	61.4 (58.5-64.3)	58.1 (47.6-68.0)
Model B: same as Model A, but VL <40 copies/mL	58.2 (56.1-60.2)	60.2 (57.2-63.1)	43.9 (40.0-47.9)	54.9 (51.9-57.9)	52.3 (44.8-59.6)
Model C: same as Model A, but VL <200 copies/mL	64.2 (62.2-66.2)	60.9 (57.9-63.9)	50.0 (46.0-53.9)	60.1 (57.2-63.0)	56.6 (47.0-65.8)
Model D: same as Model A, but excluding pregnancy/breastfeeding criteria	71.4 (69.5-73.3)	70.9 (68.3-73.4)	57.0 (52.9-61.1)	69.4 (66.4-72.2)	65.0 (56.7-72.6)
Model E: same as Model A, but on ART ≥3 months	68.9 (66.9-70.8)	64.9 (62.1-67.7)	52.7 (48.8-56.6)	63.6 (60.7-66.4)	58.6 (47.7-68.7)
Model F: same as Model A, but on ART ≥12 months	53.1 (44.2-61.8)	57.5 (54.2-60.7)	46.3 (42.5-50.2)	56.8 (53.6-59.9)	53.1 (44.2-61.8)

[Table 1. Weighted proportion of adults on ART in Eswatini, Malawi, Tanzania, and Zambia eligible for differentiated service delivery models by varying eligibility criteria]

CONCLUSIONS: These estimates may be useful to policymakers for planning resource allocation necessary for DSD expansion. Inclusion of pregnant/breastfeeding women, using a stricter definition of viral suppression, or exclusion of those on ART <12 months may have the greatest impact on DSD coverage, and depending on uptake, may also influence utilization.

PEE1624

PATIENT COSTS AND SATISFACTION ASSOCIATED WITH DIFFERENTIATED MODELS OF SERVICE DELIVERY FOR HIV TREATMENT IN SUB-SAHARAN AFRICA

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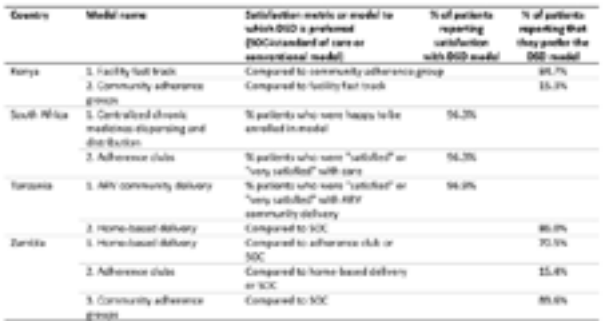
BACKGROUND: Anticipated benefits of differentiated service delivery (DSD) models for HIV treatment include lower costs to patients and greater patient satisfaction. We reviewed recent sources that reported empirical information on patient costs and satisfaction.
METHODS: We searched PubMed, Embase, Web of Science, and international HIV conferences for peer-reviewed publications/presentations and conducted a targeted web search to identify unpublished reports. Sources were included if they: a) reported primary data on outcomes of a cohort of ART patients enrolled in a DSD model in sub-Saharan Africa since 2016; b) contained estimates of costs (time or money) to patients; or c) reported satisfaction with or preferences for DSD model participation.
RESULTS: Patient costs were reported for 9 DSD models in 4 countries; 5 also provided a conventional care comparison (Table 1).

[Table 1. Patient costs of receiving ART in differentiated service delivery models]

All sources with a comparison showed a substantial reduction in patients' monetary costs and/or time spent obtaining ART. A measure of patient satisfaction or preference was also reported for 9 models in 4 countries (Table 2).



[Table 1. Patient satisfaction with and preference for DSD models]

A large majority of patients were satisfied with their DSD model, and most preferred a DSD model to conventional care; group models (e.g. adherence clubs) were less popular than individual models.
CONCLUSIONS: Only a handful of studies have compared the costs to patients of DSD models to conventional care and/or reported patient satisfaction with DSD models. There is a strong likelihood of publication bias in this literature, but available evidence suggests that such models substantially reduce patient costs of seeking ART and are preferred to conventional care.

PEE1625

"YOU ARE NOT BENEFITING US BY KEEPING US AWAY": WHY DO SOME ELIGIBLE PEOPLE ON ANTIRETROVIRAL THERAPY (ART) DECLINE TO PARTICIPATE IN ETHIOPIA'S APPOINTMENT SPACING MODEL WITH 6-MONTH ART DISPENSING?

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BACKGROUND: Ethiopia has prioritized the transition of people doing well on antiretroviral therapy (ART) into an appointment spacing model (ASM) with twice-yearly health facility (HF) clinical visits at which 6 months of ART are dispensed. It is one of the first countries in sub-Saharan Africa to take biannual multi-month scripting and delivery (6-MMD) to scale. We conducted a qualitative study to explore why some eligible individuals choose not to enroll in ASM.
METHODS: We convened 12 focus group discussions (FGDs) at three HFs in Ethiopia's Oromia region. The 93 participants were all ASM-eligible and had been on ART for ≥ 1 year; participants in 6 FGDs had chosen to enroll in ASM and participants in the other 6 FGDs had chosen not to enroll in ASM. We conducted inductive and deductive thematic analyses.
RESULTS: Participants' median age was 41 years (IQR 12) and 89% had been on ART > 5 years. Those in ASM were very satisfied. Three key themes emerged when those not in ASM explained their rationales: concerns about medication storage; dissatisfaction with decreased visit frequency; and misunderstandings about ASM. Non-enrolled participants feared that they could not store 6 months of ART safely, securely, and privately, e.g., that the ART would be vulnerable to heat-induced spoilage, access by children, and/or discovery by others leading to forced HIV status disclosure and stigmatization. They also preferred more frequent HF visits which enabled social bonding with providers and other patients, the reassurance of frequent check-ups, and ongoing counseling and adherence support. Concern about synchronizing ART pick-ups with those of an HIV+ partner or child also deterred ASM enrollment. Finally, many non-enrolled participants misunderstood ASM, thinking that they would be limited to twice-yearly HF visits, that they would receive different ART than in the conventional model, and/or that the ART dispensed would expire prior to their next visit.
CONCLUSIONS: Not all intended ASM benefits were viewed as patient-centered, and ASM is unlikely to be the preferred model for everyone. However, some resistance to ASM may be mitigated by

optimizing ART packaging, enhancing pre-enrollment orientation, strengthening community engagement, and/or providing the option of supplemental community-based support services.

PEE1626

ECONOMIC EVALUATION OF DIFFERENTIATED SERVICE DELIVERY MODELS FOR ART SERVICE DELIVERY IN LESOTHO: COST TO PROVIDER AND COST TO PATIENT

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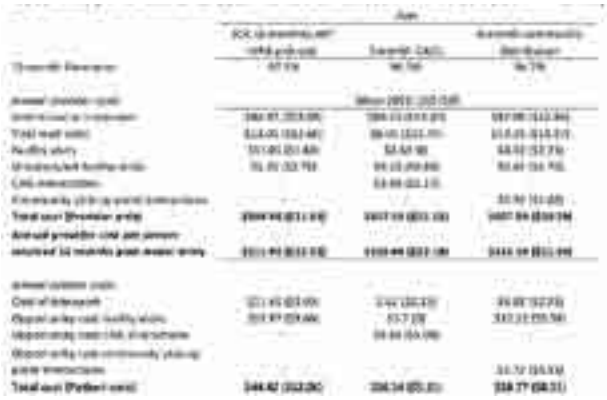
BACKGROUND: Lesotho, the country with the second highest HIV prevalence (23.6%) in the world, has made considerable progress towards achieving UNAIDS' "95-95-95" targets. Recent success in improving treatment access to all known HIV positive individuals has severely strained existing healthcare infrastructure and financial and human resources. Lesotho has a largely rural population, creating a significant burden to patients in terms of time and financial costs to visit healthcare facilities. With data from a cluster randomized non-inferiority trial of community-based differentiated models of multi-month ART delivery implemented in 2017-2019, we evaluated the impact of differentiated service delivery (DSD) models for ART delivery on costs to the provider and patient in Lesotho.

METHODS: For this analysis, we estimated the total cost per patient retained 12 months after entry into a DSD model. We evaluated the standard of care (SOC) (quarterly facility visits and ART dispensing), community adherence groups with 3-month dispensing (CAGs), and community ART distribution with 6-month dispensing. We calculated the cost per patient treated from provider and patient perspectives and the cost per patient retained from the provider perspective. Provider costs included medications, laboratory tests, clinical visits, and interactions with DSD models. Patient costs included transport time and opportunity costs to clinical visits and interactions with DSD models. Costs are reported in 2018 USD.

RESULTS: The 12-month retention and average annual cost of providing HIV care and treatment was comparable across all three study arms (Table 1).



[Table 1. Annual provider costs, cost per person retained at 12 months post model entry, and patient costs by study arm]

There was a strong reduction in patient costs, however, for both DSD arms: 63% reduction for CAGs compared to SOC and 58% reduction for 6-month community ART distribution compared to SOC.

CONCLUSIONS: In Lesotho, community-based DSD models for HIV treatment are not likely to reduce costs for providers. They offer a substantial savings to patients, however, and may thereby support long-term adherence and retention in care.

PEE1627

RETENTION IN CARE AND VIRAL SUPPRESSION IN DIFFERENTIATED MODELS OF HIV TREATMENT DELIVERY IN SUB-SAHARAN AFRICA COMPARED TO CONVENTIONAL CARE: SCARCE EVIDENCE, DIVERSE OUTCOMES

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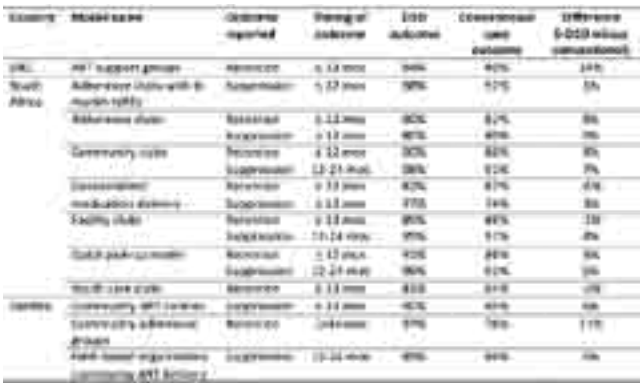
BACKGROUND: For differentiated service delivery (DSD) models of HIV treatment to be successful, they must achieve equivalent or better clinical outcomes for patients, in addition to other anticipated benefits such as reduced costs. We reviewed recent evidence to compare clinical outcomes in DSD models to those in conventional care.

METHODS: We conducted a comprehensive, rapid review of the published literature, conference abstracts, and unpublished reports to identify studies that reported retention in care or viral suppression in DSD models in sub-Saharan Africa measured ≤12 months or 12-24 months after model entry (i.e., within the first or second year of model participation) based on patient data accrued since 2016. Single-arm estimates that did not provide a conventional care comparison or reported outcomes other than retention or suppression were excluded.

RESULTS: For all of sub-Saharan Africa, we identified 8 sources, of 25,932 sources screened, that provided quantitative estimates of the outcomes sought and included comparison data. These sources described a total of 11 DSD models, with 16 clinical outcomes reported (Table).



[Table. Outcomes of DSD models with comparisons to conventional care since 2016]

Three quarters of the estimates (12/16) were from South Africa, with the remainder from Zambia (3) or DRC (1). Most were group models, such as adherence clubs. 10/16 DSD outcomes represented small (≤10%) improvements over conventional care. Two group models

showed large improvements (>20%) in retention over conventional care, while three models had slightly worse retention than conventional care. Our analysis excluded 28 sources that reported 46 clinical outcomes of DSD models without comparison data.

CONCLUSIONS: Despite rapid scale up of DSD models, rigorous evaluations of clinical outcomes are scarce. Available data suggest that many but not all DSD models produce equivalent or slightly better outcomes than conventional care, though publication bias in favor of positive outcomes is likely. More studies that include comparisons to conventional care or other models are needed.

PEE1628

VIRAL SUPPRESSION IN STABLE HIV+ PATIENTS IN TWO COMMUNITY MODELS OF ART DELIVERY: A CLUSTER-RANDOMIZED TRIAL NESTED WITHIN THE HPTN 071 (POPART) TRIAL IN LUSAKA, ZAMBIA

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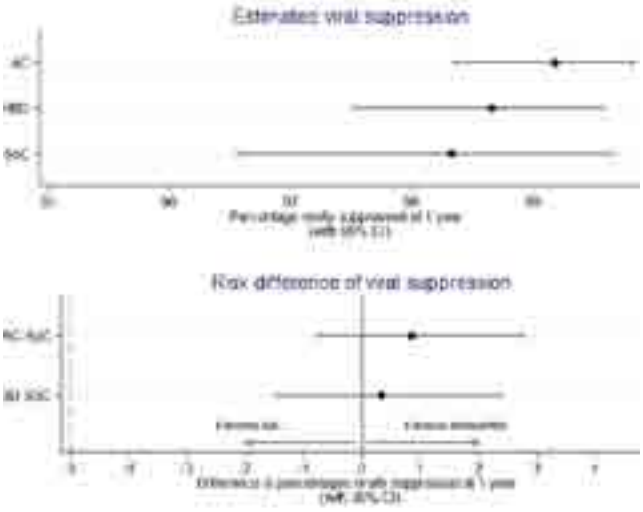
BACKGROUND: Non facility-based antiretroviral therapy (ART) delivery for stable HIV+ patients may increase sustainable ART coverage in resource-limited settings. Within the HPTN 071 (PopART) trial, two models, Home-Based Delivery (HBD) or Adherence Clubs (AC), were offered to assess whether they achieved similar viral load suppression (VLS) to standard-of-care (SoC).

METHODS: A three-arm cluster-randomized non-inferiority trial, nested in two urban HPTN 071 trial communities in Zambia, randomly allocated 104 zones to SoC (35), HBD (35) or AC (34). ART and adherence support were delivered 3-monthly at home (HBD), adherence clubs (AC) or clinic (SoC). Adult HIV+ patients defined as "stable" on ART, were eligible for inclusion. The primary endpoint was VLS at 12 (+/-3) months, defined as RNA <1000 copies/ml, with a non-inferiority margin of 5%.



[Figure 1. Prevalence and risk difference of viral load suppression AC = Adherence club, HBD = Home-based delivery, SoC = Standard of care, AC - SoC = Risk difference between AC and Soc, HBD - SoC = Risk difference between HBD and Soc, Dashed line = non-inferiority margin]

RESULTS: Between May-December 2017, 2,489 participants were enrolled (781 SoC, 852 HBD, 856 AC). A higher proportion had VL measurements in the primary outcome window in HBD (60.8%) and AC (56.7%) arms than in the SoC (49.9%) arm (p=0.002). Of 1096 missing observations, 152 were attributable to causes (25 deaths, 37 relocations, 90 LTFU), 690 participants had VL results outside the window period and 254 did not have a VL result after 9 months. The prevalence of VLS was estimated to be 98.3% (95%CI: 96.6%-99.7%) in SoC, 98.7% (95%CI: 97.5%-99.6%) in HBD and 99.2% (95%CI: 98.4%-99.8%) in AC (Figure). This gave an estimated risk difference of 0.34% for HBD compared to SoC (95%CI: -1.46% to +2.37%) and 0.85% for AC compared to SoC (95%CI: -0.76% to +2.77%). There was strong evidence (p<0.001) that both community ART models were non-inferior to SoC.

CONCLUSIONS: Community models of ART delivery were as effective as facility-based care in terms of viral suppression.

PEE1629

THE LANDSCAPE OF DIFFERENTIATED SERVICE DELIVERY MODELS IN MALAWI, SOUTH AFRICA, AND ZAMBIA

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BACKGROUND: Most countries in sub-Saharan Africa are scaling up ART differentiated service delivery (DSD) models, but the scale of routine implementation and its impact on patients and the health system is poorly understood. Current national data systems do not adequately capture this information, making implementing partner (IP) organizations the best source of current data. We report interviews with all major IPs in Malawi, South Africa, and Zambia.

METHODS: In 2019, we conducted semi-structured interviews with the main NGOs supporting the implementation of DSD models. For each DSD model, we collected population eligible, model characteristics, scale of implementation, data availability, and other information.

RESULTS: We interviewed 28 organizations supporting 94 DSD models in the three countries (Table).

Average months of ARVs dispensed in model*	Number of models described**	Malawi	South Africa	Zambia
1 month	11	6	3	2
2 months	57	1	56	0
3 months	15	7	2	6
1 or 3 months (patients typically start with 1 month, then move to 3 months)	3	1	1	1
6 months	9	3	1	5
5 or 6 months (typically previously dispensed 3 months but transitioning to 6 months in line with national policy)	14	7	0	12
Not reported	5	2	3	0
Total reported in interviews	**94**	**22**	**46**	**26**

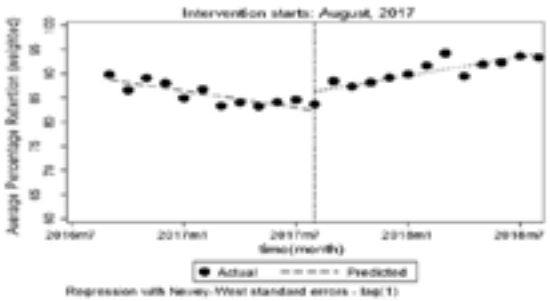
*Includes DSD models for both suppressed and unsuppressed patients, all ages and risk groups, excluding PMTCT programs.
**Specific models of care are present more than once in this table, as each instance of an implementing partner supporting a given model is counted separately. For example, multiple partners in South Africa support FDMOD, each is counted as a separate model in this table.

[Table. Months of ART dispensed, by country]

Of these models, 40% delivered services to individuals outside facilities, primarily medication pickup points; 27% were facility-based individual models, such as fast-track services and specialized key population clinics; 28% were healthcare worker-led group models, predominantly adherence clubs; and 5% were client-led groups such as community ART groups (CAGs). Most (55%) models were limited to "stable," virally suppressed adults, but each country had some mod-

els designed for advanced disease patients and key populations. Six-month dispensing was well established in Zambia and becoming more common in Malawi; 2-month dispensing remained the norm in South Africa. Models for stable patients typically required 2 full clinic visits and anywhere from 0 to 12 additional DSD interactions per year. IPs observed that 6-month dispensing may reduce patient interest in group models and others requiring ≥ 2 interactions/year. Data systems for recording DSD model scale up and participation vary by IP and are not centralized.

CONCLUSIONS: The diversity of differentiated service delivery models for HIV treatment currently being implemented in Malawi, South Africa, and Zambia hampers generalization but offers multiple examples for other countries to consider.



[Figure 1. Net percent retention of those current in care compared with 24 months prior, subtracting out the new on treatment during that time interval. Values are plotted from 12 months prior to differentiated care start to 12 months afterwards. Mean value over the 57 facilities is weighted by patient volume (facility size).]

PEE1630

RETENTION IN HIV CARE AMONG DIFFERENTIATED CARE STABLE PATIENTS IN A PROGRAM SETTING IN KISUMU, KENYA

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BACKGROUND: Kenya adoption of universal treat-all policy in 2016 led to rapid increase in adults on treatment. To relieve the additional burden on impacted health facilities, Kenya`s Ministry of Health (MOH) promoted differentiated service delivery (DSD) for stable patients, including fewer clinic visits and rapid facility drug pick-up (FastTrack). We explore how FastTrack affects retention in HIV care.

METHODS: Fifty-seven MOH facilities in Kisumu County rolled-out FastTrack. Eligible adult patients had six-monthly clinic appointments and three-monthly drug pickup. Sites underwent readiness assessment, training, and patients enrolled in FastTrack on a rolling basis from January to November 2017. We conducted a retrospective chart review to assess retention defined as net on treatment (i.e. current patients, less new on treatment), 12-months after treatment initiation, from 2014 through 2018. An interrupted time-series approach and modeled percent retained among all ~35,554 adult patients, 12-months before and after DSD implementation using weighted generalized estimating equations and moving averages over 5 values was used, p-value=0.05. Models included months before or after DSD implementation.

RESULTS: Patient retention declined slightly from 83.2% to 77.2% (-0.5% per month; 95% CI=-1.0, 0.0) in the 12-months prior to DSD implementation; increased to 83.1% immediately after DSD implementation; with further increase to 89.6% (0.5% per month; 95% CI=0.4, 0.7) in the 12-months after DSD implementation (Figure 1). Pre-Intervention, referral hospital patients had higher retention (5.7%; 95% CI=0.8, 10.5) than dispensary patients. Post-intervention, health center patients had higher retention (6.9%; 95% CI=4.5,9.2) compared to dispensary patients; and facilities in rural sub-counties had higher retention (3.7%; 95% CI=2.1,5.3) compared to facilities in Kisumu City.

CONCLUSIONS: DSD was associated with improved retention in HIV care with greatest improvement demonstrated in moderately sized facilities and rural sub-counties. Additional efforts are required to enhance the benefits of DSD in urban and larger facilities.

PEE1631

OUTCOMES OF THREE VERSUS SIX-MONTHLY DISPENSING OF ANTIRETROVIRAL TREATMENT (ART) FOR STABLE HIV PATIENTS IN COMMUNITY ART REFILL GROUPS: A CLUSTER-RANDOMIZED TRIAL IN ZIMBABWE

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BACKGROUND: Multimonth dispensing (MMD) of antiretroviral treatment (ART) is a differentiated service delivery model aiming to reduce patient-related barriers to care and improve health system efficiency in low-income settings. There is increased interest in MMD models, however, randomized evidence of its clinical effectiveness is lacking. We performed a cluster-randomized trial comparing three and six-monthly MMD in community-based ART refill groups (CARGs) versus standard-of-care facility-based ART delivery in Zimbabwe.

METHODS: A three-arm, unblinded, pragmatic cluster-randomized, non-inferiority trial was performed. Thirty healthcare facilities (clusters) and linked CARGs were allocated to either: ART collected three-monthly at facility (3MF, control); ART provided three-monthly in CARGs (3MC); or ART provided six-monthly in CARGs (6MC). Stable adults receiving ART ≥ six months with baseline viral load (VL) <1000 copies/ml were enrolled. Retention in ART care (primary outcome) and viral suppression (VS) 12 months after enrollment were compared by arm, using regression models specified for clustering. ClinicalTrials.gov, NCT03238846.

RESULTS: 4800 participants were enrolled; 1919, 1335 and 1546 in 3MF, 3MC and 6MC, respectively. Retention was high and similar in all arms, 93.0%, 94.8% and 95.5% in 3MF, 3MC and 6MC, respectively (table). The pre-specified non-inferiority limit (-3.25%, risk difference [RD]) was met for comparisons between all arms; 3MC vs. 3MF, adjusted RD=1.1% (95% CI: -0.5% to 2.8%); 6MC vs. 3MF: aRD=1.2% (95% CI: -1.0% to 3.6%); and 6MC vs. 3MC: aRD=0.1% (95% CI: -2.4% to 2.6%). VL completion at 12 months was 49%, 45% and 8% in 3MF, 3MC and 6MC, respectively.VS in 3MC (99.7%) was high and not different to 3MF (99.1%), relative risk=1.0 (95% CI: 1.0-1.0). VS was marginally reduced in 6MC (92.9%) vs. 3MF, relative risk=0.9 (95% CI: 0.9-1.0).

	Retention (primary outcome)						Viral suppression (secondary outcome)						
	En-rolled	Retained		Adjusted Risk Difference (RD)			Viral load done	Viral load comple-tion	Suppressed		Relative Risk (RR)		
Arm	N	n	%	RD	95% CI	P	N	%	n	%	RR	95% CI	P
3MF (control)	1919	1784	93.0%	Ref	-	–	865	49.0%	857	99.1%	Ref	-	-
3MC	1335	1265	94.8%	1.1%	-0.5 to 2.8	0.174	566	44.8%	564	99.7%	1.0	1.0–1.0	0.49
6MC	1546	1477	95.5%	1.2%	-1.0 to 3.6	0.277	113	7.7%	105	92.9%	0.9	0.9–1.0	0.070
6MC vs. 3MC				0.1%	-2.4 to 2.6	0.932					0.9	0.9–1.0	0.083

[Table]

CONCLUSIONS: Retention in CARGs receiving three and six-monthly MMD was noninferior to standard-of-care facility-based ART delivery in Zimbabwe for stable patients, and is a strategy that can be scaled-up. VS was high in 3-monthly CARGs, but VS in six-monthly CARGs requires further evaluation.

PEE1632

INCREASED SUPPRESSION AND RETENTION RATES AMONG CLIENTS ENROLLED ON THE 6 MONTHS MULTI-MONTH SCRIPTING AND DISPENSATION (MMSD) DIFFERENTIATED SERVICE DELIVERY MODEL (DSD): EXPERIENCES FROM CENTRAL PROVINCE, ZAMBIA

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BACKGROUND: In order to improve health outcomes among ART clients, USAID funded Supporting an AIDS Free Era (USAID SAFE) supports the Ministry of Health (MoH) in Copperbelt, Central, and Northwestern provinces in Zambia to implement Differentiated Service Delivery (DSD) models, including Multi-Month Scripting and Dispensation (MMSD). These models aim to improve viral load (VL) suppression and retention rates among ART clients, but drug efficacy and client adherence over a long time period away from the clinic were unknown.

DESCRIPTION: On the MMSD model, stable clients on ART are supplied drugs for 3 or 6 months to reduce the existing burden on the health systems whilst improving other health outcomes such as VL suppression and retention rates. In 2016, 543 clients were enrolled on the 6-months drug dispensation model at Kasanda and Makululu clinics in Central Province of Zambia. Program level data was reviewed and analyzed to determine the outcomes of VL suppression and retention in care of clients at 1, 2, and 3 years after enrolment into the MMSD model and compared to the other ART clients.

LESSONS LEARNED: VL suppression increased from 85% in year 1 to 99% in year 3 of the clients being enrolled on the model. Retention rates remained above 95%. Retention and VL suppression rates among clients on the 6 months MMSD was higher than that of the other ART clients not enrolled on the model (91% and 88% respectively at year 3 of implementation of the model).

CONCLUSIONS/NEXT STEPS: This evaluation demonstrates and confirms that there is good VL suppression rate and retention in care for clients on the 6-months MMSD model. Client adherence and drug efficacy were indirectly assessed through suppression rates. The current guidelines by the MoH in Zambia on enrolling stable clients on the 6-months MMSD should continue and be scaled up in all ART facilities.

[Figure]

PEE1633

CONTINUOUS QUALITY IMPROVEMENT IN IMPROVING PATIENT CATEGORIZATION DOCUMENTATION, FOR DIFFERENTIATED SERVICE DELIVERY IMPLEMENTATION, A CASE OF WESTLANDS HEALTH CENTRE

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BACKGROUND: The International AIDS Society defines Differentiated Care as a client-centered approach that adapts HIV services across the clinical cascade to reflect the preferences of various groups of people living with HIV. By providing DC the health system can refocus resources to those most in need. In Westlands Health Center, which has 1356 HIV positive clients, we sought to categorize our clients as stable and unstable to give this care. The problems identified included poor documentation of categorized clients as either stable or unstable.

DESCRIPTION: Following DC recommendations by the National Program, four staffs at Westlands Health Centre went for a training on DC model using CQI. One of the trained staff was appointed as the facility mentor to guide on collection of baseline data. Using a decision matrix, we identified poor documentation of categorized clients in care as the key performance gap.

As part of the improvement process, The clinic team instituted use of categorization checklist and improvising the daily activity register as counter measures. This counter measures were developed after a root cause analysis was done where the staff applied the cause and effect analysis fish bone diagram and 5 whys. The team thereafter identified a change package for the root causes. The best scoring counter measures were implemented using PDSA cycle and the progress was tracked using run charts.

LESSONS LEARNED: After implementing the counter measures at the HIV clinic, the team noted that documentation of categorized, stable clients improved from 9% to 48% in twelve months.

Mon	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan19	Feb19	Mar19	Apr19	May19
Num	35	44	61	78	99	109	99	127	186	87	171	183
Den	387	418	421	369	428	392	389	377	326	375	384	382
	9%	11%	14%	21%	23%	27%	25%	34%	57%	23%	45%	48%

[Table. Numerator - Documented stable client Denominator - Clients on ARV >1year seen]

CONCLUSIONS/NEXT STEPS: Use of CQI in differentiated care at the HIV clinic led to improved patient categorization documentation. Scale up of CQI approaches in tackling gaps and challenges across the HIV continuum of care is recommended.

PEE1634

RETENTION IN CARE AMONG PATIENTS IN DIFFERENTIATED MODELS OF HIV CARE IN KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: Differentiated Models of HIV care (DMOC) aim to improve health care efficiency in the context of ART scale up. This study in Kwazulu Natal, South Africa, evaluates effectiveness of four DMOC models: counselor-led adherence clubs, community ART groups (CAG), fast lane spaced appointment (FLSA), and community pick up points (PuP). We compared retention between DMOC models, and retention on ART between DMOC patients and patients in normal care at 10 MSF supported clinics.

METHODS: Retrospective cohort study among patients enrolled into DMOC between 1/1/2012 and 31/12/2018, using routine ART data. DMOC was offered to patients >=18 years old, on ART for >= 12 months, and virologically suppressed. Kaplan-Meier techniques were applied. DMOC patients were followed from enrollment till return to clinic care, death or loss-to-follow up (LTFU). Outcomes for ART retention were LTFU or death. Censoring occurred in case of transfer out or database closure on 5/12/2019.

RESULTS: 9501 were enrolled into DMOC; median age was 39 years (IQR 32-48), 2353 (24.8%) were males, time on ART prior enrollment was 3.2 years (IQR 2-5); 1561 (18.1%) returned to clinic care, 657 (6.9%) were LTFU, 109 (1.1%) died. DMOC retention was 89.1%, 82.5%, 77.8% at 12, 24 and 36 months. DMOC retention was lower for CAGs (P=0.006) (Table 1).

	Clinic Care* (N=4188)	CAG (N=179)	Adherence Club (N=3598)	PuP (N=3630)	FLSA (N=2094)
Age (median, IQR)	35 (29-44)	41 (32-49)	39 (32-48)	38 (31-47)	40 (34-49)
Male (N, %)	1236 (29.5%)	38 (21.2%)	759 (21.1%)	942 (26.0%)	614 (29.3%)
Time on ART before enrolment, years (median, IQR)	3.1 (2-4)	3.3 (2-5)	2.9 (1-5)	3.4 (2-6)	4.9 (3-7)
Changed DMOC type (N, %)		63 (35.2%)	1315 (36.5%)	586 (16.1%)	218 (10.4%)
Retention on DMOC					
12M		85.1%	88.4%	90.1%	88.9%
24M		78.4%	82.1%	83.4%	82.5%
36M		72.4%	76.0%	81.0%	76.0%
Retention on ART since DMOC enrollment					
12M	91.9%	94.9%	96.4%	96.6%	97.2%
24M	85.4%	91.7%	92.9%	93.3%	94.0%
36M	79.0%	87.3%	89.3%	91.2%	90.8%
VL completion at 12M	61.0%	64.5%	74.6%	66.0%	53.9%
VL suppression <400 copies/ml	88.3%	89.0%	92.0%	98.2%	97.9%

*Clinic patients who were eligible for DMOC but not enrolled. Two clinic patients were matched to one FLSA patient on closest ART initiation and DMOC eligibility dates. Follow up of matched clinic patients started on DMOC initiation date of a matched FLSA patient

[Table 1. Baseline characteristics and outcomes among stable ART patients, by DMOC participation]

ART retention was 96.6%, 93.2%, 90.2% at 12, 24, and 36 months and did not differ across DMOC types (P=0.09), but was significantly higher compared to clinics (P<0.0001). VL completion was sub-optimal in all models; VL suppression at <400 copies/ml was lower amongst patients at clinics and CAGs (P<0.0001).

CONCLUSIONS: Concurrent implementation of alternative DMOC approaches in a large ART program is feasible, and achieves high long-term retention on ART. In order to address patients' changing needs robust monitoring is essential to assess clinical status, movement between models of care, and return to clinic care.

PEE1635

INTEGRATED POSTNATAL CLUBS SHOW IMPROVED MATERNAL VIRAL LOAD COMPLETION AND INFANT TESTING UPTAKE COMPARED TO HISTORICAL CONTROLS IN KHAYELITSHA, SOUTH AFRICA

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BACKGROUND: Despite declining HIV mother-to-child transmission in South Africa, challenges still persist, including 4.3% transmission at 18 months, poor maternal retention and low infant testing uptake. To address these challenges, MSF, City of Cape Town Health and mothers2mothers developed postnatal clubs (PNC) in Khayelitsha, a low-income, high HIV prevalence area in South Africa. The model integrates psychosocial support, early childhood development, and maternal and child health. A mothers2mothers mentor facilitates a group session of 3-11 mother-infant pairs (MIPs) and each MIP consults with a nurse.

METHODS: We included MIPs enrolled in PNCs with 18 months of follow-up from June 2016-December 2018. Controls were recruited at birth for another study in Khayelitsha where infants were tested with birth PCR, mothers counselled on infant testing at birth and traced if infants were not known to have tested. We included MIPs with babies born from November 2015 to June 2016 with a negative 6-week PCR. We report on maternal viral load completion and suppression (<400copies/mL) by 12 months (7-365 days after birth) and 18 months (12-18 months), and infant rapid test completion at 9 months (8-10months) and 18 months (17-19months). For both cohorts, we excluded babies that seroconverted from subsequent testing denominators. We evaluated the additional cost burden to the health facility of PNCs.

	Historical controls	Postnatal clubs	Risk Ratio (95% CI) [PNC/controls]
Infants 9 month rapid completion (8-10mth)	112/221 51%	114/141 81%	1.6 (1.4-1.9)
18 month rapid completion (17-19mth)	70/220 32%	90/140 64%	2.0 (1.6-2.6)
Mothers 0-12 month viral load completion	149/221 67%	140/141 99%	1.5 (1.3-1.6)
0-12 month viral load suppression	141/149 95%	134/140 96%	1.0 (0.96-1.1)
12-18 month viral load completion	65/221 29%	107/141 76%	2.6 (2.1-3.2)
12-18 month viral load suppression	63/65 97%	101/107 94%	0.97 (0.9-1.0)

[Table 1]

RESULTS: In the PNC cohort (N=141), one infant seroconverted (after exiting the PNC) before their 18 months test, while two control group infants (N=221) seroconverted before 18 months. Infant testing

completion rates were higher in the PNC cohort at nine months (81% vs 51%) and 18 months (64% vs 32%) than the historical controls. Mothers' viral load completion rates were higher in the PNC cohort at 12 months (99% vs 67%) and 18 months (76% vs 29%), with similar viral suppression rates (Table 1). PNCs entailed minimal additional cost.

CONCLUSIONS: PNCs provided women with peer support and convenience, and improved maternal viral load monitoring and infant testing.

PEE1636

ACCEPTABILITY AND FEASIBILITY: PATIENT AND PROVIDER EXPERIENCES OF URBAN ADHERENCE GROUPS (UAGS) IN ZAMBIA

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BACKGROUND: Differentiated service delivery has potential for improved service delivery and health outcomes through tailored services that reduce overall costs to providers and people living with HIV. We examined patient and provider experiences of one model, Urban Adherence Groups (UAGs), to distil lessons regarding supply- and demand-side acceptability and feasibility in Zambia.

METHODS: Nested within a matched-pair cluster-randomized effectiveness trial of UAGs in Zambia, we conducted endline focus group discussions with study-enrolled patients (32), professional (16) and lay (16) healthcare workers (HCW); and interviews with 32 study staff, 10 clinic in-charges and 9 provincial or district health directors. Inductive and deductive analysis was used to synthesize findings under the themes "acceptability" (general perceptions about, or experiences with UAGs) "appropriateness" (assessment of clinical or psycho-social impact); and "feasibility" (qualitative evaluation of resources and capabilities required scale-up and sustain UAGs long-term).

RESULTS: Patients and HCW found UAGs to be highly acceptable, with reduced queuing and congestion a key theme. For patients, reduced congestion freed time to meet livelihood needs and lessened concerns about unintentional disclosure from attending public clinics. Routine access to information and meaningful group support also reduced self-stigma. Patients described UAGs as appropriate due to improved accessibility of medication, a preference for group (versus one-on-one) counselling and the "*opportunity to interact with the [UAG-specific] staff*" without fear of being '*shouted at*'. Group size and mixed gender groups were generally viewed as appropriate. HCW, however, expressed concerns about UAG appropriateness due to reduced frequency of clinical checks. Patients and HCW both viewed the UAG model as feasible, contingent on staff and funding inputs. Two preconditions for scaling-up UAGs were commonly mentioned. First, professional HCWs appointed to lead UAGs should be selected for and trained to deliver 'friendly' 'helpful' and efficient care. Second, establishment of formal MOH employment for lay (or community) health care workers was needed, recognising their key linkage, navigation and education roles in UAG success.

CONCLUSIONS: UAGs demonstrate promise as a one mechanism for improving patient experience of, and engagement in HIV treatment in Zambia, but require adequate human resourcing and oversight.

PEE1637

DEVELOPING A MODEL TO PRIORITISE MEN WHO HAVE SEX WITH MEN FOR DELIVERING DIFFERENTIATED PREVENTION SERVICES IN TARGETED INTERVENTIONS IN INDIA

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BACKGROUND: Targeted Innervation (TIs) have been critical component of the National AIDS Control Programme in India, designed for key populations. The TI programme provides standardized services to all KPs. However, to increase the efficiency of these interventions and thereby to reach the 90-90-90 targets, it is important to prioritize Men who have sex with men (MSM) into high/moderate/low categories and to provide differentiated package of services. Thus, the present data modelling was designed to develop a composite indicator for appropriate categorisation of high-risk MSM in India.

METHODS: We used the following data points from 18 TIs from six regions of India from April 2017-September 2018: demographic, sexual behaviours, and biological indicators. The cut-offs for numerical variables were based on Receiver Operating Characteristics curve, area under the curve and Youden's index for optimal cut-offs. These categories generated were used in the regression analysis; the final weights for the composite indicator were based on the final regression model. The outcome for the models was new HIV infections.

RESULTS: The median score of inter quartile range in the National models was 28 (23, 38). The cut-off for classification of scores was High >=28, Moderate 16-27, and Low <15. About 52% MSM were classified as high-risk, 39% as moderate-risk, and 10% as low-risk. HIV incidence was significantly higher in the high-risk MSM compared with moderate risk MSMs (p=0.001). None of the low-risk MSM was HIV-positive. Higher weights for HIV positivity was assigned to the following indicators: Association with TI for <2 years (24%); had an STI (17%); Sexually active with men for less than 5 years (13%), double-decker (typology) (10%). Younger MSM (18-24 years) were significantly more likely to miss a condom in the past 10 sex acts compared with those aged >=31 years (p<0.001).

Categories	Total Data points	HIV Positivity	Associated with TI < 2 years	MSM for < 5 years	Typology – Double-decker	Had an STI/RTI
High (>=28)	17402	32 (0.2%)	5959 (34%)	4604 (26%)	8876 (51%)	416 (2%)
Moderate (16-27)	12957	10 (0.08%)	228 (2%)	212 (2%)	1344 (10%)	36 (0.3%)
Low (<=15)	3270	0 (0%)	0 (0%)	10 (0.3%)	385 (12%)	0 (0%)
P value		<0.001	<0.001	<0.001	<0.001	<0.001

[Table 1: Distribution of behavioural characteristics]

CONCLUSIONS: The composite indicator precisely classified MSM with increased risk for new HIV infections, corroborating the need for differentiated service delivery approach for resource optimization within the concentrated HIV epidemic in India.

PEE1638

EXPANDING ACCESS TO HIV CARE AND TREATMENT THROUGH DECENTRALIZED DRUG DISTRIBUTION IN THE PRIVATE SECTOR

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BACKGROUND: Public hospitals often manage high volumes of clients with inadequate staffing, resulting in long wait times, overworked staff, poor client satisfaction, and weak retention. The private sector is an untapped resource for decongesting public facilities and increasing access to HIV services. Private outlets can offer clients privacy, convenient locations and scheduling, consistent stock availability, shorter wait times, and greater client-centered care. Most importantly, they are often the preferred place of care for populations who are harder to reach and retain in the public sector, including men, higher income groups, adolescents and key populations.

DESCRIPTION: Through the PEPFAR-funded Sustainable Financing Initiative (SFI), USAID has been expanding access to ARVs through the private sector. In Nigeria, between 2016 and 2019, SFI equipped a network of private outlets to deliver PEPFAR-funded ARVs to patients who chose to receive their medication in a private pharmacy or hospital. Other automated decentralized models, such as "eLockers" and ATM-like dispensing units, also show promise for decongesting public facilities. SFI has documented the successes, challenges and steps needed to scale up these decentralized approaches and has developed a tool to model their epidemiological and economic impact in a number of countries.

LESSONS LEARNED: As a result of SFI work in Nigeria, over 3,000 patients have been receiving ART services from private facilities and nearly 15,000 have been regularly picking up their medication from private pharmacies, with average adherence rates of 95% and pharmacy visit times under 30 minutes. By delegating ARV refill services to private pharmacies, the intervention decongested overburdened public hospitals, reduced staffing requirements, increased their capacity to manage their workload, and improved client satisfaction. This work has been estimated to provide savings of approximately $5 million to PEPFAR due to reduced client load and associated management and human resources costs at public facilities. After deducting investments to establish the program, this represents a return on investment of 5:1.

CONCLUSIONS/NEXT STEPS: Decentralized ARV distribution programs that utilize private sector infrastructure can increase the number of patients on treatment while providing cost savings to donors, governments and patients.

PEE1639

FACTORS THAT INFLUENCE THE SATISFACTION OF PEOPLE LIVING WITH HIV(PLHIV) WITH DIFFERENTIATED ART DELIVERY MODELS IN EAST CENTRAL UGANDA

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BACKGROUND: The World Health Organization has recommended Differentiated service delivery models (DSDM) as patient-centered ART delivery mechanisms for patients living with HIV/AIDS (PLHIV) who have an undetectable viral load. We sought to determine the level of and factors associated with patient satisfaction with DSDM services.

METHODS: This was a cross-sectional study of a random sample PLHIV accessing ART within DSDMs at eight facilities in East Central Uganda. Eligible patients were adults (≥18 years), on ART and enrolled on either Community Client Led ART Delivery (CCLAD), Community Drug Distribution Points (CDDP) or Fast-Track Drug Refill (FTDR) models for at-least twelve months. Data was collected from June to July 2019. A validated tool was used to measure patient satisfaction with DSDM services along five aspects: health worker confidentiality, psychosocial support received, time for other priorities, health cost and time spent traveling and waiting to receive ART services. Patients were then categorized as either satisfied or not satisfied. Logistic regression was used to identify factors associated with patient satisfaction with DSD services.

RESULTS: Overall 842 (254(30.2%) males; 588 (69.8%) females) were enrolled on the study of whom, 541 (64.2%) were satisfied with DSDM services: 78.7% in CDDP, 42.8% in CCLAD and 36.3% in CCLAD. The factors associated with patient satisfaction were being on CDDP [aOR=3.42, 95% CI :2.15–5.44] and FTDR[aOR=2.92, 95% CI:1.34–6.31] DSDMs relative to CCLAD, greater than three years on DSDM [aOR=2.32, 95% CI:1.12–4.87], lower transport costs (< $ 1.35) per clinic visit [aOR=2.39, 95% CI:1.59–3.60] being employed either in agriculture[aOR=4.41, 95% CI :2.62-7.41] or any other employment sector [aOR=4.22, 95% CI :2.46-7.27]relative to being unemployed, participation of a friend/relative [aOR=1.79, 95% CI :1.22–2.61] and not drinking alcohol [aOR=2.33, 95% CI:1.24–4.29].

CONCLUSIONS: The study showed that 64.2% of the patients are satisfied with DSDM services. Service delivery factors (model type, time-period on DSDM, and having a friend/relative at the same ART point), social factors (employment, and alcohol consumption), and transport costs were all associated with patient satisfaction with DSDM. Implementers need to further tailor services to address these factors to improve odds of satisfaction especially in CCLAD and FTDR DSDMs.

PEE1640

REDUCING FACILITY APPOINTMENT FREQUENCY TO IMPROVE RETENTION IN CARE AMONG CLINICALLY STABLE, HIV POSITIVE PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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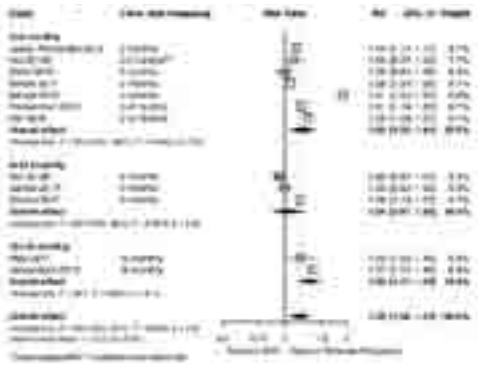
BACKGROUND: Global HIV treatment programs have sought to lengthen the interval between clinical encounters for stable patients to reduce the burden of seeking care, but the overall effect of reduced frequencies on retention is unknown. We conducted a systematic review and meta-analysis to evaluate the interventions that reduce the frequency of clinic visits, including clinical assessments and/or ART collection at the facility, for stable patients living with HIV.

METHODS: We searched seven databases and reference lists through April 2019. Eligible studies included HIV+ patients in low- and middle-income countries who were stable on ART (ex. ≥3 months on ART, 95% adherence). We extracted data from studies that reported on retention in care and viral suppression, and assessed risk of bias using the Cochrane tool in randomized controlled trials (RCT) and the Newcastle-Ottawa Scale in cohort studies. For each outcome, we conducted pairwise meta-analyses comparing the reduced frequency strategy to standard of care (1-2 monthly clinic visits), using random-effect models and cluster adjusted estimates for cluster RCTs.

RESULTS: Eligible studies included 18 comparative trials (4 RCTs and 14 observational studies), and 6 single arm studies. Among the comparative trials that reported retention in care, reduced frequency of clinic appointments (>2 months vs 1-2 months) was associated with increased retention on ART and in care compared to the standard of care with a relative risk (RR) of 1.18 (95% CI 1.06-1.31). Appointments from >2 months as compared to 1-2 months increased viral suppression (RR 1.23, 95% CI: 0.97-1.54).



[Figure. Retention in care at longest time point: reduced visit frequency vs. standard of care, by appointment frequency]

CONCLUSIONS: Despite heterogeneity in effect size, reducing appointment frequency for stable patients on ART improved the attendance at the health care facility and likely improves viral suppression. Additional research on optimal interval should be conducted, but programs that have not offered quarterly (or longer) appointment intervals for stable patients should do so.

STRATEGIES TO INCREASE UPTAKE OF RETENTION IN HIV SERVICES

PEE1641

CHANGE IS THE ONLY CONSTANT: A NOVEL TEAM-BASED RETENTION AND RE-ENGAGEMENT STRATEGY (PHAST) FOR A LARGE URBAN HIV CLINIC

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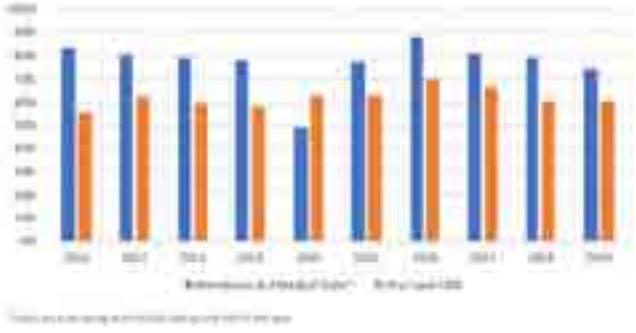
BACKGROUND: Retention in care is critical for the health of people living with HIV (PLWH) and prevention of HIV transmission. The San Francisco General Hospital Ward 86 HIV Clinic developed a program to support patients out-of-care with re-engagement and retention in HIV care.

DESCRIPTION: The Positive Health Access to Treatment and Services (PHAST) team enrolls PLWH who have not engaged in medical care >6 months. The multidisciplinary team (clinician, nurse, social worker) provides a single point of contact to patients, clinicians, and community programs for referrals from both inpatient and community settings. Enrolled patients receive supportive services including navigation, appointment reminders, incentives, housing and food support. The PHAST team has served 1898 unique patients since 2010; median age 39 years; 87.5% male-identified, 9.4% female, 2.7% transgender. Among enrollees, 63% live below the U.S Federal Poverty Line and 37% are unstably housed or unhoused.

LESSONS LEARNED: Patients who enter the PHAST program are, by definition, not attending medical visits, but after enrollment for an average duration of 326 days, a median of 80% attended 2 medical visits within the most recent year and qualified to transition to a less-intensive care model. Moreover, once enrolled, 67% of the PHAST patients started ART and achieved virologic suppression. Key program elements include 1) Ongoing relationships and communication between PHAST and medical and community programs for PLWH, 2) Stigma-free and culturally responsive environment, 3) Low barrier drop-in services, 4) Focus on empowering patients to address their healthcare needs.



[Figure. PHAST patient engagement in care and viral load suppression]

CONCLUSIONS/NEXT STEPS: The PHAST team at Ward 86 provides a model for successfully supporting retention in care for PLWH previously disengaged from care. This model results in high retention and virologic suppression rates, and nimbly evolves in response to new needs and opportunities for vulnerable patients, including incorporating rapid ART initiation, long-acting ART when available, and HIV prevention services via a status-neutral approach.

PEE1642

A MIXED METHODS, IMPLEMENTATION SCIENCE EVALUATION OF A MHEALTH COMMUNITY HEALTH WORKER INTERVENTION FOR PROMOTION OF HIV SERVICES IN A HYPERENDEMIC SETTING IN UGANDA

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BACKGROUND: Effective implementation strategies are needed to increase engagement in HIV services in HIV hyperendemic settings. We conducted a mixed methods implementation science evaluation of a community health worker (CHW) intervention called "Health Scouts", which used motivational interviewing-informed strategies, and mobile health (mHealth) support tools to promote engagement in HIV services in a hyperendemic (HIV prevalence ~40%) fishing community in Uganda.

METHODS: Using the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) implementation science framework, we collected and analyzed process data from physical log books, process data from mobile-phone based entries, self-reported resident data from a community-wide survey (n=1891), and qualitative data from 72 in-depth interviews (51 clients, 8 Health Scouts, 6 staff, 7 community leaders).

RESULTS: From 2015-2018, 13 Health Scouts logged a total of 11,221 counseling sessions; 2,532 unique clients were counseled; median sessions per client was 4 (IQR 2-7); 614 clients received only one counseling session. By late 2018, 95.7% (1789/1891) of community residents reported awareness of the Health Scouts and 2.2% reported being approached but refusing to be seen. Females (vs males) and HIV-seropositive persons (vs seronegative) were more likely to report having been ever counseled by Health Scouts (p<0.001). Themes arising from qualitative data analysis included: *Reach*-Residents were willing participants out of self-interest and perception of the Health Scouts as a trustworthy and helpful service; *Effectiveness*-Health Scout counseling directly impacted client behaviors, particularly ART uptake and adherence; *Adoption*-Health Scouts were broadly accepted, but negative rumors (such as questions about Health Scouts' motivations) slowed universal adoption; *Implementation*-High resident mobility was an implementation challenge; mHealth tools were initially useful to guide counseling with clients, but became less useful over time; *Maintenance*-Some Health Scouts and clients felt counseling messages became repetitive over time.

CONCLUSIONS: A novel mHealth CHW intervention was implemented with moderate success in a challenging HIV hyperendemic setting. An implementation science framework helped identify successful intervention components and areas for improvement to inform future programmatic iterations.

PEE1643

SUSTAINED IMPROVEMENTS IN LINKAGE TO TREATMENT AMONG KEY POPULATIONS IN CAMEROON

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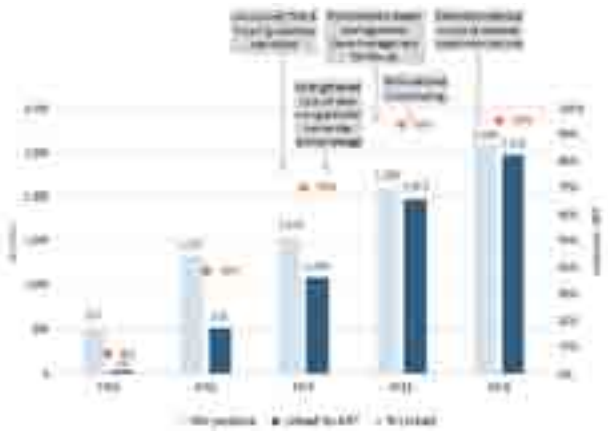
BACKGROUND: In Cameroon female sex workers (FSW) and men who have sex with men (MSM) have high burden of HIV. Barriers to accessing HIV services include stigma, discrimination, violence, long waiting times, user fees, and population mobility.

DESCRIPTION: Under the program "CHAMP", community-based organisations(CBOs) in three cities have provided peer-driven HIV services since 2014. Initiation on antiretroviral therapy(ART) is predominantly provided to new clients through HIV treatment health facilities.

HIV testing and linkage to ART data were electronically collected. Aggregate data on diagnoses and linkage to ART were analysed by fiscal year(FY) and key population(KP) from October 2014–September 2019.

LESSONS LEARNED: Prior to national 'Test & Treat' guidelines, introduced early-2017, linkage to ART was 31% (297/948) among FSW and 57% (216/379) among MSM in FY16. Linkage to ART increased to 72% (740/1,033) among FSW and 68% (345/511) among MSM in FY17 but remained below targets. Innovations to support linkage to ART were scaled in FY18, and linkage increased to 93% (1,264/1,359) and 95% (709/747), respectively. High linkage was maintained in FY19 among FSW (95%;1,688/1,777) and MSM (96%;790/819).

Key initiatives heading this success were: active referral for same-day initiation or arranged appointments by strengthening the role of peer navigators; sensitizing focal points at treatment centres on KPs' needs; involving peer navigators and clinicians during outreach testing; piloting on-site initiation; performance-based management; and weekly follow-up by case management teams. Additionally, during FY18 psychosocial counsellors and peer navigators were trained to use motivational interviewing, and during FY19 extended opening hours were arranged at selected treatment centres.



[Figure 1. Linkage to ART among FSW and MSM at CHAMP sites FY15 to FY19]

CONCLUSIONS/NEXT STEPS: Combined strategies involving active referral, coordinated and patient-centred support by peer workers, psychosocial counsellors and clinicians, and collaboration between community-based and national health facilities led to sustained improvements in linkage to ART. These approaches are likely to also support retention on ART and should be considered for widespread implementation.

PEE1644

PATIENT NAVIGATION DELIVERY AND IMPLEMENTATION MECHANISMS THAT FACILITATED CARE ENGAGEMENT AND RETENTION AMONG MSM AND TRANSGENDER WOMEN IN A HEALTH SYSTEMS INTERVENTION IN LIMA, PERU - PROYECTO ORGULLO+

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BACKGROUND: In Peru, HIV care engagement remains low among MSM and transgender women (TW), populations disproportionally affected by HIV. Navigating a fragmented, unfriendly and overcrowded health system, compounded with HIV stigma, hinder their linkage and retention in care. Patient navigation (PN) has proven successful at improving HIV care engagement, but its application in Latin America has been limited.

We trained four peer counselors on Anti-Retroviral Treatment and Access to Services (ARTAS), expanding their role to provide previously non-existent PN to MSM and TW at two health care facilities in Lima South.

We examined how this PN intervention helped facilitate care engagement among MSM and TW.

METHODS: We conducted in-depth interviews (N=24) with the four navigators (two gay men and two heterosexual women) living with HIV who delivered PN, and 20 (16 MSM, 4 TW) of their clients (7 newly diagnosed, 13 previously out of care). Guided by Framework Analysis, we identified salient PN mechanisms that facilitated care engagement.

RESULTS: Over two years, navigators conducted an average of three ARTAS sessions and ongoing follow-up with 192 clients, of whom 174 initiated/reengaged in treatment. Overall, their clients were lower income, marginalized, with limited HIV information, social support, and HIV disclosure due to compounded forms of stigma.

Clients appreciated the PN services and expressed their "confianza" (trust) in the navigators. Most developed strong emotional bonds with the navigators, referring to them as friends, family, or as "someone sent from heaven." PN delivery and implementation mechanisms that facilitated care engagement included:

1) Non-judgmental, client-centered services: emotional support and advocacy to navigate the health system (insurance issues, ART access); self-advocacy skills; health literacy/normalizing living with HIV; and addressing HIV stigma.

2) Empowering relationships developed by committed peer navigators who became role models, helped clients identify their strengths to address barriers to care, provided on-going attention, dedicated time (appointment reminders/accompaniment/follow up), and were available outside the health facilities.

CONCLUSIONS: PN and the support of the navigators fostered clients' resilience to address care engagement barriers. While systemic barriers remain, PN may contribute to improve the HIV care continuum among MSM and TW in Peru and potentially in other Latin American countries.

PEE1645

IMPACT OF COMMUNITY RESOURCE PERSONS AND MOBILE PHONE TECHNOLOGY ON RETURN TO HIV CARE AMONG LOSS TO FOLLOW UP HIV CLIENTS IN 104 HIV FACILITIES IN UGANDA

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BACKGROUND: Retention in HIV health care is critical for anti-retroviral therapy (ART) adherence and viral suppression. Clinical visits for patients on ART are essential to initiate ART, continuous access to medication, monitor medication side effects and diagnose treatment failure. With PEPFAR support, Mildmay Uganda Mubende Project implemented the Back to Care' campaign with the primary objective of improving 12-month retention from 66% as of December 2018 to 90% by end of September 2019 in 104 public health facilities across 8 districts in rural Uganda. Here we present the impact of previsit e-message reminders, phone calls and Community Resource Persons (CORPs) on HIV treatment retention in the project implementation area.

DESCRIPTION: Mildmay Uganda, since April 2017 is implementing a 5-year project aiming at "Accelerating Epidemic control in Mubende Region under PEPFAR". The geographical scope for this project is 8 districts in the central region of Uganda (Luwero, Nakaseke, Nakasongola, Mityana, Mubende, Kiboga, Kassanda & Kyankwanzi). Interventions included using e-messages for pre-appointment remainders, line listing of clients who miss appointments for same day follow up through phone calls. Community Resource Persons (CORPs) conducted physical community follow ups for clients without phones alongside community drug deliveries for located recipients of care.

LESSONS LEARNED: 75%(13,102/17,496) and 84.8% (24,837/29,302) of clients who were followed up using CORPs and phones were respectively returned to care. Retention improved from 66% registered in the quarter of October - December 2018 to 88% in July-September 2019 quarter.

CONCLUSIONS/NEXT STEPS:

- Community and phone follow up of clients immediately following missing of appointments is important in retaining clients in care in light of the 90% target.

PEE1646

EFFECT OF SAME-DAY ART INITIATION ON EARLY RETENTION IN RAKAI, UGANDA

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BACKGROUND: Retention in care is key to achieving good clinical outcomes. With support from the President's Emergency Plan for AIDS Relief (PEPFAR) and CDC-Uganda, the Rakai Health Sciences Program supports the provision of antiretroviral therapy (ART) to about 120,000 People Living with HIV in 12 Districts in south-central Uganda. We assessed differences in retention at the first ART initiation follow-up within one-month of ART initiation and subsequent retention after the first ART follow-up. HIV infected patients who start ART on the day of HIV diagnosis, and those who delayed initiation by 1-7 or 8+ days after HIV diagnosis.

METHODS: We conducted a retrospective longitudinal analysis among HIV infected adults 18 years and older who initiated ART during the test and start program between April 2016 –September 2019 in 20 HIV clinics of Rakai district. The primary exposure was time from testing HIV positive to initiation of ART classified as same day initiation, 1-7-day or ≥8 days post-HIV test. HIV testing was conducted using rapid HIV tests. We used Poisson multi variable regression to estimate adjusted relative risk (aRR) and 95% CI of non-return within one month of ART initiation.

RESULTS: Of 1873 HIV infected patients with known dates of HIV test and ART initiation, 1147(61%) initiated ART on the same day of testing, 397 (21%) initiated within 1-7 days and 329 (18%) initiated ART after 8 days of the positive HIV test. Failure to return at the first ART follow-up occurred in 17.9%, 8.3 % and 6.1% among same day, 1-7 days, and 8+ days ART initiators respectively. After adjusting for gender, age, rural/urban setting, year of HIV testing and type of health care service center, compared to 8+ days initiation, same day initiators were twice unlikely to return at second visit (aRR= 1.84, 95%CI= 1.2-2.9). Time lapse from HIV test to ART initiation was not a significant predictor of long-term retention among those who returned for the second visit.

CONCLUSIONS: Given that clients initiating ART on the same day have poorer retention post ART initiation, retention strengthening strategies should be implemented in tandem with same-day ART initiation efforts.

PEE1647

STRATEGIES TO MAINTAIN PATIENTS ON ART IN THE CONTEXT OF MAJOR AND PROLONGED SOCIO-POLITICAL TURMOIL IN HAITI

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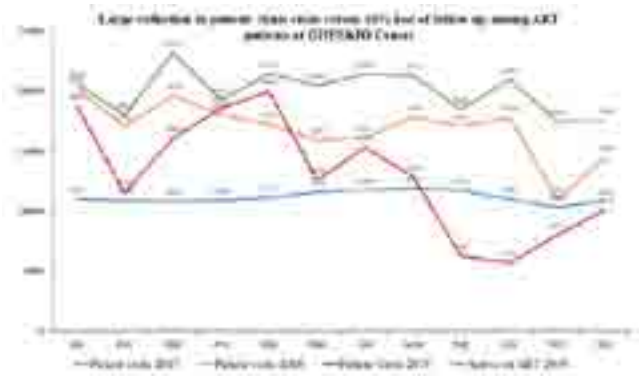
BACKGROUND: With its two large health centers located in Port au Prince, Haiti, GHESKIO is the largest HIV care provider in the Caribbean. Haiti experienced in 2018 and 2019 a marked increase in socio-political turmoil. In the last three months of 2019 the country was locked-down with the set-up of large barricades in most streets often guarded by armed protesters preventing both staff and patients to reach our health care centers. Our objective is to describe our experience in maintaining care of patients on ART during this difficult period.

DESCRIPTION: To address different challenges associated with recurrent political turmoil in the last 40 years, GHESKIO had to develop a contingency plan that we improved after each crisis. We implemented a package of strategies aiming at reducing patients' waiting time, implementing test and treat, improving welcoming, overall services, staff-patients relationship and increasing the number of points of services. We also provided transportation fees, nutritional, psychosocial support, expanded clinic visits, ensured phone calls reminders, tracked patients using android tablets, used a daily "dash board" to document staff presence and availability of support for patients (transportation funds, phone call cards,) scaled up rapidly Dolutegravir to over 11,000 patients, and ART provision to over 2,000 patients through community drug distribution.

LESSONS LEARNED: There was a 35% reduction in the number of all patients coming to our center regardless of their HIV status (40, 357 patient-visits in 2017 vs. 155,965 in 2019. There was a 22% decreased among ART patients-visits (93,965 patients-visits in 2017 vs. 73,412 in 2019 while the actual loss to follow-up was 10% reduced through community drug delivery at ART distribution points.

CONCLUSIONS/NEXT STEPS:



[Figure. Large reduction in patient clinic visits versus 10% lost of follow up among ART patients at GHESKIO Center]

Despite major and prolong socio-political instability, GHESKIO was able to maintain care for patients on ART through multiple interventions aiming at improving retention, through improvement of services, active tracking and community drug distribution.

PEE1648

IMPROVING RETENTION IN HIV CARE THROUGH ROUTINE MONITORING AND BACK-TO-CARE CAMPAIGNS: LESSONS FROM EASTERN UGANDA

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BACKGROUND: Despite gains in identifying new HIV-positive clients and eventual enrollment into care, retention remains a major challenge across many public health facilities in Uganda. Regional data from the USAID-funded Regional Health Integration to Enhance Services in Eastern Uganda (RHITES-E) Activity, led by IntraHealth International, showed progressive decline in patient retention across four quarters: 79% (3526) in March 2018; 66% (1398) in June 2018; 36% (1270) in September 2018; and 62% (-1022) in December 2018. RHITES-E adopted the Ministry of Health's Back-to-Care Framework and participated in the National Quality Improvement Initiative to understand barriers to retention.

DESCRIPTION: RHITES-E mentored 68 high-volume health facilities to develop standard operating procedures to mitigate patient attrition; recruited 52 HIV counselors to intensify psychosocial support and counselling at facility and community levels including routine psychosocial preparedness for newly-initiated ART patients; and procured 40 phones to facilitate appointment reminders and ongoing counseling. The counsellors conducted home visits to educate on ART and strengthen family support of patients. RHITES-E procured and distributed missed appointment registers; mentored health workers to improve early identification and line listing of patients missing appointments for immediate tracking; and conducted daily clinic audits of appointments for follow-up. Monitoring data were analyzed using composite index (TX_NET_NEW).

LESSONS LEARNED: Of 2258 HIV patients from 68 high-volume facilities followed-up between October 2018-June 2019, 60% were confirmed to be in care of whom 73% (997) had returned to their original sites and 27% had transferred out to preferred facilities. 8% (174) were unable to be traced, 13% (299) relocated, 6% (120) died, 2% (35) refused ART drugs, and 6% (132) had less than four tracing attempts; only 6% had no attempt traced. Overall, treatment net new index improved from -62% (-1,022) in December 2018 to 24% (426) in March 2019, 78% (1555) in June 2019, and 75% (1313) in September 2019.

CONCLUSIONS/NEXT STEPS: Back-to-care campaigns, routine appointment audits, intensified psychosocial support, and continuous ongoing mentorship improved retention of patients in care and health facility accountability for their own patients. Tracking TX_NET_NEW is key in monitoring early patient retention and should be used in public health facilities.

PEE1649

IMPROVING RETENTION OF HIV CLIENTS AT 12 MONTHS: SUCCESSES OF COMMUNITY-BASED DIFFERENTIATED SERVICE DELIVERY MODELS IN BUKWO DISTRICT, UGANDA

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BACKGROUND: Retention during the first 12 months of enrollment into HIV care is critical in the continuum of care because clients are adjusting to drug effects and often struggling with disclosure and acceptance of being HIV-positive. Overcoming barriers to retention is challenging in rural, resource-limited settings where clients have to travel long distances to reach health facilities. Studies have found that treatment strategies that address socio-economic obstacles to care are associated with improved retention and adherence to ARVs especially for clients who have just been diagnosed and enrolled. However, there is little documentation of community aspects of differentiated service delivery models (DSDM) to address multiple barriers to retention in rural Eastern Uganda.

DESCRIPTION: The USAID-funded Regional Health Integration to Enhance Services in Eastern Uganda (RHITES-E) Activity, led by IntraHealth International, collaborated with the Ministry of Health to strengthen HIV care models at community and facility levels. We rolled out DSDM in Bukwo District in June 2018. A total of 30 health workers, 10 expert clients, 2 counselors, and 8 lay workers were trained on DSDM with emphasis on community drug distribution points, community-based support groups, and facility-based fast-track refills for stable clients to decongest health facilities. During drug refills and support group sessions, service integration is done to test for viral load monitoring for those clients that are due, screen for opportunistic infections, and provide nutritional and peer psychosocial support and counselling. We used quality improvement approaches to track contributions of DSDM to retention. We conducted a review of programmatic data to compare retention outcomes between July 2018 and June 2019.

LESSONS LEARNED: Retention of enrolled clients improved over 12 months: 40% in July-September 2018, 60% in October-December 2018, 73% in January-March 2019, and 97% in April-June 2019, surpassing the UNAIDS and PEPFAR targets of 90% and 95%, respectively, for that quarter.

CONCLUSIONS/NEXT STEPS: Use of community-based DSDM to enhance the continuum of care is promising in improving retention when added to facility-based programs. Clients easily accessed ARVs, received peer support, and saved on transportation costs to and from facilities.

PEE1650

STRUCTURED SUPPORT THROUGH A RETURN TO CARE PACKAGE TO REDUCE LOST TO FOLLOW-UP AMONG PATIENTS ON ANTIRETROVIRAL THERAPY IN RURAL WESTERN KENYA

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BACKGROUND: Loss to follow up (LTFU) from HIV care impedes achievement of HIV epidemic control. Studies in sub-Saharan Africa have demonstrated continued risk for attrition among patients who return to care (RTC) after disengaging. Few studies focused on subsequent outcomes of RTC.We evaluated the effectiveness of RTC in reducing LTFU in 63 ART facilities which contributed to 80% of the program losses in Kisii and Migori counties,western Kenya

METHODS: The University of Maryland, Balitimore's PACT Timiza program implemented a RTC package consisting of structured barrier analysis by an adherence counselor, development of corresponding action plan, peer case management, and a home visit. We conducted a retrospective cohort analysis to determine retention among patients on ART and LTFU between October 2018 and June 2019

and later RTC. The outcome variable was LTFU defined by the program as patients who had not had a clinical encounter 30 days after their last expected clinic visit. Data was collected from clinical encounter forms, electronic medical records and missed-appointment registers. LTFU incidence rate and 95% confidence interval (CI) were estimated using Poisson regression. Multivariate Cox proportional Hazard models were used to assess effects of RTC package on LTFU.

RESULTS: Of 665 participants who returned to care, 509 (77%) had a documented last visit date and were included in the analysis; 493/509(97%) were adults. A total of 276/509 (54%) were offered the RTC package. The median age was 32 (interquartile range: 26 – 41) years. Overall 82 individuals were lost after 2119.9 Person-Months(PM) (incidence 3.9; 95% CI: 3.1–4.8) per 100 PM. The probability of remaining in care at 3, 6 and 9 months was 84.6%, 78.9 % and 75.9% respectively among those who did not receive RTC package and 88.4%, 85.4% and 82.1% respectively among those who received RTC and were similar, log rank test p>0.05. Adjusted analysis showed that the RTC package significantly reduced LTFU (adjusted hazard ratio 0.46 95% CI [0.24-0.90]).

CONCLUSIONS: Implementing a RTC package reduces subsequent LTFU. Scaling up implementation of this strategy can increase retention of ART clients and minimize future LTFU and may contribute to achieving HIV epidemic control.

PEE1651

THE EFFECT OF PEER SUPPORT AND INTEGRATED SERVICE DELIVERY IN RETENTION IN CARE OF PMTCT CLIENT

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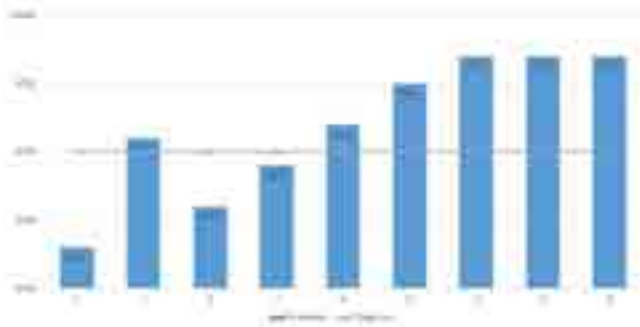
BACKGROUND: The need to strengthen bidirectional linkages between the facility and community strategically supports PMTCT clients through retention-in-care over time. Through a peer-based model that robustly acts a support system for ART initiation among treatment-naïve clients and retention in care among all HIV PMTCT clients through an integrated service platform (ISP), where Mentor Mothers are deployed both at facilities and in communities, early identification of clients is achieved, and strengthening retention in care, treatment adherence and responsiveness to client needs thereby reaching the last mile.

METHODS: Over 2,690 women, 48% of whom were treatment-naïve were enrolled across Eswatini, Kenya, Lesotho, Malawi, South Africa and Uganda. The retention-in-care on treatment (RIC) was assessed by reviewing each woman's ART pick-up history from facility records for 24 months. The probability of retention on ART at 24 months post-initiation by the number of contact sessions a client has with a Mentor Mother was assessed. Retention-in-care at various time points was compared between clients who attend the ISP versus those at facility-only sites.

RESULTS: Retention rate 24 months post-ART initiation was 94% among m2m's treatment naive clients which increased with the number of Mentor Mother contacts a client had; however, a minimum of eight sessions is needed to reach the global target retention rate of 90% retention at 24 months (fig. 1). Retention peaks at 97% at 12 or more visits, suggesting that 12 visits may be the optimal number when balancing the goal of retaining clients in care and minimizing costs.



[Figure. Probability of retention on ART at 24 months post-initiation versus the number of contact sessions a client has with a Mentor Mother]

CONCLUSIONS: The results demonstrate the effectiveness of m2m's ISP in achieving retention-in-care among clients. The variation in retention rates by ART exposure and Mentor Mother contact indicates the need for differentiated services to optimize client outcomes; m2m will continue strengthening our risk profiling and client triaging approaches.

PEE1652

PREDICTORS OF EARLY DEFAULT UNDER UNIVERSAL ANTIRETROVIRAL THERAPY IN MALAWI: A PROSPECTIVE COHORT STUDY

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BACKGROUND: Default within the first 3-months of ART (early default) is a major concern for HIV treatment programs. Understanding the timing and predictors for early default is important to design interventions for improved clinical and public health outcomes.

METHODS: ART initiates aged ≥18 years who newly initiated ART at five Malawian HIV clinics were enrolled prospectively between March 2017 and January 2018. At ART initiation consenting clients completed a survey that included sociodemographic and ART readiness questions (12-items¥). The primary outcome was early default (defined as ≥60 days late for any of the required monthly appointments during the first 3-months of ART).

Analyses excluded clients who transferred out, died, or received non-standard of care multi-month prescriptions in the first 3-months. Logistic regression models were used to assess predictors of early default.

RESULTS: 626 patients were enrolled in the study: 2% died, 2% transferred out, and 20% received multi-month prescriptions, resulting in 479 patients included in the analysis. Of these, 53% were male and median age was 35 years (IQR: 28-42). 146/479 (30.5%; 95%CI: 26.5-34.8%) were early defaulters and 69/146 (47%) of these individuals never returned to care after the initial ART initiation visit.

Younger individuals, aged≤30 years (aOR 2.76; 95%CI: 1.43-5.33) and patients reporting inability to travel to clinics monthly (aOR: 5.97; 95%CI: 1.14-31.20) were at higher risk of early default. TB diagnosis at ART initiation (aOR: 0.07; 95%CI: 0.02-0.24) was protective from early default. No other ART readiness variables predicted early default (Table 1).

	Early Default n (%)	Adjusted OR (95% CI)**	P-value
±Male gender vs female	77 (30.4)	0.85 (0.54, 1.31)	0.46
Age in years			
≤30	72 (41.9)	2.76 (1.43, 5.33)	<0.01
31-45	56 (24.6)	1.04 (0.55, 1.98)	0.90
>45	18 (22.8)	1	
Primary and above education attended vs. none	138 (31.0)	1.85 (0.71, 4.78)	0.21
TB diagnosis at ART initiation	3 (4.1%)	0.07 (0.02, 0.24)	<0.01
Inability to travel to the clinic every month for ART refills	6 (75%)	5.97 (1.14, 31.20)	0.03

*Defined as ≥60 days late for any of the required monthly appointments during the first 3 months of ART).
**Final adjusted model included: age, gender, higher education attended, Tb diagnosis at ART initiation, and reported ability to travel to the clinic.
±Gender is kept in the model as a priori confounders irrespective of significance in the univariate analysis.
¥ART readiness questions include 12 items: status disclosure to a trusted partner; disclosure to a casual partner; having support from someone to continue taking ART; afraid about the status if you come to the facility to collect ARVs; willingness to take ARVs for the rest of your life; ability to travel to the clinic every month for ARV refills; away from work/home when you come for ART appointments; able to continue taking your pills even if you don't feel well; overall readiness to start ART; travel away from your village for one month or more at a time; do you think it is good for your health start ART immediately and fears about side effects from ARVs.

[Table 1: Multivariable analysis: factors independently associated with early default]*

CONCLUSIONS: We observed a high proportion of early ART defaulters, half of whom never returned after their first visit. Young adults and clients reporting inability to travel to clinics were particularly prone to early default. These groups require targeted interventions that commence at ART initiation.

PEE1653

PEER-BASED SUPPORT AND FOLLOW-UP ENHANCE RETENTION IN PMTCT CARE CASCADE IN 22 STATES OF INDIA

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BACKGROUND: As of April 2018, 77% of estimated pregnant women (30 million) were tested for HIV and 61% of the estimated HIV+ pregnant women (22,677) were identified and linked to treatment in India. Svetana consortium (SAATHII, NCPI+, GSNP+, Prayas and SVYM), with GFATM funding partnered with the National AIDS Control Programme (NACP) in 2018, to help accelerate progress towards EMTCT in 22 states, accounting for 65% of PMTCT need. This abstract describes outcomes of interventions focused on improving retention of mother-baby pairs until 18 months.
DESCRIPTION: Svetana consortium support to NACP included scaling and strengthening of HIV testing and detection, referrals, tracking, and retention. Interventions for improving retention included counseling and follow-up of HIV+ pregnant women through the home and commonplace visits, and via phone, and accompanied referrals to health facilities. Counseling focused on the importance of disclosure, antenatal and HIV care, positive-living, institutional delivery, adherence to ART, IYCF and infant diagnosis. Field coordinators (FC) mostly drawn from the community delivered the services and were supported through evidence-based planning, prioritization, joint reviews, ongoing capacity building, and case-management approach.
LESSONS LEARNED: Between January 2018 and September 2019, the program reached 76% of eligible (14,546) mother-infant pairs for 2, 6- or 18-month follow-up. Median age was 24 years, 21% non-literate, 33% had primary education, 52% were primigravida, 97% were on ART and 37% had discordant spouses. Over an 18-month period, retention increased from 51% to 82% at 2 months, 80 to 91% at 6 months and 67% to 80% at 18 months. Retention was significantly higher among those who received any service by FC compared with those with not received at 2 months (75% vs 66%) and at 18 months (82% vs 62%). Multivariate regression showed that mother-infant pairs who received FC services were two times more likely to be retained in care at 2, 6 and 18 months (sig: 0.000), after adjusting age, education and other characteristics of mothers and health system.
CONCLUSIONS/NEXT STEPS: Intensive and targeted peer-based follow up of mother-infant pairs help overcome individual and health system barriers, improve retention and completion of PMTCT cascade.

PEE1654

RATES AND PREDICTORS OF RETENTION ON ART AMONG ORPHANS AND VULNERABLE CHILDREN LIVING WITH HIV IN TANZANIA

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BACKGROUND: Uninterrupted ART and continual monitoring are critical for sustained viral suppression and optimal treatment outcomes. Community-based interventions designed to improve linkage to and retention on ART are essential for addressing subpopulation-related factors that hinder sustained retention on ART.
METHODS: A PEPFAR-support orphans and vulnerable children (OVC) project in Tanzania collected pediatric ART data from October 2017 to October 2019 in 81 councils. Lay community social welfare volunteers supported linkage and retention on ART for HIV+ OVC. The study analyzed on-ART status in a cohort of HIV+ OVC aged <20 were enrolled and monitored for 24 months. OVCLHIV who remained on ART to the end were termed as "retained" and those with interrupted or discontinued ART use as "not retained". Multivariate analysis of retention on ART was performed using logistic regression, while accounting for their baseline characteristics.
RESULTS: Of the 5,304 HIV+ OVC 3,390 were HIV+ (77% on-ART) at enrollment; 1,914 were newly-diagnosed HIV+ after risk screening and testing referral by the lay volunteers. Mean age was 13.1 years, 51.5% were female and 72.2% were in female-headed households. Retention on ART was 83.9% at 24 months. Multivariate analysis showed that; higher frequency of home visit by CCWs increased retention on ART by 1% (OR = 1.01, 95% CI 1.002-1.016, p = 0.008). Linkage of HIV+ children to HIV support groups improved retention on ART by 74% (OR = 1.74, 95% CI 1.53-1.99, p<0.001). Children in large family size were less likely to sustain ART by 9% (OR = 0.91, 95% CI 0.89-0.95, p<0.001).

In-school OVCLHIV were 17% more likely to remain on ART than out of school (OR = 1.17, 95% CI 1.03-1.32, p = 0.014). The likelihood of remaining on ART was 14% higher for OVC in economically better-off households than their peers in destitute families (OR = 1.14, 95% CI 1.003-1.31, p = 0.045). These effects were adjusted for OVC age, sex of OVC and of caregiver, and type of residence.

CONCLUSIONS: Community-based OVC support resulted in an 84% pediatric on-ART retention rate over 24 months, notably higher than most health facility-based 24-month retention rate estimates of 75%.

PEE1655

PATIENT-IDENTIFIED REASONS FOR POOR EARLY RETENTION IN HIV TREATMENT AMIDST A "SURGE STRATEGY" TO INCREASE LINKAGE TO CARE: INSIGHTS FROM EASTERN UGANDA

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BACKGROUND: In 2017, Uganda's Ministry of Health (MOH) rolled out the Test-and-Treat policy, further accelerated in 2018 by a multi-pronged "surge strategy" to improve HIV testing efficiency and accelerate linkage to treatment. With increased recruitment of HIV patients in care, achieving optimal retention became a challenge. Data from 14 districts in Eastern Uganda showed that 30% of newly-enrolled ART patients were deemed as lost-to-follow-up in the three months following ART initiation. The USAID-funded Regional Health Integration to Enhance Services in Eastern Uganda (RHITES-E) Activity, led by IntraHealth International, conducted a root cause analysis (RCA) to better understand the primary reasons for failure to return to care among new patients. Solutions to address the root causes were instituted at each facility based on the results.

DESCRIPTION: RHITES-E identified and trained facility-based counselors to collect data from ART patients as part of a routine quality improvement program. Counselors used a standardized RCA questionnaire provided by the MOH. The first RCA was conducted in November 2018 with quarterly implementation thereafter. Forty-six high-volume facilities with high rates of patient attrition were identified to participate in the RCA. Based on MOH guidance, 30% of patients, per facility, who had missed their appointment at least once in six months following ART initiation were selected and interviewed. RCA data from November 2018 to October 2019 were entered and analyzed in Excel.

LESSONS LEARNED: A total of 466 respondents were interviewed. Lack of transport (19.3%), being on travel (15.5%), forgetting the appointment (11.2%), fear of non-disclosure/stigma (9.2%), being bedridden (5%), taking care of sick people (3%), and change of residence (3%) were significant factors for patients missing appointments. The analysis identified opportunities for improvement, including establishing community ART distribution points, providing longer refill periods, and implementation of appointment registers and patient reminders through text messages and phone calls.

CONCLUSIONS/NEXT STEPS: Conducting RCAs in public health facilities helps to understand facility-specific barriers to early retention and provides a quick platform for initiation of quality improvement activities to mitigate the challenges.

PEE1656

PATIENT-REPORTED REASONS FOR MISSED APPOINTMENTS AMONG ANTIRETROVIRAL THERAPY (ART) PATIENTS IN SOUTH AFRICA

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BACKGROUND: Numerous barriers to adherence to antiretroviral therapy (ART) and retention exist in resource-limited settings; however, our current understanding of such barriers remains incomplete. We conducted a rapid survey to identify the most common reasons for missed appointments among ART patients in South Africa.

METHODS: From April 1 – June 7, 2019, a rapid survey was conducted in 154 healthcare facilities across four provinces in South Africa. ART patients were contacted by phone and asked to self-report the reason that they missed their appointment. A missed appointment was defined as failure to present to the facility on the day of a scheduled appointment. Self-reported reasons were tabulated and grouped into patient-based, structural, clinic-based, and medical barriers. Data capture barriers were listed for patients who were active on ART but appeared as having missed an appointment. Data analyses were conducted using SAS 9.4.

RESULTS: A total of 34,113 entries were submitted with a documented reason for the missed appointment. A subset of 29,102 (85.3%) entries were able to be categorized during data cleaning and were included in subsequent analyses. Among the entries analyzed, 67.5% of patients were female, median patient age was 34 years, and median ART duration was 27 months. Patient-based barriers were the most common reasons for missed appointments (58.7%), followed by clinic-based (21.2%), structural (13.3%), and medical barriers (6.8%). Among patient-based barriers, the most common reasons were 'patient forgot' (54.4%), 'traveled' (38.7%), and 'moved' (3.7%). The most common clinic-based barriers were 'inconvenient hours' (42.7%), 'long wait times' (25.2%), and 'appointment system challenges' (21.6%). The same rank order of domains persisted for both sexes and across ART duration subgroups when results were disaggregated. Furthermore, 32.2% of patients were misclassified as having missed their appointments due to data capture barriers, including 'patient receiving ART through differentiated service delivery (DSD)' (55.4%), 'transferred' (33.7%), and 'visit not captured' (10.9%).

CONCLUSIONS: Rapid survey results are being used to inform the scale-up of interventions to address patient-based barriers to adherence, such as appointment reminders and case management strategies, and to strengthen data management systems in order to more effectively capture silent transfers and DSD patients.

COMBINATION PROGRAMMING ON SOCIAL DRIVERS OF HIV (INCLUDING EDUCATION, VIOLENCE AND WORKPLACES)

PEE1657

GOVERNMENT IMPLEMENTED CASH PLUS MODEL REDUCES VIOLENCE EXPERIENCES AND PERPETRATION AMONG ADOLESCENTS IN TANZANIA

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BACKGROUND: One billion children and adolescents experience violence every year, and violence is a driver of HIV transmission behavior. Adolescents are important for prevention of onward HIV transmission and are key to prevention of emotional, physical and sexual violence through interventions addressing gender attitudes, as gender socialization intensifies during adolescence. We examine impacts of a government-run, multi-sectoral cash plus intervention which addresses poverty, a structural driver of HIV and violence, on adolescents' experiences and perpetration of violence in Tanzania.

METHODS: This study takes place in southern Tanzania and uses a longitudinal, mixed-method cluster randomized control trial design (n=130 communities) with a panel sample of 2,191 adolescents aged 14 to 19 years at baseline to evaluate the impacts of a government-run cash plus intervention on violence outcomes. The intervention was targeted to adolescents living in households receiving a government cash transfer program (the Productive Social Safety Net) and comprised adolescent-focused livelihoods and life skills training, mentoring and a productive grant, and linkages to government facilities providing adolescent-friendly, HIV and sexual and reproductive health services. We ran analysis of covariance (ANCOVA) and single difference regressions to examine intent-to-treat impacts of the program and complemented our quantitative analyses with qualitative analyses to unpack mechanisms of impact.

RESULTS: The intervention increased gender equitable attitudes along the violence domain and subsequently reduced adolescent's perpetration of physical violence by 3.3 percentage points (representing a 47.8 percent reduction in violence perpetration, driven by males). Moreover, it reduced experiences of sexual violence among the sample by 3.7 percentage points (61.7 % reduction, driven by females). There were no intervention impacts on experiences of emotional or physical violence experiences, nor on help-seeking among those experiencing violence.

CONCLUSIONS: Multi-sectoral approaches are advocated to address structural drivers of violence and HIV. Results indicated that a government-run, multi-sectoral cash plus intervention for adolescents has the potential to reduce violence experiences and perpetration among adolescents and young adults. Given government implementation within existing structures of a social protection program, there is high potential for scale-up and sustainability, and the program reaches some of the most vulnerable and marginalized youth in a high HIV prevalence setting.

PEE1658

SYSTEMICALLY ADDRESSING HIGH HIV PREVALENCE IN THE TRANSGENDER COMMUNITY THROUGH GENERATING ALTERNATIVE LIVELIHOOD OPPORTUNITIES

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BACKGROUND: Transgender/hijra women have the highest prevalence of HIV in India amongst all high-risk groups. This can be primarily attributed to extreme vulnerability resulting from lack of livelihood options beyond begging and sex-work. This vulnerability manifests in poor condom-negotiation capability, unaddressed mental health issues and high alcohol consumption and substance use, contributing to high-risk sexual behaviours within transgender/hijra community. The NALSA judgment in 2014 by Indian Supreme Court paved way for increased legal recognition and creating opportunities for socio-economic and political inclusion of transgender persons in India. In 2017, TRANScend, an initiative by The Humsafar Trust (India's oldest registered LGBTQ organisation) and supported by Publicis Sapient, was started to streamline these efforts.

DESCRIPTION: Primary objective of TRANScend is generating alternative livelihood opportunities through workplace inclusion initiatives, targeted skill development programmes and enabling access to identity and social entitlement documents. In 3 years, TRANScend has engaged with 144 multinational corporates, small and medium India-based businesses and start-ups and reached out to 2550 employees through workplace sensitisations on transgender issues, policy reviews, roundtables discussions, community relevant plays and recruitment drives. TRANScend facilitated 5 capacity-building workshops and 19 skill-building programs for transgender-led organisations and transgender individuals respectively, attended by 407 transgender persons. 639 transgender persons have accessed various identity and social entitlement documents with the help of TRANScend.

LESSONS LEARNED: Major challenges include lack of economically feasible alternatives to begging and sex work considering lack of employable skills and professional qualifications within the community. Skill building opportunities offered to transgender/hijra community have historically been stereotypical and myopic, resulting in few participants completing them or taking up jobs pertaining to those skills. Challenges at the end of employers include persistent gaps in understanding of transgender issues which can only be addressed through transgender representation in policy formulation and regular workplace sensitisations.

CONCLUSIONS/NEXT STEPS: As next steps, TRANScend aims to develop a community-designed and community-led accreditation process for employers to enable meaningful workplace inclusion and facilitate demand-based skilling on 21st century skills for interested transgender persons so that livelihood opportunities for transgender persons are not limited to risky sex-work and high HIV prevalence in the community can be addressed systemically.

PEE1659

MAWA GIRLS: CREATING HEALTHY FUTURES THROUGH EMPOWERMENT, EDUCATION, HIV RISK REDUCTION AND PSYCHOSOCIAL SUPPORT

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BACKGROUND: Girls who dropout of secondary school in sub-Saharan Africa are twice as likely to be HIV-positive (UNAIDS 2019). GAIA has supported girls in Mulanje District, Malawi with bursary assistance, yet rates of dropout remained at 18% in the 2017-2018 school year. Aiming to improve educational and health outcomes among adolescent girls and young women (AGYW) in a high-HIV prevalence region, GAIA partnered with Sentebale in 2018 to implement Mawa Girls, a layered program of clubs, curriculum and parent/guardian involvement.

DESCRIPTION: In year one (2018-2019), 360 girls (including 59 on bursary) in 9 secondary schools self-selected to participate in school-based clubs once/month for 9 months. Trained female teachers/volunteers presented the curriculum, providing life skills and education on SRH, and role models and activities to help girls aspire to and plan for a healthy, productive future. Girls' guardians signed a letter of commitment to attend meetings to learn support strategies.

LESSONS LEARNED: In year one, 78% (281/360) of girls attended all club sessions and 94% (338/360) attended all but one. Pre- to post-test scores measuring knowledge/attitudes improved by 16% overall, with a 34% increase on HIV-specific questions, a 22% increase on sexual and reproductive health questions, and an 8% increase on questions measuring empowerment. Program participation appears to correlate with lower rates of school dropout, especially among those on bursary: 2% (7/360) dropout rate among all Mawa Girls' participants; and 0% (0/59) dropout among bursary recipients participating in the program, versus 18% (22/125) dropout among bursary girls in previous year without the program. Potentially more significant to decreasing rates of HIV among girls is grade attainment, and among Form 3 students participating in Mawa Girls during year 1 and completing the school year, 98% returned for Form 4 in the 2019-2020 school year.

CONCLUSIONS/NEXT STEPS: Layered programming, including bursary, safe spaces for girls to learn about SRH/goal-setting, mentors/role models to provide inspiration, and guardians creating an enabling environment, represents a promising approach to supporting secondary school completion and improving health outcomes among AGYW.

PEE1660

INTEGRATING HEALTH PROMOTION/HIV INTERVENTIONS AND ROAD SAFETY TO ENHANCE UPTAKE OF HIV SERVICES FOR TRUCKERS ALONG THE NORTHERN TRANSPORT CORRIDOR IN KENYA

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BACKGROUND: Road traffic accidents are a leading cause of death with 3,572 deaths reported in 2019 as per the Kenya National Transport Authority with male fatalities being at 85.5%. Even though the HIV incidence has been on a decline it is still high at 52,800 new infections per year. Non -communicable diseases (NCDs) cause 27% of deaths in Kenya. Road traffic accidents are caused to a varying degree by lack of knowledge and skills, non-adherence to safety regulations and drivers' health status making a health and wellness programme a vital component of road safety programmes.

DESCRIPTION: The International Labour Organization collaborated with the Swedish Workplace HIV/AIDS Programme and the Kenya HIV/AIDS Private Sector Business Council to target trucking companies for an integrated road safety, health promotion and HIV services initiative along the northern transport corridor.

The programme engaged with Pioneer Road Safety Consultant Limited, a pioneer company in road safety using journey management solutions with established Checkmate sites along the northern transport corridor.

Managers were sensitized on the importance of establishing health/HIV workplace programmes and policies as part of Occupational Safety and Health and its importance to road safety. At the checkpoints, truckers were screened for hypertension, diabetes and alcohol. Truckers were offered rest for a minimum of 15 minutes for fatigue management as vehicles underwent quick checks. Nutritional counselling was done to 52% of truckers who were obese/overweight. Those with hypertension, deranged glucose levels were referred for treatment while two male drivers were immediately admitted due to hypertension.

HIV prevention and testing services were also provided at Checkmate sites and at sex work hotspots during the International Road Safety Day and the World AIDS Day.

The three month initiative resulted in 4,104 males and 2,473 females knowing their HIV status with 24 males and 20 females who tested positive being linked to care.

LESSONS LEARNED: Combining HIV/NCDs interventions with road safety worked well for truckers as well as companies. It improved road safety, health seeking behavior amongst truckers, reduced stigma attached to HIV testing, boosted their morale, lowered turnover and increased productivity.

CONCLUSIONS/NEXT STEPS: Expand this integrated model to other companies with public service vehicles.

PEE1661

INTEGRATION OF SEXUAL AND REPRODUCTIVE HEALTH, GENDER BASED VIOLENCE, NUTRITION AND WELL-BEING EDUCATION IN THE COMMUNITY YOUTH EMPOWERMENT PROGRAM IN MAKUENI COUNTY, KENYA

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BACKGROUND: Kenya is a UNAIDS Fast-Track country with the third-largest epidemic in the world. Sensitizing young people on HIV and sexual and reproductive health remains controversial. Fears of encouraging early sexual debut, among others, led 40% of adults to be against educating young people about condoms. AIDS is the leading cause of death among young people (aged 10-24) in Africa, and the second leading cause globally. In Kenya, young people (15-24 years) contributed 40% of adult new HIV infections in 2017.

DESCRIPTION: Health directly impacts youth's wellbeing. In 2019, Makueni County Government in collaboration with World Food Programme initiated the Makueni Youth Agribusiness Empowerment

Programme, targeting 1,248 youths (45% males and 55% females). Training of 17 sub-County technical officers from Youth, Gender, Agriculture-Home Economics and health departments was conducted. An integrated facilitators module was developed to guide the implementation of the model that focused on: growth and development; gender-based violence; drug and substance abuse; HIV/AIDS/STIs; reproductive health and basic human nutrition.

Modelled on a mentorship approach to strengthen youth-mentors' bond and trust, the training's were delivered through interpersonal sessions, social platforms, workshops and bench -marking learning visits. At the community level, the sensitization sessions adopted a range of social behaviour communication strategies.

LESSONS LEARNED: As stigma, discrimination, discomfort with health service providers and lack of awareness, hinder youth's health seeking behaviours, the integrated agribusiness training programme served as a pull factor for the youth to attend health and nutrition sessions. This provided access to information with regards to youth friendly centres, awareness on HIV/STIs, and available health options and services. The initiative reached 81% (1012) of the targeted youth. Among them, 69% indicated the training was very relevant, 80% strongly agreed on usefulness of the information and 78.2% indicated improved knowledge on health and nutrition issues.

CONCLUSIONS/NEXT STEPS: Sensitizing young people on HIV and sexual health remains key. Improving health care providers' capacity to offer youth-friendly services while fostering multisectoral approaches, enhancing youth sexual and reproductive knowledge is crucial. The integrated agribusiness training promoted health and nutrition knowledge while sustaining youth's economic empowerment to enhance their well-being and that of their communities.

DELIVERING GENDER-TRANSFORMATIVE PROGRAMMES AND TACKLING VIOLENCE AGAINST WOMEN AND GIRLS: PROGRAMMATIC LESSONS

PEE1662

GENDER-BASED VIOLENCE INTERVENTIONS ENHANCED UPTAKE OF HIV SERVICES AMONG FEMALE SEX WORKERS IN MONTSERRADO COUNTY, LIBERIA

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BACKGROUND: Liberia has a high prevalence of HIV among female sex workers (FSWs). Approximately 10% of the estimated 163,000 FSWs are infected. High levels of sexual violence against FSWs increase the risk of HIV infection. White Rose Alliance (WRA), under the USAID/PEPFAR-funded and FHI 360-led LINKAGES/EpiC project, established a successful model of responding to gender-based violence (GBV) among FSWs in Montserrado County, Liberia.

DESCRIPTION: In August 2019, peer outreach teams were sensitized in the identification and reporting of violence cases. GBV response teams were formed to provide social, psychological, and referral services. The teams include peer educators, peer navigators, hot spot owners, and female and male "five stars" (high-ranking and respected champions at hot spots). The teams intervened with perpetrators and brought them to community mediation for resolution or referred them to police.

LESSONS LEARNED: Prior to LINKAGES/EpiC, there had been a paucity of GBV case reporting. After training peer educators on GBV awareness, reporting, and creation of crisis-response teams, 94 GBV cases were recorded in hot spots served by WRA between August and November 2019. Discussions with 40 FSWs showed a strong preference for crisis response teams to resolve GBV cases instead of relying on police, because some officers are perceived to connive with perpetrators of violence. Seventy-seven cases (82%) were physical violence such as beating or other physical manhandling, eight (9%) were cases of emotional abuse, and seven (7%) were refusal by clients to settle the agreed payment. Forced sex and eviction of FSWs from hot spots accounted for 2% (1% each). Sixty-three percent (59/94) of perpetrators were regular sexual clients. All cases were successfully managed by the crisis-response team, except 15 GBV cases whose perpetrators refused to comply with their resolutions.

CONCLUSIONS/NEXT STEPS: GBV sensitization and operational crisis response teams have provided protection for FSW victims of violence. Since some perpetrators do not cooperate with violence response teams, collaboration and coordination with the police is necessary to increase the protection of victims. The crisis-response interventions will help the entire project mitigate the effects of gender-based violence.

PEE1663

PERSISTENT AND RESILIENT HARM REDUCTION FOR FEMALES WHO USE DRUGS ENDING THE CONCENTRATED HIV EPIDEMIC

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BACKGROUND: In Myanmar, the prevalence of HIV and STI among key populations (KP) such as female drug users and sex workers is high due to unsafe sex and unsafe injection practices. KP faces harsh stigma and discrimination, as a consequent, they avoid or have limited access to care provided at general health care settings. In response, the Asian Harm Reduction Network, in coordination with Ministry of Health and Sports have been implementing a female-friendly Harm Reduction cascade, integrating sexual and reproductive health in Kachin State.

DESCRIPTION: Female friendly services and income generation were setups at AHRN's drop-in-centers in jade mining areas, Kachin State. Female outreach workers, health staff and peers were recruited and trained to extend the coverage of condom distribution, needle syringe programs, routine HIV testing service, sexual and reproductive health, methadone referral, hepatitis B vaccination, ART, PMTCT, early infant and children HIV referral. Staff, including community-based peers, are well trained, systematically reach hidden female drug users and sex workers and provide support and services.

LESSONS LEARNED: More frequent and consistent visits by female peers have raised awareness of harm reduction services, trust-building and encouraging clients to become peer outreach workers.

Between January 2016 and December 2019, a total of 1,559 female drug users and sex workers were reached by harm reduction services through female-friendly drop-in-centers. Of them, 1,475 (95%) received HIV test and 128 (9%) were HIV positive and enrolled in HIV

treatment and the rest were stick on prevention services. 233, 386, 508 and 691 STI screenings were done and 203, 239, 220, 221 STI treatments were provided annually and 1,613,704 condoms were distributed since 2016.

CONCLUSIONS/NEXT STEPS: Innovations in services resulted in a steep increase in reaching hidden female key populations and contributed significantly in minimizing the transmission of HIV and STIs and warrant scientific exploration. Recreational activities led by female peer educators, women and children friendly space, income-generating activities and medical interventions to meet their needs are important for the HIV care continuum and encouraging return visits. Further expansion and community-led service provision are expected to further increase reach, yield, and efficiency in service delivery.

PEE1664

WHERE THE NEED IS GREATEST: CREATING A CONTEXT-SPECIFIC THERAPEUTIC PROGRAMME FOR CHILDREN AND THEIR FAMILIES AFFECTED BY SEXUAL ABUSE INCLUSIVE OF HIV TESTING

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BACKGROUND: Abuse, neglect, exploitation and violence against children result in serious health challenges and are widespread in South Africa. One in three children are exposed to sexual violence in their childhood and sexual abuse contributes to the high number of HIV infections amongst children and adolescents. In most communities' access to mental health professionals are limited resulting in children who have experienced abuse going without support. The experience of sexual violence can have a profound impact on the health and core aspects of the emotional, behavioural, physical, and social development of children and adolescents, throughout their lives. Therapeutic interventions are critical to mitigating these long-term repercussions.

DESCRIPTION: However, the 2016-2017 South Africa Child Protection Systems Review revealed that social workers lacked the capacity to engage with clients at a therapeutic level. Social workers instead referred clients to external counsellors or psychologists. As a result of the costs of such external/private practice, few families were seeking therapeutic support. The Department of Social Development, in collaboration with the GCBS and other non-governmental organisations, developed a context-specific programme to address the need for evidence-based therapeutic interventions by social workers for children affected by sexual abuse in the particularly challenging operating environment of South Africa.

LESSONS LEARNED: Qualitative interviews revealed that the social workers felt empowered to manage children's disclosures of abuse, that the programme was practical and implementable within the social work environment provided they had access to confidential counselling rooms. Limitations were high caseloads, limited supervision for complex cases and inconsistent attendance for the 10 sessions to reach program impact.

CONCLUSIONS/NEXT STEPS: The programme created better outcomes for child victims who have previously not had therapeutic support. The program was effective at capacitating social workers with skills to therapeutically engage their clients and families. Vulnerable children were referred for HIV testing. The limitations of inconsistent attendance would suggest the intervention is well suited to residential environments, camps or holiday programmes. Further support in developing the capacity for supervisors is needed to embed this program in social work practice within the DSD

PEE1665

COACHING BOYS INTO MEN INTERVENTION CHANGES BOYS' KNOWLEDGE AND ATTITUDES ABOUT VIOLENCE: EVIDENCE FROM A PILOT IN UGANDA

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BACKGROUND: According to the Uganda Violence Against Children Survey (2018), 20% of adolescent girls (AG) experienced forced sex before age 18, of whom 28% become pregnant. 75% acquired sexually transmitted infections including HIV, and 25% missed school due to physical violence - increasing the risk of HIV (UNAIDS, 2018). Uganda has one of the highest global HIV prevalence rates (6%), and HIV prevalence of AG ages 15-19 is approximately 2.5% - almost four times higher than boys the same age (UPHIA 2016-2017). Coaching Boys Into Men (CBIM) is an evidence-based intervention identified in the INSPIRE global framework for ending violence against children. Contributing to the UNAIDS 95-95-95 Global Strategy, the CBIM pilot in Uganda targeted boys to reduce violence through social norms change, thus reducing the risk of HIV infection for AG. CBIM was delivered to boys (ages 14-18) by trained athletic coaches in Mityana District, Uganda.

METHODS: A longitudinal pre-post study design was conducted 2018-2019. Respondents were adolescents and coaches from 20 primary schools, 5 secondary schools, and 10 community teams. 502 boys and 456 AG in and out of school and 60 coaches were interviewed. Data was collected using electronic questionnaires over the ODK platform. Data collected measured attitudes and knowledge about disrespectful and abusive behaviors. Data was exported to SPSS and was analyzed using basic descriptive statistics in the form of frequencies, means, and percentages of the variables. All data was disaggregated by out of school and in school adolescents, as well as pre-and-post intervention.

RESULTS: Findings show an increase in boys who do not accept any forms of violence from 41.9% (pre) to 85% (post) and an increase in boys who report intent to intervene when witnesses of violence from 18.9% (pre) to 88% (post). Girls and boys who rated school as a safe place that protects from violence against children increased from 54.5% (pre) to 93.5% (post) and girls and boys who feel safe at school increased from 32.4% (pre) to 71.5% (post).

CONCLUSIONS: CBIM is a scalable, low cost, and fun way to engage boys to increase their knowledge and skills for violence prevention and HIV risk reduction.

PEE1666

EXPLORING IMPLEMENTATION OF A COMPLEX MULTILEVEL COMBINATION HIV PREVENTION INTERVENTION: THE DETERMINED, RESILIENT, EMPOWERED, AIDS-FREE, MENTORED, AND SAFE (DREAMS) PARTNERSHIP IN RURAL NORTHERN KWAZULU-NATAL, SOUTH AFRICA

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BACKGROUND: The DREAMS partnership aims to reduce HIV infections among adolescent girls and young women (AGYW) in 15 countries. We explore how the DREAMS core-intervention package, a combination approach to address related risks of HIV acquisition, poverty, gender inequality, sexual violence, and education-level.
METHODS: We conducted participatory ethnographic assessments of four communities (1 semi-urban, 1 rural, 2 deep rural) over two years, including: repeat in-depth interviews with AGYW and adolescent boys and young men (ABYM) (n=58, round 1, n=50, round 2); group discussions (n=19) with young people and community members; in-depth interviews with implementing partners (n=33) and stakeholders at district and local levels (n=9); and participatory observations of community-based condom distribution and demonstration, and of a curriculum-based intervention with AGYW.
RESULTS: The DREAMS initiative was implemented between April 2016- September 2018. Interviews and group discussions with adolescents and community members revealed that the combination of structural, behavioural and biological approaches implemented by multiple implementing partners resulted in an increase in visibility and access to services, e.g., community-based HIV testing for young women and men, access to male condoms, and voluntary medical male circumcision. Stakeholders reported that, DREAMS strengthened the Department of Health's strategy of expanding beyond a single-intervention approach and strengthened existing infrastructure to address AGYW's health-related issues, particularly those in school. However, implementing partners said that DREAMS rollout was slow, particularly for interventions (e.g., Pre-Exposure Prophylaxis) and among implementing partners who were new in the community, due to low community buy-in. Furthermore, some implementing partners and stakeholders shared that there were limited synergies between overlapping services offered by DREAMS partners and government departments, particularly in schools and social services. We also found that there were challenges in layering and coordination of services (particularly in the first year of DREAMS) between different social, health and education sectors, especially when implemented by different partners.
CONCLUSIONS: DREAMS showed it is possible to improve access to services through multiple sectors and adapt a complex intervention in rural high-prevalence settings. Appropriate and ongoing stakeholder and community engagements are necessary to ensure timely rollout, early buy-in and ownership of programmes.

SOCIAL PROTECTION: NEW EVIDENCE AND PROGRAMMATIC LESSONS

PEE1667

IMPLEMENTATION EXPERIENCE FROM IMPROVING ORPHANS AND VULNERABLE CHILDREN (OVC) HEALTH OUTCOMES IN COMMUNITIES SERVED BY MILITARY HEALTH FACILITIES IN UGANDA

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BACKGROUND: There are approximately 1.8million orphaned children below 18 years in Uganda. Of these 45.6% are due to HIV/AIDS; with 105,000 HIV positive children. OVC vulnerability in military settings is heightened by community exclusion, high risk exposure and high mobility. URC-Department of Defense HIV/AIDS Prevention Program supports a multi-pronged OVC program in 12 military bases.
DESCRIPTION: We conducted children vulnerability assessment resident in 12 military bases. Identified vulnerable children and households were supported with a package of OVC interventions, including HIV testing, enrollment into care for identified OVC positives and child protection interventions. 492 caregivers and 672 adolescents were trained. We used program data to assess the resulting health outcomes.
LESSONS LEARNED: There were 2,827(71%) OVCs served (1,140, Male; 1,571 Female) within 1 year of the intervention. There was a significant increase in key health indicators including HIV testing to 94%, all identified HIV positive OVC were linked to ART. However, viral suppression rates remained low at 68%. No cases of GBV were reported. The standard vulnerability assessment tool is not well suited for the military setting.
CONCLUSIONS/NEXT STEPS: OVC interventions are effective in improving some health outcomes of vulnerable children in military bases. However, vulnerability assessment requires a military tailored tool. Additional interventions are required to address the low viral suppression among HIV positive OVC.

PEE1668

INCREASING ACCESS TO HIV TESTING FOR MIGRANT WORKERS, FEMALE SPOUSES AND THEIR CHILDREN IN A MIGRATION AFFECTED COMMUNITY IN BANGLADESH USING WHOLE OF SOCIETY APPROACH

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BACKGROUND: Though HIV testing is mandatory for migrant workers to get job abroad, there is rarely interventions for them to ensure prevention, treatment and care. Data shows that migrant workers and their families constitute around 30% of newly identified cases in Bangladesh annually. Bangladesh National HIV/AIDS Strategic Plan

covers migrant workers, but no national programme is undertaken yet. This project aimed to pilot a model intervention to integrate migration, health and HIV/AIDS.

DESCRIPTION: The two-year project was implemented in a sub-district in rural Bangladesh which has high rates of migration abroad, extremely conservative society, and low service coverage. The project applied three strategies – (i) enhance knowledge and empower migrants, families and communities; (ii) increase skills of health workers and facilities in public health centres; (iii) engage local representatives and key stakeholders. Migrant workers – potential and returnees, their spouses, pregnant mothers, and families were reached through door-to-door orientation, community-based training, outreach infotainment events, helpline, day observation, etc. for building knowledge and awareness. They were periodically followed up by trained peer educators. The project provided HTC – HIV Testing and Counselling - training to health workers, supplied rapid testing kits to the health centres, and organized consultations and meetings with key stakeholders. 8,300 targeted beneficiaries received HTC at local health centres. Six were identified HIV positive - one returnee migrant worker, two non-pregnant spouses of migrant workers, one 2-year old child of a migrant, and one non-migrant couple – all were ensured treatment through referral to government hospitals.

LESSONS LEARNED: The project successfully demonstrated that the inclusive approach of migration, health and HIV/AIDS together can be an effective intervention to reduce stigma. The whole-of-society approach through effective engagement of local stakeholders, communities and beneficiaries was found useful to break prevailing taboos, attitude and behavior towards HIV testing; and the door-step HTC together with referral for free treatment to public hospitals ensured access to treatment.

CONCLUSIONS/NEXT STEPS: The community approach creates demand among the people and thus, is considered as a successful element to replicate and scale up to promote safe migration, promote migrants health, and reach target 90-90-90, and should be incorporated into National Strategic Plan.

PEE1669

POSITIVE IMPACT OF SOCIAL PROTECTION SCHEME IN RETENTION OF PLHIV IN THE CONTINUUM OF CARE

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BACKGROUND: To improve the survival and quality of life of PLHIV , HLFPPT is managing Vihaan programme in Rajasthan State by establishing 17 Care & Support Centres (CSCs). CSCs are the comprehensive facility for providing, counselling, referral, outreach services and linkages to Social entitlements/ welfare schemes to registered PLHIV. Retention of PLHIV in treatment has always been a Challenge in Rajasthan State. As per 12 month retention data <74% clients were retained in treatment (Ref: Programme data Rajasthan: 2018-19).

DESCRIPTION: The linkages with social welfare scheme are playing an important role in increasing uptake of care and support services including retention of PLHIV in the treatment but due to identity disclosure, limited PLHIV specific scheme, lack of sensitivity towards PLHIV across various line departments, complex documentation and time taking process, majority of clients are reluctant to link with the schemes. To overcome the challenges HLFPPT ensured quality counselling to address disclosure related issues, conduct state and district level advocacy meetings with various line department for easy processing to uptake the services and synchronised the coordinate effort of ART and CSC.

Further, "Linkages Camps" were organised and to ensure the success of linkages camps detailed guideline and monitoring schedule was developed. Prior to the Linkage Camp the client mobilisation was ensured and during linkages camp 2,553 clients were mobilised about various social welfare schemes and 2,405 PLHIV applied for various welfare schemes. Out of 2,405 PLHIV, 1,121 forms were completed and remaining 1,284 PLHIV whose forms were incomplete further followed for completing the forms.

LESSONS LEARNED: All 2,405 PLHIV were linked with various social welfare schemes. Further, retention of these linked clients were analysed and it was evident that overall retention of all 2,405 linked PLHIV is >90% in comparison to state 12 month retention (<74%) for FY-2018-19. The result clearly reveals that linkages with Social welfare scheme have an impact on the retention of clients in treatment.

CONCLUSIONS/NEXT STEPS: Linkage to Social welfare schemes uptake and retention of ART is closely interrelated. Through Social Welfare Schemes the PLHIV are able to integrate into mainstream society since they are financially independent and enhancing their qualify of life.

INNOVATIONS IN BEHAVIOURAL DATA COLLECTION AND USE

PEE1670

DISCREPANCIES BETWEEN SELF-REPORTED ADHERENCE AND A BIOMARKER OF ADHERENCE IN REAL-WORLD SETTINGS

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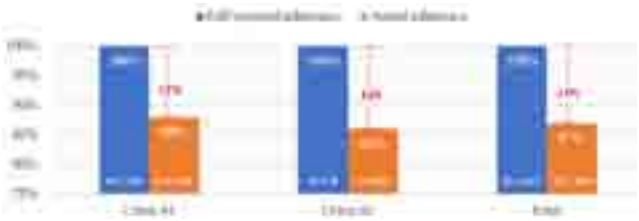
BACKGROUND: Pre-exposure prophylaxis (PrEP) is only effective in preventing new HIV infections when taken consistently. Asking a patient about their adherence (self-report) is the predominant method of assessing adherence to PrEP. Though inexpensive and noninvasive, self-report is subject to social desirability and recall biases and several clinical trials demonstrate a discrepancy between self-reported adherence and actual adherence. Less is known about the accuracy of self-report in real-world clinical settings.

METHODS: A Liquid Chromatography-Mass Spectrometry (LC-MS/MS) urine test for Tenofovir was developed and used clinically to detect recent non-adherence (no dose in at least 48 hours) versus recent adherence (a dose in the last 6 days) for each individual. Two clinics' standard operating procedures recommend utilization of the urine-based adherence test for patients who self-report that they are not struggling with adherence, as those who self-report struggling with adherence receive enhanced adherence support without the need for additional testing. Adherence data from these two clinics were analyzed to assess the concordance of self-reported adherence to biomarker-based adherence.

RESULTS: Across the two clinics, 2,847 tests were conducted from patients self-reporting as "adherent", and 357 (13% (95% CI: 11%-14%)) demonstrated recent non-adherence with the LC-MS/MS test. At

Clinic #1 in Florida, 2,269 tests were conducted, and 275 (12% (95% CI: 11%-14%) demonstrated recent non-adherence. At Clinic #2 in Texas, 578 tests were conducted, and 82 (14% (95% CI: 11%-17%) demonstrated recent non-adherence.



[Figure. Self-reported and actual PrEP adherence]

CONCLUSIONS: Utilization of biomarker-based adherence monitoring at these two clinics resulted in 357 additional patients receiving enhanced adherence support who otherwise would not have been identified as unprotected from HIV infection. These findings suggest that objective adherence monitoring methods should be used clinically to enable providers to identify non-adherent patients and allocate support services accordingly.

PEE1671

COMBINING CROSS-SECTIONAL SURVEY DATA WITH GEOGRAPHIC ACTIVITY SPACE TO EXAMINE THE RELATIONSHIP BETWEEN PLACE AND YOUTH HIV RISK BEHAVIOR IN KENYA

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BACKGROUND: The places where adolescents live, study, and play are thought to influence behavior and health, but we have limited tools for measuring environmental risk on a hyperlocal level. We combine participatory mapping activities with remote sensing and geographic information system data to identify adolescent activity spaces and create a novel measure of environmental risk for HIV transmission.

METHODS: 48 parents, teachers, and community leaders in Muhuru Bay, Kenya participated in focus groups to generate digital maps identifying risky-locations in their community. 325 adolescents (10-18 years) enrolled in a larger study of HIV risk behavior were randomly selected and invited to participate in interviews about their daily routines. Adolescents located their home on high-resolution satellite imagery and mapped how and where they spent time. We used these activity logs to generate Euclidian standard deviation ellipses—activity spaces—which we overlaid onto the digital risk maps. We quantified the ecological risk for each individual's activity space as the density of adult-reported risky locations falling inside the activity space. We used linear regression to estimate the association between self-reported HIV risk behavior and this metric of ecological risk.

RESULTS: On average, adolescents spent most of their time within an area of 2.7 km2. We do not find support for conventional narratives about the shrinking of girls' social environment as they enter puberty. Girls in this sample described activity spaces that were comparable to boys' spaces (boys 2.24 km2, girls 3.14 km2). 9 out of 10 adolescent activity spaces overlapped with a risky location, and the average activity space contained 19.8 adult-reported risky points. Activity space size increases with age, and age is correlated with environmental risk density. Ecological risk is associated with spending more time out of the home at night and reporting being sexually active (NS).

CONCLUSIONS: This study demonstrates the feasibility of quantifying adolescent risk environments through community informed, participatory techniques and spatial mapping technology. By relating activity space to psychosocial correlates of HIV risk behavior, we also demonstrate the utility of activity space analysis in generating new insights into the relationship between adolescents' movements throughout their communities and their exposure to risky environments.

PEE1672

IDENTIFYING HIV RISK PROFILES AND ASSOCIATED SERVICE UPTAKE AMONG MEN IN ESWATINI

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BACKGROUND: To help inform prevention programming, we developed HIV risk profiles among young men in Eswatini using two waves of cross-sectional data (late-2016/early-2017; mid-2018), then assessed whether higher-risk profiles are increasingly being reached by HIV services.

METHODS: Men ages 20-34 years completed surveys at informant-identified hot-spot venues in 19 Tinkhundla across Eswatini. We identified profiles via Latent Class Analysis, then assessed HIV service use by survey round for each profile.

RESULTS: We identified five profiles, distinguished by their socio-demographic and HIV risk characteristics. Younger high-risk (13% of sample; mean age=23) tended to be unemployed (62%) and urban-resident (58%), with a high number of partners, hazardous drinking (HD, 84%), IPV (33%) and inequitable gender norms, and lowest condom use (8%). Older high-risk (9%; mean age=32), largely unmarried/non-cohabiting, also had high numbers of partners, who were 10 years younger on average, plus other relatively high levels of risk. Mid-age moderate-risk (31%; mean age=27) had moderate levels across risk indicators. Younger low-risk (29%; mean age=22) were most likely to be in school (34%), unemployed (73%), and rural-resident (63%), with relatively low risk levels. Older low-risk (18%; mean age=32) were largely married/cohabiting (63%, vs. <30% for other profiles), also with low levels of risk, except for IPV (21%). HIV testing in last year increased most over time (+20-25%) among higher-risk profiles (all p<0.001). Ever-circumcised increased for most profiles (not always significantly). Less than 10% of respondents on-average had recently attended HIV-prevention-related meetings.

CONCLUSIONS: Of five HIV-risk profiles, one younger (urban and unemployed) and one older (yet unmarried/non-cohabiting) were exceedingly high-risk; these men can be reached at hot-spot venues. Profiles resembled other profiles we identified in Durban, South Africa, suggesting similarities across contexts. Current differentiated HIV testing strategies appear successful in reaching the highest-risk men, however other primary prevention needs likely require comprehensive prevention programming.

INDICATORS				LATENT CLASS					FULL SAMPLE
	Younger low-risk (29.2% of sample)		Younger high-risk (12.7% of sample)		Mid-age moderate-risk (31.5% of sample)		Older low risk (17.7% of sample)	Older high-risk (9.0% of sample)	(n=1,391)
Sociodemographics									
Age (mean)	22.1 years		23.4 years		27.1 years		31.7 years	32.0 years	26.5 years
Urban	36.6%		58.2%		52.1%		55.5%	45.1%	48.3%
Currently in school	33.5%		20.1%		5.3%		2.3%	0.0%	14.4%
Married/Cohabiting	10.4%		15.3%		29.3%		63.0%	28.8%	27.9%
Occupation									
Unemployed	73.3%		61.8%		25.9%		17.7%	34.5%	43.6%
White collar	5.2%		9.2%		32.0%		31.9%	19.5%	20.1%
Construction/Factory/ Labor	9.6%		10.8%		19.2%		27.6%	30.3%	17.8%
Service industry	11.9%		18.2%		22.9%		22.8%	15.7%	18.4%
Normative gender attitudes									
Inequitable views towards gender norms[a]	20.2%		27.8%		21.0%		20.0%	23.5%	21.7%
HIV risk behaviors									
# sexual partners in last year									
1	57.1%		16.1%		48.4%		69.5%	30.2%	49.0%
2-4	35.0%		55.7%		39.2%		25.0%	52.5%	38.8%
5+	7.8%		28.2%		12.4%		5.5%	17.3%	12.2%
Age difference with last 3 non-marital partners (mean)[b]	2.6 years		1.3 years		4.4 years		4.5 years	9.7 years	3.9 years
Consistent condom use (last 3 non-marital partners)	59.1%		7.9%		33.3%		44.4%	27.4%	39.0%
IPV perpetration (any)	5.2%		33.3%		12.2%		20.9%	15.5%	14.7%
Hazardous drinking[c]	26.0%		84.3%		50.1%		56.9%	60.5%	49.5%

HIV SERVICE UPTAKE, by latent class membership	Younger low-risk			Younger high-risk			Mid-age moderate-risk			Older low-risk			Older high-risk			FULL SAMPLE		
	R1	R2	OR	R1	R2	OR	R1	R2	OR	R1	R2	OR	R1	R2	OR	R1	R2	OR
Tested for HIV in last 12 months	46.1%	60.1%	1.8 (1.2, 2.6)**	32.9%	54.3%	2.4 (1.3, 4.6)**	39.6%	64.9%	2.8 (1.9, 4.1)***	46.7%	58.6%	1.6 (0.7, 3.6)	42.2%	65.3%	2.6 (1.5, 4.3)***	41.5%	61.8%	2.3 (1.8, 2.8)***
Is circumcised	41.0%	44.6%	1.2 (0.8, 1.7)	39.0%	53.1%	1.8 (0.9, 3.3)	35.0%	44.4%	1.5 (1.0, 2.2)*	39.1%	33.1%	0.8 (0.5, 1.3)	26.7%	36.2%	1.6 (0.7, 3.7)	37.4%	42.9%	1.3 (1.0, 1.6)*
Attended HIV prevention meeting in last six months	N/A	8.2%	N/A	N/A	6.2%	N/A	N/A	7.3%	N/A	N/A	12.4%	N/A	N/A	20.1%	N/A	N/A	9.3%	N/A

Latent class analyses were performed using Stata v15. Fit statistics for this LCA model: AIC=29,454; BIC=29,852
* p<0.05 ** p<0.01 ***p<0.001
R1=Round 1 survey; R2=Round 2 survey; OR = Odds Ratio (unadjusted)
[a]Measured by an 18-item GEM Scale (Cronbach's alpha=0.85), with binary cut-point at midpoint of range
bMean number of years younger last three non-marital partners were than respondent
[c]Measured by AUDIT-C measure
27.9% of the total sample of 1,929 men was not included in this analysis because they were not currently sexually active
<10 men in each class in each round reported being HIV-positive; however given low recent HIV testing prevalence and high known HIV prevalence in this population, many other responents were likely unaware of their positive status.

[PEE1672 Table]

INNOVATIVE APPROACHES TO TRACK INDIVIDUALS

PEE1673

ASSESSMENT OF THE CONTRIBUTION OF MOBILE HEALTH (MHEALTH) IN RE-SHAPING HIV/AIDS SERVICES IN TANZANIA; REVIEW FROM NJOMBE REGION

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BACKGROUND: The application of mobile technologies, 'Mobile Health' (mHealth), in the health care industry is increasingly seen as a way to provide high quality and easily accessible care at lower costs. mHealth is the practice of medical and public health supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless device. SMS Reminder system is one among a number of digital health initiatives that the program supports the government to address missed appointment and lost to follow up among CTC clients and also aiming to improve HIV client adherence to treatment and retention in care.
DESCRIPTION: The USAID Boresha Afya is a five year, PEPFAR supported program through USAID. The program is implemented by Deloitte Consulting Ltd in 42 councils in Iringa, Njombe, Morogoro, Lindi, Mtwara and Ruvuma with its technical partners Family Health International (FHI360), Engender Health and Management and Development for Health (MDH).USAID Boresha Afya is set to create a dynamic, integrated platform for delivery of health services that emphasizes intensified coordination and collaboration between the government, health facilities and communities, towards achieving

HIV epidemic control while integrating FP, TB, MNCH, Malaria care and Nutrition through innovative integration approaches at all levels and opportunities.

LESSONS LEARNED: Through this nine month period, a total of 153,875 clients were expected to attend their visits and 126,220 clients attended their visits as scheduled at the respective faciliti and 27,655 (18% of the total appointments) missed their appointment as scheduled. When compared the same data in the past nine months back (before the introduction of SMS remainder systems), the expected clients were 27,398 and only 17,327 attended and a total of 10,071 (36% of the total appointments) missed their appointments.

CONCLUSIONS/NEXT STEPS: Using the mHealth and the SMS Reminder System actively in this perspective, it's probably the best approach to reducing the LTF clients as most of the PLHIV have mobile phones, and a good way to motivate people with HIV/AIDS to go to health facilities for their scheduled visits and other services, and this might make it easier for the program and country to reach to reach 95-95-95 goals.

PEE1674

GENDER-BASED VIOLENCE TRACKER: REAL-TIME TRACKING OF PEP KIT CONSUMPTION TO COORDINATE THE RESPONSE TO SEXUAL VIOLENCE IN THE EASTERN CONGO

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BACKGROUND: Healthcare facilities in conflict settings face numerous barriers to the timely provision of HIV post-exposure prophylaxis, antibiotics for sexually transmitted infections and emergency contraception for survivors of sexual violence. Individual survivors often lack knowledge about the availability and utility of medical therapy, limiting care-seeking behavior after violence. Gaps in medical training and chronic inventory issues further reduce the likelihood that sexual violence survivors receive time-sensitive medical care after rape.

DESCRIPTION: Global Strategies and Panzi Foundation partnered to create the GBV Tracker, a web-based dashboard (www.kivu-dashboard.appspot.com) that presents near real-time data about the consumption of PEP kits across 45 sites in the South Kivu Province of the eastern Congo. The GBV Tracker is password protected and does not contain any individual identifiers. Its data visualizations enable stakeholders to identify trends in care-seeking after sexual violence, extrapolated from medication inventory data, at the clinic and health zone levels. The GBV Tracker also alerts stakeholders to inventory concerns, the anomalous absence of sexual violence survivors and potential mass-violence events.

LESSONS LEARNED: The GBV Tracker allows for real-time information sharing about trends in care-seeking after sexual violence across five health zones in the eastern Congo. In addition, the GBV Tracker alerts have helped prevent PEP kit stockouts and assisted in coordinating quality improvement initiatives. Since its launch in 2019, the GBV Tracker has generated nine alerts for instances where an individual rural site received >5 rape survivors in a single day. Program implementers have used the GBV Tracker to identify nine sites that have not prescribed post-rape medical kits over six month intervals. These alerts have led to investigations identifying clinic-specific access barriers, such as staff turnover. There has not been a single stockout of essential medications.

CONCLUSIONS/NEXT STEPS: Survivors of sexual violence are at high-risk for contracting HIV and other sexually transmitted infections. Tracking the consumption of post-rape medical kits provides valuable data about care-seeking after sexual violence. In addition, it enables program evaluators to prevent inventory stockouts and identify non-prescribing sites. The GBV Tracker, with its real-time data visualizations and alerts, assists stakeholders in coordinating a response to gender-based violence in a conflict setting.

PEE1675

"BRING BACK MOTHER-BABY PAIR" CAMPAIGN INITIATIVE TO IMPROVE RETENTION IN CARE: EXPERIENCE FROM THE UGANDA PROGRAM FOR PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

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BACKGROUND: Although maternal antiretroviral therapy (ART) uptake in Uganda is high, retention in care is suboptimal: More than 25% of mothers initiated on ART are lost-to-follow up at 6 months. Low retention of HIV-positive pregnant and breastfeeding mothers increases the risk of HIV transmission to their babies and ART treatment failure. In 2018, the Ministry of Health with support from PEPFAR and other partners launched a national campaign to identify and "Bring Back Mother-Baby Pairs" (BBMB) who had missed their clinic appointments within the last two years.

DESCRIPTION: A total of 1,085 facilities with high rates of loss to follow up across the country participated in the campaign. Facilities implemented a series of standardized interventions that included mobilization of district PMTCT focal persons, health facility staffs, Village Health Teams and peer mothers at community level to trace lost mothers and their babies. At each facility, retention improvement teams were established to conduct program data reviews to identify retention gaps and line-list all clients who missed appointments. Onsite mentorship for health workers and peer mothers were conducted to provide guidance on patient tracking and documentation, use of phone calls and home visits. Integrated immunization and early infant diagnosis outreaches were conducted in lower health facilities to identify mothers who might have relocated to those facilities. An SMS-based platform was established to facilitate real-time reporting.

LESSONS LEARNED: Overall, 64.5% (34,301) mothers and 41.1% (23,413) HIV-exposed infants (HEI) lost were brought back into HIV care within 9 months. The proportion of mothers and HEIs brought back varied considerably by health facility level, with the highest registered at National referral and general hospitals (68.2%). The lowest proportion of mother brought back was at Health Centre IIs (58.6%). Regional referral hospitals brought back the highest proportion of babies (75.1%). The lowest proportion of HEIs brought back into care was at Health Centre IIIs (30%). Thus, interventions for BBMB may need to be different at lower level facilities.

CONCLUSIONS/NEXT STEPS: Nationally driven interventions coupled with district and facility-based innovations are effective in improving retention of mothers and babies in care. There is need to scale-up these interventions to all HIV service outlets.

PEE1676

PREDICTORS OF RETURN TO CARE AMONG PEOPLE LIVING WITH HIV WHO MISSED A CLINIC APPOINTMENT IN UGANDA

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BACKGROUND: Retention in HIV care is a key gap along the clinical cascade in Uganda. In 2018, up to 24% of people living with HIV (PLHIV) who initiated antiretroviral therapy (ART) in Uganda were lost to follow-up within the first year. To address poor retention, Uganda launched a national campaign in January 2019 to return to care PLHIV who missed clinic appointments. We identified predictors of return to care among PLHIV who missed a clinic appointment in Uganda.

METHODS: A system for same-day follow-up by healthcare and community workers through phone calls and or home visits was established at ART sites to track PLHIV who missed a clinic appointment. Healthcare workers made four follow-up attempts to return the clients to care within 4 weeks. We developed a tool to document follow-up outcomes and individual PLHIV data. We used bivariate and multivariate analysis to determine the predictors of return to care among PLHIV who missed a clinic appointment (April–June 2019). Statistical significance was defined by P<0.05.

RESULTS: Of the 41,278 PLHIV who missed an appointment, 64% (26,252) had the required four follow-up attempts and a documented final follow-up outcome. Among those with a follow-up outcome, 83% (21,902) returned to care. Significant predictors of return to care after a missed clinic appointment were care in rural facilities (OR, 1.14 [95% CI: 1.06–1.22]), initiation of ART in a healthcare facility (odds ratio [OR], 1.35 [95% CI: 1.19–1.52]). Predictors of not returning to care were male sex (OR, 0.75 [95% confidence interval (CI): 0.70–0.81]), age 15–24 years (OR, 0.67 [95% CI: 0.61–0.72]), care in a Private Not For Profit facility (OR, 0.69 [95% CI: 0.64–0.75]), and duration of ART ≤1 year (OR, 0.41 [95% CI: 0.38–0.44]). No significant difference was observed among PLHIV in community models vs those in facility-based fast-track drug refill models (OR, 0.92 [95% CI: 0.73–1.16]).

CONCLUSIONS: Same day follow up system of PLHIV who miss a clinic appointment was successful in returning most to care, however more strategies are required to return men, 15-24 year old's and those on ART≤1year to care.

PEE1677

PROGRAMMATIC MAPPING AND SIZE ESTIMATION TO HOTSPOT LEVEL HELPED INFORM EFFECTIVE HIV PROGRAMMING FOR KEY POPULATIONS WITHIN MONTSERRADO COUNTY

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BACKGROUND: While Liberia has a generalized HIV epidemic with an estimated prevalence of 2.1% among the general population (men 1.7% and women 2.4%), key populations (KPs) are the most vulnerable with an estimated prevalence of 19.8% among men who have sex with men (MSM) and 9.8% among female sex workers (FSWs). The PEPFAR/USAID-funded LINKAGES project implemented by FHI 360 conducted programmatic mapping and size estimation at hotspot level to strengthen reach and linkage of KPs to effective HIV programming.

DESCRIPTION: In May 2019, some lead KP representatives and key informants (bar men, hotspot owners and regular hotspot patrons) were interviewed to understand KP dynamics according to geographic locations in 124 hotspots (places where KPs are most likely to engage in risky behaviors). This was repeated in July 2019 as a validation exercise and information was collected from 305 hotspots in 7 health districts in Montserrado County. KP Peak days and times and any pointers to some risk such as approximate ages of KPs were noted. Population size estimates were calculated for each hotspot and adjusted for duplication and then aggregated to inform project estimates.

LESSONS LEARNED: Forty five percent of 428 MSM (193) operate through physical spots including entertainment centers, streets and homes of some member while fifty five percent (235) and the majority of 197 transgender people, socialize through the internet, owing to the large stigma and discrimination in Liberia. Seventy percent (300/428) of the MSM are found in 4 major health districts. A significant number of MSM (53% or 227/428) are reported to have engaged in sex with other men for money. Of the 5,327 FSWs, 90% (4,794/5,327) also operate through physical spots, while 10% (533/5,327) use cell phones for both calls and other social media networks to connect with clients. This information allowed the LINKAGES project to target outreach to where and when KPs are most accessible.

CONCLUSIONS/NEXT STEPS: Hotspot level programmatic mapping and size estimation help to understand locales, influence proper allocation of program activities according to district of areas of need and facilitate services to KPs. The mapping and size estimation will be updated annually.

PEE1678

USING OPEN DATA KIT MOBILE DATA COLLECTION AND A BARCODE-BASED UNIQUE IDENTIFICATION SYSTEM TO FACILITATE SCALE-UP OF ASSISTED PARTNER SERVICES IN A RESOURCE-LIMITED SETTING

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BACKGROUND: Integrating assisted partner services (aPS) into existing health systems in low resource settings faces constraints. Data collection is generally paper-based, posing logistical challenges in monitoring aPS and longitudinal follow-up of newly diagnosed HIV-positives (indexes) and their sexual partners. Unique patient identification is also not standardized.

DESCRIPTION: We evaluated electronic data collection using Open Data Kit (ODK) and barcode-based unique identifiers as part of an implementation science scale-up study of aPS in Homa Bay and Kisumu counties in Kenya. ODK is an android-based electronic data collection suite that enables users to collect and encrypt data offline then later upload to a remote server. Validated case report forms (CRFs) were customized into ODK and administered by HIV testing services (HTS) counsellors. An algorithm inbuilt into ODK and integrated to the workflow used barcodes to generate anonymous unique identification codes (UICs). The UICs were then used by healthcare providers (HCPs) to link female HIV-positive index clients to their male partners (MPs) and female partners to the male partners (FPMPs) in the aPS continuum of care. The barcode was recorded on securely stored index contact tracing form - the only paper-based CRF.

LESSONS LEARNED: At 82 weeks of recruitment, over 29,000 females tested for HIV with 1,400 (5%) testing positive and assigned UICs linking them to 1,610 MPs and 256 FPMPs. Electronic data collection integrating the barcode-based unique identification system made it possible to uniquely identify all clients in the aPS continuum. HCPs were able to longitudinally follow-up each case during tracing, testing and linkage to care. It was possible to monitor aPS in real-time, and the research team was able to identify errors in the data and aPS implementation challenges, and immediately offer constructive feedback. Currently, the system is established in over 30 facilities and has been running smoothly for more than 12 months.

CONCLUSIONS/NEXT STEPS: ODK offers a feasible and acceptable point-of-care m-health platform in the scale-up and integration of aPS as standard-of-care in public facilities in resource-limited settings. A similar non-invasive barcode-based unique identification system could readily be integrated into the workflow to improve HIV testing and linkage to care outcomes.

PEE1679

CAREMAT APPLICATION: MORE THAN A USER-FRIENDLY APPLICATION, IT IS AN HIV FULL CASCADE APPLICATION FROM COMMUNITY-BASED ORGANIZATION WORKING ON HIV/AIDS IN THAILAND

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BACKGROUND: Ongoing care and support for PLHIV is critical to ensuring ART initiation and retention and achieving viral suppression. In Thailand, where members of key populations make up a significant proportion of PLHIV, responsibility for treatment support is increasingly shifting to communities under a differentiated service delivery model. Caremat, a key population-led HIV service provider in northern Thailand, developed a software application to help track a growing cadre of HIV-positive clients and ensure timely linkage to treatment and adherence support.

DESCRIPTION: The Caremat application was designed as a retention tool to help community-based care and support staff follow up with their positive clients and link them to treatment as well as to follow up with high-risk negative clients for retesting and to access to prevention package such as PrEP, condoms and lubricants. It has been expanded to include reach and testing modules that can be used in any service point from traditional to online outreach, facility-based or mobile counselling and testing. The system sends reminders directly to clients, and even manages the progress of clients as they proceed through service at a community clinic facility. The application uses a unique identification code to track a longitudinal cohort of clients in real time, alerting staff if – for example – a client is due for a check-up or ART refill. Care and support staff can review and update client medical and personal record real time. This app is able to send notification directly to care and support staff via Line app, which is the most popular chat app in Thailand. Programmatic dashboards allow staff to monitor outreach performance, track and map case-finding rates.

LESSONS LEARNED: The Caremat application is currently tracking about 5,000 negative clients and 500 positive clients with only 10 staff.This application is also cost effective, it successfully sent direct messages to 1,242 negative clients in one time to get retesting and 88 clients get tested, it costs only about 1 USD per one retested client (retention).

CONCLUSIONS/NEXT STEPS: Caremat Application provides a high standard of real-time HIV cascade monitoring useful from the level of community-based organizations to funders and policymakers.

PEE1680

A PROSPECTIVE STUDY OF THE EFFECT OF REAL-TIME MONITORING OF NEWLY DIAGNOSED HIV+ CASES AND ENROLLMENT LEAD-TIME USING MOBILE TECHNOLOGY AMONG KEY POPULATIONS IN BENUE STATE, NIGERIA

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BACKGROUND: The highly mobile nature of key populations in Nigeria prompts a demand for dynamic instruments to closely monitor newly diagnosed HIV+ cases, and linkage to care processes to tailor interventions that improve health outcomes. Adaptable electronic data capture mobile and server applications provide novel opportunities to inexpensively capture and transmit information that can be instantly visualized by implementing partners to identify cascade areas requiring improvement interventions. The aim of this study was to assess the impact of a real-time dashboard designed to monitor new cases and enrolment lead-time, on HIV testing positivity yield and linkage percentages among key populations in Benue State, Nigeria.

METHODS: Demographic, geographic and linkage data was collected from Female Sex Workers (FSW), Men who have Sex with Men (MSM), People Who Inject Drugs (PWID) and Transgenders newly diagnosed as HIV+ at testing and linkage points by community health workers on android mobile devices using ODK Collect (a free data collection app) in 5 Local Governments in Benue State between October and December 2019. Data was transmitted at the time of collection to an online server which instantly fed an online dashboard that was programmed to visualize concentrated areas of new cases and lead-time statistics. Insights from the dashboard were used to feedback evidence-based strategies to improve the HIV initiation-to-care cascade. Yield and linkage percentages were compared to baseline data for each KP group for statistical significance using a paired t-test.

RESULTS: A total of 754 FSW, 532 MSM, 185 PWID, and 11 Transgenders were provided HTS. From baseline, an increase in average percent yield was 1.45%, 1.63%, and -1.25% while the decrease in average lead-time in days was 8.1, 6.2, and 6.5 for FSW, MSM, and PWID categories respectively. No Transgender positive for HIV was identified.

CONCLUSIONS: A significant reduction of lead-time was demonstrated in analyzed KP groups. However, more time would be required to accumulate sufficient prevalence data to evaluate the dashboard's effect on yield. Initial implementation challenges notably inconsistent reporting were encountered during the first month of deploying this intervention. The approach may also be an inexpensive way to monitor KP HIV programs in resource-limited settings.

PEE1681

ENHANCED DATA-DRIVEN DECISION MAKING:A CASE OF APPLICATION OF DHIS 2 IN A COMMUNITY-BASED KEY POPULATION PROGRAM FOR TRACKING ACCESS TO SERVICES AT DIFFERENT SERVICE DELIVERY POINTS

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BACKGROUND: Pakachere IHDC through Local Endeavors for HIV/AIDS prevention and treatment (LEAP) is implementing a 5-year USAID-funded program to improve access to and uptake of HIV prevention and treatment services among female sex workers (FSWs) and their social and sexual networks in Blantyre, Mangochi, Lilongwe and Mzuzu districts of Malawi. An estimated 8,262 FSW are being targeted with services across the HIV cascade of prevention-test-treat-retain. This abstract shares early efforts to establish a client level electronic monitoring and tracking system for key population services to enhance service delivery and program performance.

DESCRIPTION: DHIS 2 platform was opted to and customized to client level data needs. Project indicators and tools for tracking HIV testing, treatment and retention services were harmonized and linked to the system. Unique identifier coding system was developed to link key population individuals across the cascade of services over time. A one month pilot of the system was implemented and data users were trained. Web and mobile system applications were set up at all service delivery points for data entry.

LESSONS LEARNED: The system simplified analysis. It improved efficiency of data management, data accuracy, and site-level monitoring by disaggregating high-risk KPs based on their age, client volume, exposure to gender-based violence, and condom-use practices. The system calculates information from multiple sources of data and de-duplicates to track individual level uptake of services in real time. Dashboards are generated weekly to provide performance feedback. Figure 1 shows the dashboard with results for enrolled clients.

[Figure 1]

CONCLUSIONS/NEXT STEPS: Application of the DHIS 2 tracker has led to improved efficiency in monitoring the outcomes of individual clients accessing services across the HIV continuum in a community-based program. Service providers and managers were able to access real-time data use for timely decision making.

PEE1682

USE OF FACILITY MISSED APPOINTMENT TRACKING TOOL TO IMPROVE RETENTION AMONG PATIENTS ON ANTIRETROVIRAL THERAPY IN KISUMU AND MIGORI COUNTIES, WESTERN KENYA

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BACKGROUND: Patient retention is the ability of comprehensive care clinics to maintain patient engagement in care and continuous antiretroviral therapy (ART) for overall health and transmission prevention. The USAID Afya Ziwani project developed a tool for early detection of ART defaulters and prompt tracking of their return to care to assist facility staff with improving long-term retention.

DESCRIPTION: The facility missed appointment tracking tool (FMATT) was introduced in eight mid- and high-volume health facilities in Migori and Kisumu counties with low patient retention. Missed appointment data was captured in the FMATT for three months prior to and daily after introduction. Facility teams review the appointment diary daily and enter the missed appointments in FMATT. Then they use the tool to determine clients to trace and document as they return to care (also daily). At the beginning of each month, all patients not returned to care in the immediate previous month and prior months are recorded in FMATT for continued active tracing.

LESSONS LEARNED: From January to March 2019, 2,145 of 2,725 (78.7%) patients who missed appointments returned to care within the same month. From April to June 2019, 2,347 of 2,604 (90.1%) patients who missed appointments returned to care within the same month. An additional 146 patients were brought back to care the following month, improving retention to 95.7% (2,493). From April to June 2019, contribution of defaulters from the last week of the month was 49, while from January to March 2019, this was 190, which significantly reduces the number of patients facilities need to track.

CONCLUSIONS/NEXT STEPS: FMATT shows health care providers a running balance of patients who need to be returned to care and achievements in bringing patients back to care. It triggers prompt action to seek patients who miss appointments in the current month and continuous reminder of previous defaulters for continuous follow-up. It allows providers quick access to retention data without additional analysis promoting quick decision-making. The tool is now used at all project-supported facilities and was adopted by USAID to improve retention across other projects.

PEE1683

THE UTILIZATION OF THE THREE INTERLINKED ELECTRONIC REGISTER (TIER) IN MANAGING ANTIRETROVIRAL (ART) PATIENTS BY THE NURSING SERVICES MANAGERS (NSMS): A CASE STUDY OF THE ETHEKWINI MUNICIPALITY, DURBAN SOUTH AFRICA

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BACKGROUND: South African government upscaling of ART resulted in many treatment sites unable to monitor large cohorts of patients using paper-based systems only. Another challenge was the lack of the required infrastructure and resources to implement a full electronic medical record (EMR) systems. This has resulted in the development of a 3-tier approach to monitoring which includes a paper-based system making up tier 1, an electronic version of the paper register as the middle tier or tier 2, and full electronic medical record software at the 3rd tier. EThekwini is home to 8% of South Africa's HIV epidemic with an estimated 650,000 people living with HIV. By December 2019, 466764 clients, 72%, were on ART out of the 585000 expected by December 2020. The aim of this assessment is to determine the utility of the Tier by the NSMs

DESCRIPTION: Mixed methods study design involving: Document Review; auditing the monthly Tier reports actioned by the NSMs from the year 2016, 2017 and 2018 in 30 municipal facilities and Qualitative in-depth interviews to 10 NSMs on their knowledge, usage, and perception of Tier.net; from September to December 2019.

LESSONS LEARNED: Interviewed NSMs revealed the usage of Tier to generate HIV patients reports, action them, it is the game-changer in managing HIV patients. Lack of onsite and technical support to the NSMs, inadequate involvement of clinicians, electricity load shedding, unfriendly Tier design features; linkage to other facilities were identified as barriers to adoption Tier.

Year	2016	2017	2018
Number of Clinics	26	26	26
Monthly Tier.net verification	8%	15%	52%

[Table 1: Document Review on the Monthly Tier Verification by the NSMs from 2016 to 2018]

CONCLUSIONS/NEXT STEPS: Tier usage by NSMs in managing HIV patients has significantly increased over the past 3 years (2016 to 2018) from 8% to 52%.

In-depth interviews with the NSMs revealed that the year 2019 has witnessed a great improvement in Tier data demand and use for ART patients and decision making.

Documentation by NSMs needs to be improved.

A bottom-up approach is required

Tier is indeed a solution long sought after to manage HIV patients

PEE1684

REDCAP: USING REAL-TIME, E-DATA COLLECTION TO IMPROVE LINKAGE TO CARE TO HIV SERVICES AFTER TESTING POSITIVE

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BACKGROUND: South Africa has made significant progress towards achieving the 90-90-90 goals, however challenges exist with HIV positive clients' not starting treatment or starting late after testing. A contributor is the lack of a reliable method to ensure clients testing positive are linked to treatment. REDCap, an electronic data capture and management system, has the ability to capture, store, link and act as a data warehouse for analysis, individual management and tracking and has been used to strengthen tracking of clients referred for clinical services.

DESCRIPTION: HIV testing, screening for STI's and TB and health education were carried out in the community by community healthcare workers (CHWs) across two districts in the Western Cape and Eastern Cape. Paper-based consent forms were used to document services rendered which was captured into REDCap. Between April to mid-May 2019, the REDCap Database was developed from form design to system testing. Data capturers (n=30) and CHWs (n= >100)

were trained on the system in May 2019 and subsequently the database was launched in June 2019. As of January 2020, the system houses over 100 000 records having been collected over a 6 month period. The database enabled the extraction of positive cases, to be checked against facility records to determine which positive cases were not linked to care so CHW's go into the community and trace these clients and link them to care. REDCap functionality also included the ability to monitor staff workload.

LESSONS LEARNED: The REDCap data warehouse enabled staff to monitor frequency of individual testing preventing use of time and resources on retesting the same clients within 3 month intervals. Turnaround time from receiving a positive test result to linkage to care has been substantially reduced due to the availability of real time data that allows for immediate action to reduce non-start of treatment and late presentation. Additionally staff workload monitoring allowed for better staff accountability and improved efficiency.

CONCLUSIONS/NEXT STEPS: Improved client management and service delivery was made possible by using REDCap, low-cost, networked system that is user-friendly and spans the cascade of data collection from entry to programmatic reports to facilitate linkage to care.

PEE1685

THERE IS AN "APP AND APPROACH" FOR THAT: INTEGRATING HUMAN-CENTERED DESIGN IN A MOBILE APP TO INCREASE UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION AMONG ADULT MEN

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BACKGROUND: Male circumcision (MC) reduces men's risk of acquiring HIV infection through heterosexual exposure by approximately 60%. Since 2009, voluntary medical male circumcision (VMMC) has been a key HIV prevention intervention in Tanzania. While reaching men (aged 25+ years) with VMMC is challenging, MC in this age group has greater impact in reducing HIV incidence. Thus, innovative approaches are needed to increase uptake of VMMC services in this group.

DESCRIPTION: IntraHealth International leads the CDC-funded Tohara Plus project, which works to expand VMMC services in Tanzania. Since October 2018, IntraHealth has collaborated with the Tanzania Youth Alliance (TAYOA) to implement an approach that integrates human-centered design (HCD) and mobile technology through the "Tohara Journey" app to better understand men's concerns about their decision and action to access VMMC services.

Implemented in four regions of Tanzania, the approach started by training Popular Opinion Leaders (POLs) on HCD concepts and tools including the mobile app. POLs engage men aged 25+years in the community to identify their unique barriers to VMMC using the mobile app. This allows POLs to develop tailored messages for addressing barriers and facilitators to VMMC during interpersonal communication and through SMS texts.

338 POLs were trained on the approach, following uncircumcised men through their journeys and helping them move across barriers to accessing VMMC. The mobile app facilitates continued interaction by allowing users to respond to messages sent to them with more questions.

LESSONS LEARNED: POLs registered 38,132 individuals who were interested in VMMC with the Tohara Journey app. All 38,132 were provided with a set of 4-6 messages (a total of 121,846 SMS) addressing specific barriers. The project observed a 10% increase in the proportion of males circumcised aged 25+ years from 14% in 2017 to 24% in 2018.

CONCLUSIONS/NEXT STEPS: HCD using the mobile app has demonstrated effectiveness in increasing uptake of VMMC services among men aged 25+ years by addressing specific barriers that hinder them from getting circumcised. This approach makes communication with targeted populations more relevant and motivational and can be applied in other interventions to address individual barriers in utilizing services.

INNOVATIVE USES OF DATA TO STRENGTHEN SYSTEMS AND PROGRAMMES

PEE1686

USING PATIENT TASK ANALYSIS TO EXAMINE HARM REDUCTION AND HIV COMORBIDITY SERVICE DECENTRALIZATION IN VIETNAM

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BACKGROUND: Vietnam is among the first countries to decentralize harm reduction and HIV care to community-based healthcare settings. In this study, we used task analysis to examine the process of methadone maintenance therapy (MMT) and comorbidity service decentralization from MMT patients' perspective.

METHODS: Twenty MMT patients were recruited from centralized MMT clinics in Thai Nguyen Province of Vietnam. The patients were encouraged to transfer their MMT services to a local community health center (CHC) and receive a one-time comorbidity screening and counseling from commune health workers (CHW). Well-trained interviewers conducted follow-up phone interviews with the patients once a week to document the detailed subtasks that they had to perform to receive services from CHC and the time taken. The challenges of each task were probed with open-ended questions.

RESULTS: The subtasks to service decentralization included discussing service transfer with the MMT provider in charge, submitting the application form, getting in contact with CHW, receiving urinalysis, receiving methadone dosage at CHC, discussing comorbidity issues with CHW, collect samples for comorbidity testing, and receiving corresponding treatment or referral. From the day of the initial discussion of service transfer, it took on average 28.8 days for the patients to receive the first MMT dosage from CHC. Among the ten patients who did not finish MMT service transfer in 30 days, the step caused the most delay was from submission of the application to the first contact with CHC. Fourteen (70%) of the patients completed the task of comorbidity counseling and testing within seven days of starting MMT at CHC. Four patients did not complete comorbidity counseling or testing at the end of the study, and reasons were CHW being unfriendly or financial difficulties to pay for HBV and tuberculosis testing. The major complaints were the CHC's layout being inappropriate for MMT distribution and CHW lacking knowledge about harm reduction.

CONCLUSIONS: Communication and collaboration between MMT clinics and CHC should be strengthened to ensure a seamless transaction of patients. More training should be provided for CHW not only to enhance their professional knowledge but also to address the stigmatizing attitude towards MMT patients.

PEE1687

HIV RECENT INFECTION SURVEILLANCE: HEALTHCARE WORKER ACCEPTABILITY AND FEASIBILITY OF INTEGRATING THE RAPID TEST FOR RECENT INFECTION INTO HIV TESTING SERVICES IN MALAWI, 2019

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BACKGROUND: Malawi Ministry of Health implemented a new surveillance system to detect recent HIV infections using a rapid test for recent infection (RTRI) to effectively target HIV transmission. At 23 sites, healthcare workers (HCWs) were trained to conduct RTRI and prepare dried blood spot (DBS) for viral load (VL) testing for algorithm-driven recency results. We conducted a cross-sectional survey to explore the acceptability and feasibility of integrating this activity into HIV testing services (HTS).

METHODS: In September 2019, external research assistants interviewed HCWs using a semi-structured survey to capture experiences conducting RTRIs and integrating the activity within routine HTS.

We aimed to interview a minimum of 100 of 131 trained HCWs. Descriptive statistics were used to summarize closed-ended responses; thematic analysis was used to group open-ended text.

RESULTS: A total of 119 HCWs were interviewed representing all 23 sites; median age was 32 years and 53.0% were female. Most (68.3%) estimated spending ³20 additional minutes beyond routine HTS per client for this activity, with 35.3% of HCW reporting documentation and 29.5% reporting DBS preparation taking the most additional time. Overwhelmingly, HCWs perceived high client acceptability; 100% reported clients as 'somewhat' or 'very accepting'. In total, 82.4% of HCWs reported the RTRI was easy-to-use, while 86.6% reported the RTRI as 'the same' or 'easier' to use than routine HIV rapid diagnostic tests.

Themes from qualitative responses, included: perceiving the RTRI as an uncompensated additional task, wanting surveillance results and not knowing individual client benefit. While HCWs understood the importance of recent infection surveillance, they differed in attitude towards returning results to clients. Some believed returning individual results may enhance partner notification services or client's acceptance of their HIV diagnosis; others were concerned results may cause confusion or interpersonal violence.

CONCLUSIONS: This is the first study to assess HCW experiences using RTRIs for recent HIV infection surveillance. Overall, HCWs perceived RTRIs to be acceptable, easy-to-use, and valuable. The additional time may be substantial (>1 hour/day) at high-volume sites. Providing public health action plans or aggregated surveillance results to HCWs and/or clients may maintain motivation and support sustainability of this novel surveillance system.

PEE1688

MONITORING OF HEALTH SERVICE IMPROVEMENT: BUILDING A HEALTH QUALITY SYSTEM DRIVEN BY LHWS OR COUNSELORS

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BACKGROUND: Quality service delivery is imperative regardless of worldwide shortage of human resources for health (HRH), particularly in low and middle-income countries like Botswana. In spite of guidelines for HIV management, care provided continues to be substandard. One technical program manager (TPM) oversees remediation and administrative work for all the selected facilities in the district and they are often overstretched and report inability to follow and satisfy the monthly facility support schedule. The aim is to test if integration of lay health workers (LHWs) can alleviate HR constraints and improve service delivery.

DESCRIPTION: Using a quality improvement (QI) approach, Core Essential Elements (CEEs; defined as a set of tools used to score the assessment point's performance against an established standard) 2_03, 2_04, 2_13 of site improvement for monitoring system (SIMS) and three epidemic control indicators (linkage to treatment, viral load (VL) coverage, VL suppression) were monitored for six selected facilities in Tutume and Francistown districts from June to August 2019. The aim was to identify if collaboration with LHWs in alerting TPM of some key implementation gaps using a weekly SIMS-based service quality checklist (SQC) improved response time towards remediation and ultimately improved programme outcomes. Baseline data showed 50% (n=6) of facilities with CEEs scored below 70% considered poor, while only 17% of facilities scored above 80% considered good. Due to these results, a SQC comprising of key CEEs, that assess implementation of standard operational plans, guidelines and policies in HIV management, was developed for LHWs to monitor sites and submit weekly reports to the TPM.

LESSONS LEARNED: SIMS results post remediation revealed 100% of facilities had CEEs scored above 80% and 100% of facilities achieving over 90% of key epidermic control targets. On-site mentoring, training and collaboration with LHWs or counselors to improve quality of services can potentially result in achievement of epidermic control, improved health service delivery as well as increasing efficiency.

CONCLUSIONS/NEXT STEPS: The integration of LHWs into the health facility's QI system is cost efficient and sustainable and we plan to scale it up to institutionalize QI and optimize HR.

PEE1689

A SMARTPHONE-BASED LEARNING PLATFORM FOR HEALTHCARE PROVIDERS IN THE FIGHT AGAINST HIV/AIDS IN HENAN PROVINCE OF CHINA

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BACKGROUND: In order to improve the health services to the HIV infected patients, a total of 1,008 anti-retroviral treatment (ART) facilities were set up in communities with 20 or more registered patients. Since this great number of facilities are scattered across a vast area, and the staff are of different professional levels, a new training solution is necessary to ensure the quality of ART services.

DESCRIPTION: We established a smartphone-based e-learning platform (SLP) for ART facility staff in Henan, where they can read articles, share clinical cases, and take courses and exams. SLP is built in as a mini-app of WeChat, the most widely used social app in China, so that the user can easily register, access all contents and functions on their mobile phones, and keep informed with latest news in this field. This platform is centrally managed, routinely updated, and user activities are recorded and analyzed to provide insights for future development.

LESSONS LEARNED: Six months after its launch, there are 672 registered HIV/AIDS related healthcare providers (HCPs) in the system. These users came from 469 facilities, covering 46.5% (469/1,008) of all ART facilities. 180 facilities have finished at least 1 training course. Considering that traditional training program can only cover about 100 centers in a year, SLP has boosted our training efficiency by more than 3-fold. The most popular categories are Guidelines and Consensus (145 courses, covering 57% of the users), Expert Columns (61 courses, 37%), Meeting Education Programs (17 courses, 36%) and Cases Sharing (93 courses, 26%).

[Figure. Smartphone-based e-Learning Platform @ Month 6]

CONCLUSIONS/NEXT STEPS: Online learning platform has greatly expanded our coverage and increased our efficiency of professional education for HIV/AIDS related HCPs. With collected data and feedbacks, we will adopt a data-driven approach to develop and deliver learning contents and programs that are dynamically tailored to HCP's needs.

PEE1690

ENRICHING THE QUALITY OF DATA USING CUSTOMIZED DATA CAPTURE TOOLS TO TRACK CLIENT OUTCOMES ON ART: A TASO RUKUNGIRI RETENTION STRATEGY

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BACKGROUND: Retention on ART is a key indicator in HIV management that greatly impacts on the 2nd and 3rd 90 of UNAIDS strategy. Evidence based data driven processes key in HIV response retention interventions require tailor-made strategies to enable data collection and documentation of progress at facility level Faced with a problem of high rates of lost to follow up clients with undocumented specific outcomes arising from gaps in data collection tools, TASO Rukungiri developed a patient tracking and outcomes form to document outcomes clients missing appointment on ART so as to improve retention monitoring and reporting.

DESCRIPTION: A team composed of counselors, clinicians and M&E staff, developed a client follow form up and an electronic capture screen to document and track outcomes of clients who miss appointments and those lost on ART.

The form captures the clients current phone contact, service delivery model, dates of three follow up attempts, outcomes and findings such as client transferred to another health facility, relocated from the area and a narrative (comments).The form provides options for documenting plans made by after a follow up which include making another attempt, and initiating a physical follow up(home visit). These outcomes are captured for each follow up attempt done by the staff and presented for entry into a designed electronic data capture screen.

LESSONS LEARNED:

- 181 clients missing appointments between October-December 2018 were followed up using the client follow up form and outcomes documented:63(34%) clients were returned to care at the end of the Jan-March 2019.12 self-transferred, 50 relocated,15 promising to return to care and 41 clients could not be traced after 3 attempts.6months retention for clients newly initiated on ART improved from 80% in Jan-Mar 2019 to 90% in July-Sept 2019.Feedback from clients relocating and self-transferring guided the intensification of health talks with focus on seeking appropriate ART referral. Challenges of wrong phone contacts hindering follow up greatly reduced with the use of the form to capture updated contacts.

CONCLUSIONS/NEXT STEPS: The customized client follow up form and data entry screen greatly improves data use and quality of documentation hence it should be adopted to improve retention for clients on ART.

PEE1691

MAINSTREAMING KEY POPULATIONS PROGRAM REPORTING SYSTEM ONTO THE NATIONAL HEALTH REPORTING SYSTEM (DHIS2) A KENYAN EXPERIENCE

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BACKGROUND: A National Health Information System (HIS) plays an important role in ensuring that reliable health information is available for operational and strategic decision-making hence improving quality of life of people. Prior to 2018, there was fragmented Key population (KP) M&E tools and reporting systems leading to development of parallel data collection tools for implementing partners and Ministry of Health hence lack of standardization of reporting of Key Population program nationally hence inconsistent and unreliable Key Population data.

DESCRIPTION: The ministry of Health through NASCOP therefore led a process of revising and rolling out KP program data collection tools. It involved refining KP program goals, objectives and outcomes, defining KP program cascades for prevention and treatment, redefining data elements, indicators, reporting structure, agreeing on nomenclature of unique identifier code for the KP program, explore use of electronic records, developing summary reporting tool and enabling DHIS configuration for the KP program. The process looked at harmonizing field realities such as avoiding tool duplication, including new interventions like PrEP, Hepatitis B and C, looking at donor reporting requirements and reporting tools to align with the Kenya Health Information System (KHIS) for aggregate reporting. Several meetings and workshops were held involving the different stakeholders to have KP data and indicators included in the DHIS2 in the process sensitizing key government officials and stakeholders on KP.

LESSONS LEARNED: Government led processes are more acceptable and as a country been able to have indicators in the KHIS for "groups considered "criminalized". Inclusion of KP data in the KHIS has also seen the process of integration and streamlining of the program with other programs hence more acceptability of the population.

CONCLUSIONS/NEXT STEPS: Reporting rates for KP data has improved from 3% in 2017 to 54% in 2019 on KHIS. The TWG meetings will continues to advocate uptake of new information systems for KP programs and ensure reporting rates improve to 100%.

PEE1692

THE POWER OF SCORECARDS: IMPROVING THE QUALITY OF HIV SERVICE DELIVERY IN TANZANIA

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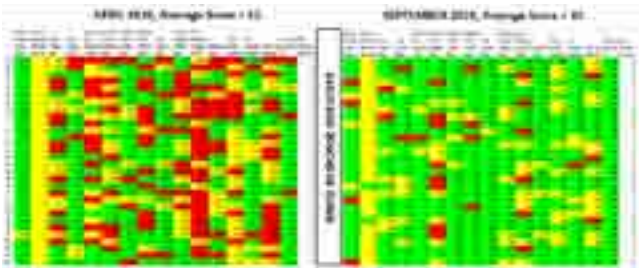
BACKGROUND: Achieving the UNAIDS 95-95-95 goals to improve the health of all people living with HIV and controlling the HIV epidemic requires focus on the quality of HIV prevention and treatment services delivered. The Elizabeth Glaser Pediatric AIDS Foundation initiated an enhanced site-level support initiative to improve site level performance at 30 high-volume facilities in Tanzania.

DESCRIPTION: As part of PEPFAR Tanzania efforts to prioritize performance at high-volume sites, a scorecard was designed for health providers to monitor 16 key performance indicators on a monthly basis. These indicators focused on eight program areas: optimized HIV testing, index testing, linkage case management, same-day ART initiation, early retention, multi-month dispensing, TB preventive therapy and viral load coverage and suppression. Monthly routine program data were used to create site-level scorecards. Each indicator was scored individually using a color-coded scale (green-yellow-red, based on set thresholds) and each given a weight to add to a composite score compiled on a 0-100 scale. Monthly trends were provided to health facilities to review and address performance gaps.

LESSONS LEARNED:



[Figure]

The performance trend was monitored from April to September 2019. Overall performance improved from a composite score of 52 in April to 82 in September (see figure). Monthly indicator monitoring, coupled with close follow-up through on-site mentorship and increased human resource support through interns and volunteers has helped improve the quality of services. The visualization of the score through a color scale provided a powerful snapshot, clearly highlighting performance gaps. It created site-level ownership of data, whereby health providers were keen to address "red" scores urgently.

CONCLUSIONS/NEXT STEPS: Further expansion of the scorecard is planned in terms of both site coverage and adding other program indicators. An automated process, with the use of digital health applications, could further strengthen the routine data use at the facility level and improve the quality of services.

PEE1693

USING SUPPLY CHAIN MANAGEMENT DATA TO ASSESS QUALITY OF HIV TESTING IN PRIVATE HEALTH FACILITIES IN UGANDA

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BACKGROUND: HIV testing is the linchpin of prevention and treatment. For people who test HIV positive, diagnosis opens the door to lifesaving treatment, reducing the risk of transmitting HIV to others. For those who test negative, knowing their status empowers them to remain HIV-free. We assessed the quality of HIV testing based on adherence to the national HIV testing algorithm, using data from LMIS reports.

DESCRIPTION: Data on Determine (Screening test), Stat-Pak (Confirmatory test) and SD Bioline (Tie breaker test) were retrieved from bimonthly consumption reports from health facilities between April 2017 and September 2019. Consumption data were used to estimate consumption of Determine, Stat-Pak and SD-Bioline using a ratio of

100:10:3 respectively. The estimates were compared with the actual consumption that were reported from the health facilities. Correlations, T-tests and principal component analysis were used to compare actual reported consumption with estimates generated using the ratio of 100:10:3 Results were stratified by level of care (Special clinic, Hospital, HC IV and HC III).

LESSONS LEARNED: There were strong correlations between actual consumption and estimated consumption using the ratio (Determine r= 0.776, p<0.0001; Stat-Pak r=0.77, p<0.0001 and SD Bio line r=0.814, p<0.0001). Principal component analysis showed strong relationship between Determine, Stat-Pak and SD Bio line with 90.20% variance explained at eigen value of 2.706. Correlations were lower at HC III (Determine r= 0.78, p<0.0001; Stat-Pak r=0.78, p<0.0001 and SD Bioline r=0.58, p<0.0001), increasing with subsequent increase in the level of care - Hospitals (Determine r= 0.88, p<0.0001; Stat-Pak r=0.88, p<0.0001 and SD Bioline r=0.92, p<0.0001).

CONCLUSIONS/NEXT STEPS: Consumption/LMIS data is often more consistent and readily available. These findings underscore the important and complementary role consumption data can play in assessing quality of HIV testing. The low correlations observed at HC IIIs imply that they should be prioritized for support supervision to improve quality of HIV testing.

PEE1694

REACHING THE FIRST 90: EARLY RESULTS OF IMPLEMENTATION OF A NATIONAL VOLUNTARY ASSISTED PARTNER NOTIFICATION PROGRAM TO INCREASE HIV CASE FINDING IN RURAL MALAWI

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BACKGROUND: Voluntary assisted partner notification (VAPN) involves healthcare providers (HCP) offering HIV-positive persons (index cases) assistance with recruitment and HIV testing of contacts (sexual partners). VAPN has been shown to be effective in increasing identification of HIV-positive individuals in research settings and is endorsed by the World Health Organization. However, data demonstrating the impact of VAPN on index testing in routine program settings in rural Africa is limited. In early 2019, Malawi began implementing VAPN as a routine part of national HIV testing services (HTS). We conducted a pre/post evaluation to assess changes in index testing indicators before and after implementation of VAPN in rural Malawi.

METHODS: In July 2019, VAPN implementation began at 36 health facilities in Mangochi, district (HIV prevalence 10.1%) following a two-day lay HCP training. Prior to VAPN, only passive referral (where index clients recruit their contacts for HTS without HCP support) was occurring. The training included didactics on the rationale and benefits of VAPN as well as role plays allowing HCWs to practice offering VAPN as a choice to patients. Routine facility-level data were abstracted from clinical registers pre VAPN implementation (January-June 2019) and post (July-December 2019). We conducted a pre/post evaluation to assess changes in the mean number of index clients screened for index case testing and mean number of contacts elicited (paired t-test) as well as proportion of and yield of contacts tested (Chi-square test).

RESULTS: Post VAPN implementation, mean number of index clients screened per facility-month increased (pre=12.0, post=38.2, p<0.001), mean number of contacts elicited also increased (pre= 7.4, post=19.4, p<0.001), and proportion of contacts returning for HTS increased (pre=35%, post=46%, p=0.03). The percentage of contacts diagnosed HIV-positive decreased (pre=35%, post=29%, p=0.21). Post-implementation, 68% of index clients with contacts chose VAPN over passive methods. In the post period 71% (972/1361) of all HTS for sexual partners was through VAPN.

CONCLUSIONS: VAPN implementation using lay HCP in a rural setting improved various outcomes along the index case testing cascade. However, HIV testing yield decreased and not all contacts reported for testing. Therefore, other strategies are required to increase the proportion of contacts returning for HTS.

PEE1695

SUSTAINING HIGH PERFORMANCE: USE OF A PREVENTION OF MOTHER TO CHILD HIV TRANSMISSION (PMTCT) SELF-ASSESSMENT TOOL TO IMPROVE FACILITY PERFORMANCE IN PHALOMBE DISTRICT, MALAWI

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BACKGROUND: Beginning in 2016, Malawi began conducting quarterly PMTCT mentorships at the district-level. During the first year of mentorship, Phalombe district registered significant improvement in its PMTCT indicators, becoming one of the highest performing districts in the country. Due to this success, Phalombe graduated from the mentorship programme in 2017. In order to sustain this high performance, the Phalombe District Health Office developed a facility PMTCT Self-Assessment Tool (PSAT). The tool was designed to guide facilities in collecting data from existing registers to measure their performance for 13 programme indicators each month. In this way, facilities could monitor their own progress outside of national mentorship visits and identify key areas for improvement through the development of facility-specific action.

DESCRIPTION: All 15 public health facilities in Phalombe were oriented to the PSAT during a one-day orientation. Facilities were given a period of two months to use the tool. During this period, supervision and mentorship were conducted by the district PMTCT coordinator. After two months, an evaluation meeting was conducted to assess the outcome and collect feedback from end users. Data from each PSAT was used to measure progress across the 13 indicators. Facilities were then able to compare performance by month to evaluate trends and review action plans.

LESSONS LEARNED: Across the 6 indicators, there was an average increase of 19% in PMTCT performance. All indicators with improvement of 5% and above were considered statistically significant. The tool has shown that it has potential to improve or sustain facility performance if used consistently. Facilities reported that the tool was helpful and easy to use. Furthermore, there was great improvement (from 27% to 93%) in completeness of the data.

CONCLUSIONS/NEXT STEPS: The PMTCT self-assessment tool is a simple, effective that can contribute to improving and sustaining facility performance. The tool will be recommended for continued use in the district, as well as considered for national scale-up for use in other districts to improve performance of the PMTCT programme.

PEE1696

A UNIQUE METHOD FOR BUILDING COMMUNITY SUPPORT FOR AND EXPANDING ACCESS TO SYRINGE ACCESS PROGRAMS: PICKING UP IMPROPERLY DISCARDED SYRINGES AND USING APP-BASED TRACKING

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BACKGROUND: Syringe access programs (SAPs) are evidence-based interventions that reduce HIV transmission. San Francisco's SAPs distribute over 3.75M syringes annually. Many syringes are returned through disposal sites and kiosks, although homelessness, displacement, experience with police and mental health symptoms affect individuals' ability to return syringes. San Francisco residents have raised concerns about improperly discarded syringes, threatening support for needs-based SAPs.

DESCRIPTION: With funding from the Mayor's Office, San Francisco AIDS Foundation (SFAF) established the Pick Up Crew, which runs 7 days/week, 12 hours/day, picking up improperly discarded syringes and responding to real-time requests from the community. SFAF developed a software platform and smartphone app, enabling SFAF to rapidly dispatch and process pickup requests and to communicate with residents in real-time. Geolocation data allows for coordination of team activity and analysis of hotspots.

Residents can request a clean-up through email, text, or anonymously through SFAF's website, with most residents requesting by texting the location and pictures of syringes. SFAF staff then respond to the text with status updates, names of team member(s) dispatched, and estimated time of removal. Within 1-2 hours, the Pick Up Crew disposes of syringe(s) and sends a photo to the resident confirming removal.

LESSONS LEARNED: The Pick Up Crew collected 234,506 syringes in over 50 San Francisco neighborhoods in 2019, with the rapid dispatches increasing from a few dozen in January 2019 to over 200 per month in November 2019. Personalized communications and timely pick-ups build relationships with local residents. Some residents opposed to SAPs became supporters of syringe access in online neighborhood forums after their experience with the Pick Up Crew.

An unexpected outcome was increasing disposal options for individuals experiencing homelessness. Once the Pick Up Crew started walking the streets and developing positive relationships with homeless individuals, these individuals started saving syringes for safe disposal with the Pick Up Crew. The number of returns from PWID experiencing homelessness increased from 500 in June 2018 to 15,226 in February 2019.

CONCLUSIONS/NEXT STEPS: This program enables SAPs to build community support, prevent accidental needle sticks, improve quality-of-life for local residents, and increase disposal options for homeless residents.

PEE1697

A NOVEL APPLICATION OF THE PEPFAR SIMS TOOL: LESSONS LEARNED BY THE COLOMBIA ARMED FORCES

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BACKGROUND: The Site Improvement Monitoring System (SIMS) tool was developed as a comprehensive site-level monitoring and evaluation tool to ensure the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) funded programs are delivering quality HIV care and treatment services across sites. To improve quality within the Colombia Armed Forces (CAF) HIV clinics (CHC), who are not supported by PEPFAR, an innovative application of the SIMS tool was used to assess the quality of HIV care and treatment.

DESCRIPTION: The Department of Defense (DOD) HIV/AIDS Prevention Program (DHAPP) works in partnership with Liga Colombiana de Lucha Contra el Sida (LigaSida), a non-profit organization, to collaboratively improve HIV-related services within the CAF health system. In 2018, the inability for CAF to sufficiently monitor quality of care provided by CHCs was identified as an important gap in the military HIV response. To address this, DHAPP and LigaSida provided training and mentorship to CAF in implementation of a tailored SIMS tool. In 2018 and 2019, CAF officials implemented site visits using the tailored SIMS tool.

LESSONS LEARNED: As a result of the implementation of the tailored SIMS tool at 11 sites: (1) for the first time, this tool was used in a sustainable way within a South American military to enable HIV-related quality assessment in quality, supplies and medicines management, counseling, testing, laboratory and index case quantification, (2) there was buy-in by CAF on the benefits of monitoring the HIV response, (3) CAF identified areas for improvement and successful outcomes has increased.

CONCLUSIONS/NEXT STEPS: The success of the CAF-tailored SIMS tool implementation demonstrates how countries with little HIV-specific foreign assistance and no PEPFAR funding at the site level can still benefit from existing PEPFAR tools and magnify the impact of PEPFAR investment beyond PEPFAR-funded activities. In the push to reach global epidemic control by 2030, increased availability and adoption of SIMS and other PEPFAR-developed tools by national health systems outside of PEPFAR-funded sites could expand cost-effective and sustainable activities aligned with the WHO 2030 goal of epidemic control beyond PEPFAR-funded sites.

PEE1698

DIFFERENCES IN VIROLOGIC SUPPRESSION AMONG HIV-INFECTED ADOLESCENTS AGES 10-19 YEARS IN A HIGH HIV BURDEN STATE IN INDIA

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BACKGROUND: Over the past decades, the Indian HIV/AIDS Control Program has been successful in reducing HIV transmission and associated mortality, but poor treatment adherence, suboptimal viral suppression, and drug resistance remain barriers to achieving the

UNAIDS last '95' target, especially among adolescents. We characterized the prevalence and factors associated with failure to achieve virologic suppression among HIV-infected adolescents in Maharashtra, India.

METHODS: We utilized program data from 5,589 HIV-infected adolescents accessing HIV treatment services under the National AIDS Control Program in Maharashtra and with available viral load data from between February 2018 and December 2019. Virologic failure was defined as HIV RNA >1000 copies/mL. Multivariable logistic regression was used to examine the association of age, sex, recent CD4 cell count and regimen type and virologic failure.

RESULTS: In the sample, 44% of adolescents were 10-14 years old and 56% were 15-19 years old. The median recent CD4 count was 658 (interquartile range, 430-910). Nearly half (46%) were female and the majority (83%) were on first line ART, followed by 17% on second line ART; only 10 adolescents were on third line ART. 35% experienced virologic failure and the prevalence varied significantly by age, sex, recent CD4 count, and regimen type. Those on second-line ART had the highest prevalence of virologic failure (52%) compared to those on first line (32%) and third line (40.0%) ART. After adjustment, the likelihood of viral suppression remained significantly higher among female adolescents, those aged 15-19 years, with recent CD4 count >350 and were on first line treatments.

CONCLUSIONS: Virologic suppression was significantly lower among adolescents in this high HIV burden state than the UNAIDS global target of 95% and suppression varied by demographic and clinical characteristics. A comprehensive and holistic adolescent centric program, including psychosocial support and treatment literacy, is needed to overcome this gap. Programs should target males, younger adolescents, and those transitioning to second or third line treatment as well as those transitioning from paediatric to adult ART care.

PEE1699

SMS INNOVATION FOR MANAGING STOCK OF HIV COMMODITIES IN A RESOURCE LIMITED SETTING USING THE HEALTH FACILITY REAL TIME ARV STOCK STATUS (RASS) MONITORING SYSTEM IN UGANDA

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BACKGROUND: Uganda has roughly 1.1 million clients on antiretroviral therapy and is on track to meet UNAIDS 90-90-90, but has lacked a system to monitor stock status of HIV commodities at district and facility levels. The real-time ARV Stock Status (RASS) monitoring system was developed to provide health managers with needed information to monitor stocks and enable re-distribution to avoid stock-out.

DESCRIPTION: RASS implementation started in June 2017 in health facilities using pre-defined coding to report weekly stock on-hand, stock received, and any adjustments through a SMS text messaging to an mTRAC toll free number. The SMS report is processed by the RASS monitoring system, which interoperates with the national electronic Health Information System (eHMIS) to populate a dashboard with stock levels and need per facility. The RASS dashboard is a public site that can be accessed by all stakeholders to regulate stock levels as well as undertake evidence-based actions in logistic planning, such as redistributing HIV commodities from overstocked to understocked facilities.

LESSONS LEARNED: Facilities required on average 1 training session to utilize RASS correctly. After a national roll-out, 83 % of ART-providing facilities use RASS, with an average reporting rate of 60%. Facilities, districts, and central MoH report constant utilization of the data to redistribute and track stocks.

The RASS monitoring system has been essential to:

- Ensure optimal distribution of HIV commodities minimizing the risk of stock outs and contribute to the HIV treatment cascade. The mean stock-out rate has been reduced from 37% in CY17Q3 to 17% in CY19Q3.
- Lower operational costs with reported savings up to 17,000 USD a year in some regions spent on sending teams for physical counts.
- Allow for coordination across stakeholders.
- Empower facility staff to better manage stocks and improve the quality of orders.
- Support reconciliation of HIV commodities orders by allowing facilities to compare orders placed against orders received.
- Support the Ministry of Health in stock planning

CONCLUSIONS/NEXT STEPS: In the absence of a national electronic stock tracking system, the RASS has been an effective and affordable tool to monitor stock levels, empower facilities and districts to better control stocks and avert stock-outs, and improve planning.

PEE1700

UTILISING UNSUPPRESSED VIRAL LOAD PATIENT-LEVEL DATA TO INFORM PROGRAMMATIC OPPORTUNITIES AMONG PRIORITY POPULATIONS IN FOUR DISTRICTS IN SOUTH AFRICA

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BACKGROUND: According to UNAIDS, viral load (VL) coverage around the world remains low for people living with HIV (PLHIV) and on treatment. In South Africa, the VL suppression gap, that is, the number of PLHIV on treatment but not virally suppressed, is steadily increasing. Patient-level data was analysed to identify unsuppressed VLs and identify programmatic interventions to improve rates of VL suppression.

METHODS: For this retrospective cohort study, a review of the VL data of HIV-positive patients on standard first-line anti-retroviral treatment (ART) was undertaken at 315 public health facilities in the four districts (Gert Sibande, King Cetshwayo, Nkangala, and Ugu), in South Africa. Patients included were on ART for six months or more between October 2018 and September 2019. Patients with unsuppressed VLs were then mapped by facility using a geo-spatial mapping application.

RESULTS: The geo-spatial mapping showed the size and disaggregation of patients belonging to priority populations in relation to the locations of public health facilities. Across the four districts, the average

VL coverage was 73%, with 4% of all patients showing unsupressed VL levels. Thirty-six percent of patients with unsupressed VL were on ART for a period between seven and nine months. Each district showed differences across age and gender categories: Gert Sibande contributed to 71% of all unsupressed VL patients; in King Cetshwayo, 59% of females were virally unsuppressed. Additionally, in King Cetshwayo the lowest percentage of HIV-positive patients with an unsupressed VL was found in females 15-24 years (22%) and in Nkangala the lowest percentage was found in males 25-34 years (17%).

CONCLUSIONS: GIS maps show the concentration of patients with unsuppressed VLs and indicate areas as well as facilities where resources and enhanced efforts should be focused to improve viral suppression. The maps helped direct community-based, facility, and index testing interventions. For instance, facilities with high rates of unsuppressed VLs, facilities introduced and/or intensified enhanced counselling, retention and adherence support via SMS, case management support, appointment systems, and intensive and effective ustilisation of clinical chart reviews. The next step is to develop a viable protocol to measure the effectiveness of GIS mapping in HIV programming within these districts.

PEE1701

TECHNICAL EFFICIENCY AND PRODUCTIVITY OF PUBLIC DISTRICT HEALTH FACILITIES IN KWAZULU-NATAL PROVINCE, SOUTH AFRICA

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BACKGROUND: Over the years, efforts were been directed towards reducing the burden of diseases within South Africa with most attention directed at prevalent communicable diseases such as HIV/AIDS and Tuberculosis. Given the high levels of poverty in the country, healthcare remains largely the responsibility of the government. The public hospitals cater for the health care needs of the majority of the population. The public district hospitals (DHs) constitute a major proportion of public hospitals and consume a larger portion of the government's total hospital budget. With the level of resources been pumped into these facilities, it essential to ensure efficient allocation and utilization. Thus, this study was aimed at assessing the technical efficiency of selected public district hospitals in the country.

METHODS: Innovative approaches; Data envelopment analysis (DEA) and Malmquist total factor productivity (MTFP) were deployed in assessing technical efficiency, adjustments needed to make inefficient facilities more efficient and determination of total productivity growth over the period under study. Input data such as medical and other personnel and output information such as outpatient visits were retrieved from the databases of the district health information system (DHIS) for three consecutive financial years (2014/15, 2015/16 and 2016/17). A total of 38 DHs were included in the study.

RESULTS: Data analysis revealed that the proportion constant return to scale (CRS) technically efficient facilities were 12 (31.6%), 16 (42.1%) and 14 (36.8%) in 2014/15, 2015/16 and 2016/17 respectively while the variable return to scale (VRS) technically efficient facilities were 22 (57.9%), 19 (50.0) and 21 (55.2%) respectively for the three consecutive years. Input and output adjustments needed to make inefficient DHs efficient were also identified. On average, the total productivity of DHs increased by 4.8 percent over the three years. Technical growth (innovation) of 6.9 percent recorded by the hospitals contributed majorly to the total productivity improvement.

CONCLUSIONS: In order to meet the continuous health care needs of the people, it is important to adopt techniques that ensure the efficient use of available healthcare resources towards yielding an optimal health service delivery. Some of these techniques were highlighted in this study.

PEE1702

USING MACHINE LEARNING (ML) APPROACH TO IDENTIFY TO PEOPLE LIVING WITH HIV (PLHIV) WITH HIGH VIRAL LOADS IN ORDER TO SUPPORT PRIORITIZATION OF VIRAL LOAD (VL) TESTING SCALE-UP IN INDIA

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BACKGROUND: India is committed to achieving 90-90-90 goals by 2020, and introduced routine VL monitoring in 2018. ~600,000 PLHIV have received VL testing so far. Rapid scale-up is required to provide VL monitoring to ~1.3 million PLHIV on ART currently. This paper explores a ML approach for prioritizing VL scale-up. This could help those most at risk of treatment failure receive rapid care.

DESCRIPTION: Viral load failure (VLF) was defined as VL ≥ 1000 copies/ml. Program data for 86,482 PLHIV (VLF rate = 19.91%) from all states was selected for analysis based on the patient having at least 1 VL test within Feb 2018 and October 2019, at least 2 CD4 tests 3 months or before the VL test, and at least 1 CD4 test after the VL test. The data was randomly split 80:20 into a training and test set respectively with VLF rate equivalent to total data-set. A logistic regression model was built to rank all patients in descending order of likelihood of VLF and trained on the training data-set. VLF was predicted as a function of 10 variables, including ART regimen, facility for treatment, education, occupation etc.

LESSONS LEARNED: CD4 counts before VL test, time between CD4 test and Viral Load test, and ART regimen were highly significant ($p<0.001$). The chi-square test found the model highly significant at < $2.2e^{-16}$. The model returned an Area under curve (AUC) for the Receiver Operator Characteristic Curve plot (ROC) of 0.8348 and 0.8263 on the training and test set respectively, demonstrating good fit. On the test set, the model identified 57.1% of the total VLF in the top deciles of the rankings, implying VLF rate of 56.9% in top 20% PLHIV vs a VLF rate of 10.7% in the remaining 80%.

CONCLUSIONS/NEXT STEPS: If implemented, the preliminary model could help identify 57% potential VLF by targeting just 20% of PLHIV. This accuracy can be further increased to a classic Pareto distribution using feature engineering. Through a more targeted VL monitoring scale-up approach, the program could fast-track care provision to those at risk of VLF and support faster achievement of the third 90.

PEE1703

UTILIZING MOBILE HEALTH GEOSPATIAL DATA TO EVALUATE HIV SERVICE IMPLEMENTATION IN RAKAI, UGANDA

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BACKGROUND: Mobile health (mHealth) interventions are increasingly used to support HIV service delivery and can collect spatial (GIS) data to improve implementation. *Health Scouts* was a novel community health worker (CHW) intervention that used mHealth tools to support HIV service delivery and was recently evaluated in a cluster-randomized trial. To identify clusters with high lost to follow-up (LTFU) rates, we used geocoded mobile data collected from a *Health Scouts* smartphone application.

DESCRIPTION: From 2015-2018, the *Health Scouts* intervention was deployed in an HIV hyperendemic fishing community on Lake Victoria (HIV prevalence ~40%) divided into 40 clusters (20 *Health Scouts* intervention; 20 control). CHWs conducted home-based counseling supported by a mobile app with visits planned for every three months. Geocoded data at each visit was analyzed to identify hotspots with high LTFU rates (defined as no recorded visits over 12 months).

LESSONS LEARNED: 6297 total geocoded visits were analyzed; 2342 participants (or "clients") were visited at least once. 603 (26%) of participants were LTFU. As shown in the Figure, there was substantial variation in the number of follow-up visits. Logistic regression also found substantial spatial variability. For example, participants in the largest intervention cluster had higher odds of having clients LTFU compared to most other clusters ($p < 0.01$). Results also suggested that this spatial variation did not strictly follow cluster boundaries as originally planned as some visits appeared to occur in control clusters or outside of original study boundaries.

[Figure. Spatial variation in follow-up rates. Number of follow-ups within 12 months of study enrollment]

CONCLUSIONS/NEXT STEPS: This geospatial analysis of a CHW intervention promoting HIV services helped identify substantial variability in the implementation of counseling visits. This type of analysis could support near real-time monitoring and evaluation and more efficient targeting of limited programmatic resources. An additional benefit is the identification of geospatial lapses in intervention fidelity, such as intervention delivery outside of intended geographic areas.

PEE1704

CHANGING CHARACTERISTICS OF NEW HIV DIAGNOSES OVER TIME IN RURAL MALAWI

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BACKGROUND: Identifying and treating all people living with HIV is an important component of the Malawi government's commitment to Universal Health Coverage. Since 2004, Malawi has seen significant investment in HIV testing strategies. Neno District is located in rural Malawi with a population of approximately 165,000 and in 2019 had met the UNAIDS first target of enrolling over 90% of the expected cohort in the district. We hypothesized that enrollment trends over time could offer clues about shifting local epidemiology or vulnerable populations that may need particular attention as the district approaches complete enrollment.

METHODS: All newly enrolled HIV patients for the calendar years of 2009, 2014, and 2019 were included in a retrospective analysis. Data was collected on routine paper charts and recorded in an electronic medical record. Descriptive characteristics are reported for gender, age, BMI, and WHO Stage. Significance was determined by chi-square for proportions.

RESULTS: Newly enrolled patients totaled 1,777 (62% female) in 2009, 1,031 (61% female) in 2014, and 905 (57% female) in 2019, with gender not significantly changing over time ($p=0.051$). Mean age at enrollment was 32.4, 31.7, 32.0, respectively ($p=0.42$). Adolescents made up 2.8% of the new enrollees in 2009, 5.1% in 2014, and 5.9% in 2019, with children under 10 years declining, from 9.9% in 2009 to 5.3% in 2019. ($p<0.01$). Mean BMI increased, from 19.6 in 2009 to 21.0 in 2019 ($p<0.01$), and the proportion of new enrollees with WHO Stage IV illness at enrollment decreased from 5.6% in 2009 to 3.5% in 2019 ($p<0.01$).

CONCLUSIONS: Enrollment trends reveal declining numbers as the district approaches complete enrollment, with gender remaining stable over a decade. While mean age did not change, the relative contribution of adolescents to new cases increased. And the relative contribution of young children decreased, likely reflecting improved prevention of vertical transmission, this remains critical need for improvement. The new patients appeared healthier over time, which could represent earlier case finding. Observing these trends routinely may provide programs with areas for improvement over time, such as intensified efforts in vertical transmission and in adolescent health.

PEE1705

SYNCHRONIZATION OF APPOINTMENTS FOR MUTUAL PATIENTS OF GLOBAL HOPE BOTSWANA AND BOTSWANA-BAYLOR INFECTIOUS DISEASE CLINIC

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BACKGROUND: Survivorship care for paediatric cancer survivors provides early detection of and intervention for potentially serious late-onset complications as well as the reduction of adverse effects of cancer treatment. Patients with both HIV infection and cancer at Botswana-Baylor Children's Clinical Centre of Excellence (Botswana-Baylor) are co-managed by Global Hematology-Oncology Paediatric Excellence (HOPE) the Paediatric Infectious Disease Clinic as they' require ongoing follow-up by both clinical teams. Synchronization of follow up appointments for patients co-managed by Global HOPE and the PIDC could improve pediatric cancer survivorship care.

DESCRIPTION: Pediatric cancer patients living with HIV are enrolled in the Botswana Pediatric Oncology Database (BPOD) by Global HOPE and the electronic medical record (EMR) for the PIDC. The two databases are not linked and, with the exception of the demographic information, contain different clinical data. The appointment dates are set independently and therefore are not typically on the same date for co-managed patients.

Upon completion of cancer treatment, the follow ups for the Global HOPE patients are usually quarterly for a year, then biannually for a year and annually starting with the third year. The HIV program check-up appointments are 1 to 3 months apart. From May 2019, a retrospective chart review of Global HOPE and Botswana-Baylor HIV clinic was performed to improve care for cancer survivors living HIV.

LESSONS LEARNED: Ten patients (4 males and 6 females) aged between 5 and 13 years are currently co-managed by Global HOPE and the PIDC. The predominant cancer was Kaposi sarcoma, followed by retinoblastoma and Burkitts lymphoma. In April 2019, at the start of the review the compliance of routine check-ups in the PIDC was 100% and 40 % for Global HOPE. As a result, Global Hope synchronised appointments with those of the PIDC. By end of June 2019, the compliance for Global HOPE had improved to 60%.

CONCLUSIONS/NEXT STEPS: Synchronization of appointment dates for cancer survivors living with HIV seems to promote compliance with follow up check-ups for cancer survivors and should therefore be considered for scale up to optimize the health outcomes. Further studies are recommended to study this phenomenon.

APPROACHES TO USING DATA TO IMPROVE PROGRAMMING

PEE1707

TARGETED CASE-FINDING IN HIV PARTNER NOTIFICATION SERVICES: A DEMOGRAPHIC ANALYSIS OF ROUTINE DATA IN JOHANNESBURG, SOUTH AFRICA

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BACKGROUND: Partner notification and index testing can improve case-finding efficiency. The modality was integrated into public-sector services in Johannesburg, South Africa's biggest city, with an estimated 666,000 people living with HIV, 57% on antiretroviral therapy (ART). ART coverage is particularly poor in children 5-14 years, adolescent girls and young women (AGYW) and adult men. We aimed to determine whether this modality can improve targeted case-finding in these groups.

METHODS: We conducted a descriptive analysis of routine data collected from October 2018 to September 2019. Counsellors collected data in registers; these were captured and manged using REDCap and analysed in STATA. We created testing cascades and calculated yield by age and gender and calculated the frequency and proportion of new positives that originated from index clients in each age/gender group.

RESULTS: 17,173 clients were offered partner notification; 11,852 provided at least one contact, on average 1.4 contacts per index. Of 16,273 contacts, 1,726 were known positive (11%) and 4,139 were tested (25%), with a positivity rate of 31% yielding 1,263 new HIV diagnoses. Proportion of contacts tested was highest under 5 years and lowest in men over 45 years. 31% of untested contacts were men 25-44 years (2453 men). Positivity was above 45% in adult men and women. Positive 5-14-year olds were largely identified through index women 25-44 years old (71%) although 13% came from male indexes and 10% from older women. AGYW 15-24 years old were identified through men 25-44 years (77%), and 9% through men 15-24 years old. Positive male contacts 25-44 years were identified largely through women the same age, although 13% were identified through AGYW. Positivity in female contacts of men 25-44 years ranged from 46% in AGYW to 61% over 45 years. Overall in the district, 25% of new diagnoses were in men 25-44 years and 1% in children 5-14years, compared to 41% and 5% of those diagnosed through index testing.

CONCLUSIONS: Index testing is an effective way to find HIV positive people in target groups. The number of clients offered index testing and the number of contacts tested should be improved, through self-testing and research exploring community perceptions.

PEE1708

IS OUR HIV TESTING REALLY TARGETED? PREDICTORS OF HIV POSITIVITY FROM A LARGE HIV TESTING PROGRAM IN UGANDA

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BACKGROUND: To meet UNAIDS targets for epidemic control, 90% of People Living with HIV (PLHIV) should know their status. To achieve this, new WHO guidelines include novel approaches, one being social-network based testing for delivering high impact HIV Testing Services (HTS). In a generalized epidemic setting, the revised 2019 guidelines prioritize HIV testing at all entry points in health facilities and community testing targeting key populations (KP). In this study, we analyzed data from a large testing program in Uganda to identify predictors of HIV positivity.

METHODS: A cross sectional study was conducted using a digital database for all clients aged 15 to 64 years tested with the support of AIDS Healthcare Foundation (AHF) in Uganda between January and December 2018. It contains information on socio-demographic characteristics, risk of infection, modality of HIV testing and previous test results. Logistic regression was used to determine predictors of the outcome of testing.

RESULTS: A total 112,044 clients were tested of whom 4.1% were HIV positive, mean age 29 years, 42% were males, 68% were either married or cohabiting and 81.6% were re-testers. Provider initiated testing (PITC) was associated to decrease odds of testing positive (OR: 0.75, 95% CI: 0.68-0.81, p<0.001) compared with client-initiated testing. Testing 3 or more times in the previous 12 months was associated with lower odds of being HIV-positive (OR: 0.29, 95% CI: 0.24-0.33, p<0.01) compared to those not tested in past 12 months. Clients who divorced or separated were likely to be HIV positive (OR: 2.55, 95% CI: 2.29 -2.85, p<0.001) compared to those who were married or cohabiting.

CONCLUSIONS: The observed low positivity in PITC, suggests that even in high HIV burden settings, HTS at the health facility should be targeted to those with perceived risk of HIV infection, rather than be offered to all individuals. Individuals who report HIV negative results and have previously tested 3 or more times in the past 12 months without risk of HIV exposure do not need to be tested. Individuals who are divorced or separated should be targeted for HIV testing.

PEE1709

THE IMPORTANCE OF CONTINUOUS QUALITY IMPROVEMENT IN HIV RECENCY TESTING IN FIVE DISTRICTS IN NAMIBIA

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BACKGROUND: In June 2019, the Namibian Ministry of Health and Social Services (MOHSS), with support from PEPFAR, rolled out the country's first HIV recent infection surveillance system in five districts. To ensure quality of testing, site level rapid testing was combined with laboratory confirmation and viral load testing to confirm all recent cases.

METHODS: Persons attending HIV testing services aged ≥16 years and newly diagnosed with HIV infection were offered a rapid test (Asanté™ HIV-1 Rapid Recency® Assay) for recent infection (RTRI) at antiretroviral (ART) facilities after confirming their HIV status. All RTRI recent, as well as 10% of long-term (LT) samples, were sent to the laboratory for repeat RTRI. A RTRI recent result in the laboratory with a VL≥1,000 copies/mL was defined as recent infection. Extensive continuous quality improvement (CQI) actions were initiated after roll-out at the site-level to address quality issues including discrepancies between RTRI recent results at testing sites compared to the laboratory.

RESULTS: Among 1,103 persons tested with RTRI at the site level, 153, including 89 recent and 64 long-term, were sent to the laboratory for repeat testing. Of the 153, 62/64 (97%) long-term and 57/89 (64%) recent were found to test the same by RTRI at laboratory level. Forty-one of the 57 (72%) found to be recent in the laboratory via RTRI were confirmed recent using VL and 16 (28%) were corrected to long term. Discordant recent RTRI results between site and laboratory decreased from a high of 46% in August, just after CQI visits were initiated, to a low of 8% in October, indicating effectiveness of CQI site level visits.

CONCLUSIONS: CQI activities, which commence with roll-out, are essential to ensure accurate recency data. Specifically, it is important to address testing issues at sites to reduce the discrepancies between site level and laboratory-based testing. VL testing is also important to discriminate between newly diagnosed infections and patients who are already on ART. Recency testing could become a vital tool to reduce transmission and thus reach epidemic control if scale-up is conducted as a joint effort between program and laboratory with a strong mind to quality assurance.

PEE1710

USING A PROJECT MANAGEMENT APPROACH TO MAXIMISE ON THE INCREASED DEMAND AND UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION DURING THE HIGH-VOLUME WINTER SEASON: SOUTH AFRICA'S PROJECT 400K CAMPAIGN

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BACKGROUND: Due to the high burden of HIV, South Africa has set ambitious voluntary medical male circumcision (VMMC) targets, aiming to circumcise an additional 2.5 million males by 2022. To capitalise on the high demand for VMMC during the winter season, the National Department of Health (NDoH) implemented the "Project 400k" campaign. This campaign used an innovative project management approach to track implementation of the programme to achieve its ambitious target of 400,000 circumcisions during the winter season.

METHODS: The management and organisation of Project 400K were led by NDoH. NDoH and PEPFAR agencies collaborated on programme implementation and coordinated communication between implementing partners which was facilitated through bi-weekly project management meetings held at NDoH. A principle focus of Project 400K was data monitoring, achieved through weekly data submissions. Data was collated, cleaned and analysed by NDoH. Performance trends were tracked to inform district-specific evaluations. This allowed implementing partners to identify poor performing districts and devise mitigating actions promptly. Progress of implementing these actions was monitored and outcomes were reviewed at subsequent meetings. Partners also reported on demand-creation initiatives, clients follow up rates, adverse events (AEs) and management thereof.

RESULTS: Project 400k successfully achieved 305 801 VMMC's. This performance was an increase of 39 814 circumcisions compared to the previous year's winter campaign. This performance contributed 58% of the 600 000 FY19/20 National target. Holding regular meetings with partners improved collaboration, accountability and created healthy competition among partners. This resulted in increased performance through the communication of effective strategies and successful demand creation initiatives. Presenting data regularly and in a user-friendly manner allowed for timely identification of challenges and monitoring of remedial actions.

CONCLUSIONS: Monitoring performance regularly, during the high-volume winter season kept implementing partners accountable for performance, ensured effective monitoring of AEs, and allowed for the sharing of best practices. NDoH was able to effectively monitor the capturing of data onto the District Health Information System. Through the implementation of the project management approach, NDoH maximised on the increased demand and uptake of VMMC services during the winter season within the priority target population of HIV negative males aged 15-34 years.

PEE1711

VALIDATING THE COST OF OUTPATIENT VISITS ACROSS HIV AND TB INTERVENTIONS

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BACKGROUND: The country-specific outpatient unit costs developed by the WHO-CHOICE team are used widely in program planning and budgeting, including in modeling costs and impacts for the health sector. These costs use a sophisticated econometric methodology to estimate the "hotel" costs of outpatient visits, that is, all costs except the costs of drugs and diagnostics. Recent primary source facility-level data have become available that can be used to validate these predicted country-specific outpatient unit costs.

METHODS: We use primary source facility-level data available from the Global Health Cost Consortium's Unit Cost Study Repository to calculate outpatient visit unit costs, excluding drugs and diagnostics, for multiple interventions in HIV and tuberculosis for as many countries as possible. These data are supplemented by further primary source facility-level data from recent studies in HIV, including studies costing pre-exposure prophylaxis and antiretroviral treatment interventions. These calculated unit costs are then compared with the corresponding country-specific WHO-CHOICE outpatient visit unit costs to assess their reliability.

RESULTS: Preliminary results indicate that for many of the countries, the costs that are calculated using the primary facility-level data from the literature are well within one standard deviation of the WHO-CHOICE predicted outpatient unit costs. Some countries and regions are more accurate than others; for example, the outpatient visit costs calculated from the literature for countries in sub-Saharan Africa tend to be closer to the WHO-CHOICE predicted costs, while results for countries in Eastern Europe tend to be less accurate.

CONCLUSIONS: The outpatient unit costs developed by the WHO-CHOICE team are used in many policy-making settings, including in countries where primary source facility-level data are not available. We validate the WHO-CHOICE predicted costs by calculating similar "hotel" costs of outpatient visits using available primary source facility-level data for countries and find that they are relatively accurate. Thus, it is feasible for the WHO-CHOICE data to be used in policy-making settings, including the new UNAIDS 2025 AIDS targets exercise.

PEE1712

TRIANGULATING DATA FOR ADVOCACY: CONNECTING THE DOTS BETWEEN COMMUNITY-LED MONITORING ACTIVITIES, HEALTH SYSTEMS, AND HEALTH OUTCOME DATA

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BACKGROUND: Community score cards (CSC) capture data to foster community dialogue and connect health service users, community members, and health workers within a "community-led monitoring" approach to improve the quality of health services. While rich quantitative and qualitative data are generated, robust trend analysis of that data, triangulating with related health outcomes and data sources, and displaying data in dashboards has been limited.

DESCRIPTION: The Centers for Disease Control and Prevention have supported the development of a Tableau software dashboard to display CSC data, qualitative comments, community action plans, and HIV program data across multiple health facilities. Efforts build upon existing siloed Excel workbooks and Word documents that are limited in analysis to a single facility. Excella Consulting led a user-centered design process with Uganda discovery research conducted by a local expert in score card implementation and use, virtual user feedback sessions on mockups and prototypes, and an in-country workshop with local civil society organizations (CSOs) conducting CSC to validate an interactive dashboard and gain feedback. A framework has been developed to support data management, visualization and analysis and can be followed to blend additional data sources.

LESSONS LEARNED: Several key lessons learned emerged from the community engagement activities. Feedback from the Uganda workshop informed the addition of key features (e.g., data driven legends), that help the users learn how to read different chart types. Review of existing data management revealed files formatted for human readability rather than analysis or in tables. Basic data transformation capabilities with Excel formulas and tools like Tableau Prep can improve efficiency.

Participants described how data is captured and managed (often with paper and electronic methods) and identified opportunities for creating efficiencies in data capture and use. Considerations were made for promoting long-term use and sustainability of data visualization tools like dashboards by the formation of a coalition of CSOs to share results collectively.

CONCLUSIONS/NEXT STEPS: The final CSC dashboard will be used nationally by Ugandan CSOs in 2020 for community-led monitoring in health facilities. This dashboard and its creation framework will be adapted and used by HIV programs in other countries, to support community-led development and capacity building.

PEE1713

CREATION AND USE OF A CONTINUOUS QUALITY IMPROVEMENT (CQI) SYSTEM TO IMPROVE HIV-1 RECENT INFECTION SURVEILLANCE AND ROUTINE TESTING SERVICES IN MALAWI, 2019

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BACKGROUND: The 2015 Malawi Population-based HIV Impact Assessment found that Malawi is approaching the UNAIDS 95-95-95 goals. Achieving and maintaining epidemic control will require tailored prevention interventions and integrated testing models, identifying new infections to interrupt HIV transmission. Malawi has established a recent (i.e. within last 12 months) HIV infection surveillance system, integrating a rapid test for recent infection (RTRI) into routine HIV testing services (HTS), beginning at 23 facilities in Blantyre district. To monitor fidelity of recent infection surveillance, we implemented a continuous quality improvement (CQI) approach through routine monitoring visits.

DESCRIPTION: CQI processes are based on the Plan-Do-Study-Act (PDSA) model. CQI comprises a range of activities, including tracking performance, assessing indicators against standards (e.g. SOPs), prioritizing challenges/gaps, conducting root cause analyses (RCAs), developing action plans, testing interventions, and monitoring effectiveness. Using a CQI checklist, we assessed six key service delivery areas: staff, procedures, data, recruitment, physical facility, and supplies.

We collected data using tablet-based Open Data Kit during monthly site visits and displayed data in real-time on color-coded scorecards and dashboards for use by stakeholders at facility and above-site levels. RCAs and action plans were developed with site-level CQI teams at underperforming facilities.

LESSONS LEARNED: From May-October 2019, we conducted 176 CQI visits and 218 RCAs, identifying 14 unique root causes, including: minimal/insufficient training (41%), stock issues (16%), low staff motivation (12%), client refusal (11%), and poor facility coordination (6%). CQI teams developed action plans addressing challenges, including training/re-training, strengthening supply chains, mentoring, and developing staff schedules. Quickly identified and implemented, these solutions improved both routine HTS and recent infection surveillance, leading to programmatic changes and sharing of best practices. At 30% of facilities (n=7), simple interventions like mentorship in eligibility and procedures yielded better recruitment and routine test kit delivery led to fewer stockouts.

CONCLUSIONS/NEXT STEPS: As recent infection surveillance expands, key attention is required to ensure high-quality testing and data. CQI activities enable stakeholders to contextualize data to make informed public health decisions. Identifying and addressing challenges early, implementing teams can ensure accurate data to identify trends and suspected clusters of new infections and tailor appropriate public health responses to interrupt transmission.

PEE1714

CLIENT-INITIATED RETESTING AMONG PEOPLE WITH KNOWN HIV POSITIVE STATUS, MOZAMBIQUE, 2019

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BACKGROUND: The World Health Organization recommends retesting for verification of HIV positive persons prior to antiretroviral therapy (ART) initiation to prevent unnecessary treatment. Retesting is not recommended for HIV positive persons on ART; nonetheless; some HIV positive persons on ART self-initiate retesting to reconfirm their HIV status. This results in serious negative individual and public health consequences. In Mozambique no national level data was available on previous HIV positive diagnosis at voluntary HIV testing and counseling (HTC) sites.

DESCRIPTION: In March 2019, the Ministry of Health updated HTS data tools to enable collection of previous HIV positive diagnosis from persons voluntary testing for HIV at all public HTS facilities in Mozambique (n = 1,634). Providers were trained to identify and record previous HIV positive status for persons testing HIV positive on HTS paper-based forms, which are aggregated at the clinic level and digitized into a national database. We analyzed aggregated HTS routine program data from April to December 2019, and applied literature estimates on HIV testing costs and impact of ART on performance

of HIV rapid tests, to better understand the extent of self-initiated retesting in the country and potential cost implications of unnecessary retesting.

LESSONS LEARNED: Nationally 2,703,331 persons received client-initiated HTS during this time; 91% of tests were conducted at health-care facilities and 9% at community sites. At health facility sites 141,1226 (6%) persons tested positive and 15,383 (10.9%) reported re-testing. At community sites 22,811 (10%) were HIV positive and 2,754 (12.1%) retested. Because clients testing HIV negative were not asked about prior HIV diagnosis, we estimated that an additional 914 persons with prior HIV positive status self-initiated retesting with seronegative results. This unnecessary client-initiated retesting was estimated to have cost US$219,443 ($52,567–1,070,271) during the period analyzed.

CONCLUSIONS/NEXT STEPS: This evaluation provides a first time estimate of client-initiated retesting among persons voluntarily testing for HIV in Mozambique. Improved screening of persons seeking HTS is needed to prevent unnecessary testing especially in community settings. Further research is needed to understand why client-initiated retesting is a common practice among HIV positive patients in Mozambique.

PEE1715

IMPROVING THE QUALITY OF ROUTINE DATA FOR THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION IN FOUR DISTRICTS IN SOUTH AFRICA

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BACKGROUND: BroadReach HealthCare supports the KwaZulu-Natal and Mpumalanga Provincial Departments of Health in strengthening the Prevention-of-Mother-to-Child-Transmission (PMTCT) programme in 4 districts with high HIV prevalence in South Africa. A component of this support is to strengthen data reporting to correctly reflect the performance of the PMTCT programme.

DESCRIPTION: A data review tool was developed and implemented across 315 facilities for the reporting period October 2017 to September 2018. The tool revealed data quality issues including incorrect and inconsistent reporting of first antenatal client visits before 20 weeks or later; incomplete recording of information in patient folders and PMTCT registers; incorrect recording of antenatal care (ANC) data elements from the registers; inconsistent capturing of patient details in registers by service providers; and lack of registers to record relevant data indicators. A defined data quality procedure was subsequently developed and implemented to address the data discrepancies to ensure the data correctly reflects the performance of the PMTCT programme.

LESSONS LEARNED: The intervention was implemented between October 2018 and September 2019 and included:

- Validating patient file information against what was captured on the national patient management data base (TIER.Net).
- Mentoring service providers on antenatal data element definitions, which comprised of strengthening the facility level data flow process and the completion of the PMTCT registers.
- Reviewing and consolidating PMTCT data between different facility registers.
- Aligning the recording of monthly facility summary data documents to update Web DHIS.
- Conducting monthly analysis of PMTCT data recorded on Web DHIS.
- Assigning accountability to data and clinical teams to ensure correct recording of patient information in registers and patient files.

The implementation of the interventions resulted in a data improvement of 30% in missing data at the end of the September 2019.

CONCLUSIONS/NEXT STEPS: We noted that tackling data quality is important to ensure relevant programming interventions are in place. Maintenance of scheduled and consistent data quality activities within facilities is imperative in correcting data issues for the PMTCT programme. Early staff mentoring contributed to accurate reporting. Assessing barriers at all levels that contribute to poor data quality should be included as an approach to data quality.

PEE1716

USING REAL TIME, INDIVIDUAL- LEVEL DATA TO IMPROVE DREAMS PROGRAMMING IN ZAMBIA

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BACKGROUND: In Zambia, HIV prevalence among youth ages 15-24 is 7% (8% women, 5% men). Young women are infected at an annual rate of 15 times higher than young men (2016 Zambia population-based HIV impact assessment). In response to these alarming figures, DREAMS

Zambia was designed to target the most vulnerable AGYW in the urban areas hardest hit by the HIV epidemic.

DESCRIPTION: At initiation into the program, AGYW are screened for risk of HIV and enrolled in DREAMS using comprehensive forms which help identify risk factors and categorize participants accordingly. During the first two years of the project, data was collected and entered as aggregate which was a gap as individual analysis of the girls enrolled could not be done. District Health Information Software 2 (DHIS2), was then introduced allowing for real-time, validation, analysis, and presentation of individual-level and aggregate data.

LESSONS LEARNED: Data management using DHIS2 has led to improved programming at multiple programmatic levels: DREAMS Center staff are able to analyze and recommend interventions for each girl and track site progress using dashboards and analytics. Project senior management are able make timely and evidence-based decisions to improve programming.

In FY19, data captured in DHIS2 showed 2,688 (18%) AGYW enrolled in Livingstone District reported being sexually active at screening. Real-time data collection and visualization of this data allowed center managers to respond immediately upon enrollment of the identified participants with condom distribution and provision of HIV testing. Among the 2,688 AGYW identified, 75% received condoms and 47% received an HIV test. Of those who are were tested, two AGYW were found positive, both of whom were successfully linked for treatment.

CONCLUSIONS/NEXT STEPS: Shifting from aggregate data entry to using real-time individual data in DHIS2 has allowed the ZCHPP project team to make timely and informed decisions, thereby increasing

efficiency and effectiveness in program delivery. Additional in-depth data analyses of individual participant data using unique identifiers will be conducted on risk factors, service uptake, and health outcomes in order to analyze effectiveness of intervention combinations for scale-up and future programming recommendations.

Keywords: ZCHPP, DREAMS, DHIS2, AGYW, HIV

PEE1717

UTILIZATION OF A LEAN PRODUCT DEVELOPMENT STRATEGY TO IMPROVE THE SELF-REPORTING RATE IN AN HIV SELF-TESTING PROGRAM IN JOHANNESBURG, SOUTH AFRICA

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BACKGROUND: Lean product development is an iterative process that aims to achieve improved outcomes through minor amendments to that process. The purpose of the study was to increase the self-reporting rate in an HIV Self-Testing program using a lean product development approach.

DESCRIPTION: The study was implemented through selected Self-Test Africa (STAR) distribution site based in Gauteng, South Africa between October and December 2019. Participants using an Interactive Voice Recognition (IVR) platform follow a 7-day workflow, which includes two outbound SMS and an outbound call to aide self-reporting of their HIVST result. Every four weeks a new version of the model and reporting tool was launched based on the learnings from the previous sprint following lean development principles.

LESSONS LEARNED: 12 623 participants were active on the IVR platform during the three months of implementation. The baseline process uploaded data to the platform 72 hours after the initial distribution, benchmarking self-reporting at 2%. The second sprint improved the upload time, yielding reporting rates of 11%. The final sprint launched a minimum viable mobile data collection application increasing reporting rates to 46%.

Sprint	1	2	3
Data collection & upload	Manual > 72 hours	Manual < 48 hours	Mobile-app, automatic
Key iterative improvements	Baseline 7 Day IVR workflow	Stringent data validation and capturing IVR voice enhancements	Immediate SMS SMS wording refinement Intensive peer educator training
Number of consentees to IVR	4,097	7,648	878
IVR reporting rate	2%	11%	46%
Seropsitives	32%	26%	18%

[Table]

CONCLUSIONS/NEXT STEPS: The lean approach highlighted the 24-hour window after the distribution is key for reporting, highlighting the need for initiating the initial conversation with the participant at distribution. In the three months of implementation, the program improved reporting rates from 2% to 46% on the IVR system. Further iterations such as WhatsApp reporting, reduced IVR workflows, removing outbound calls and multi-language platforms are planned for implementation. These improvements to date are attributed to the lean approach which highlights the benefits of agile development for mHealth platforms. Process improvement methodologies such as Lean Development, and Six Sigma, can play a vital role in healthcare by creating incremental improvements to systems.

PEE1718

IMPLEMENTATION OF CONTINUOUS QUALITY IMPROVEMENT (CQI) USING PARTICIPATORY DATA DRIVEN APPROACH TO IMPROVE PMTCT PROGRAMME IN AMATHOLE DISTRICT, EASTERN CAPE, SOUTH AFRICA

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BACKGROUND: Eastern Cape Province, South Africa has recorded massive scale-up of Prevention of Mother-To-Child Transmission (PMTCT) of HIV programme over the past years. This can be attributed to the implementation of the National Strategic Plan on HIV, STIs and TB 2012 – 2016 and quality improvement projects aimed at reducing MTCT to less than 2% at six weeks post-delivery and less than 5% at 18 months of age by 2016. Despite this achievement, discrepancies in the facility level data, data reported at the district level and at the provincial level still exist.

We assessed the improvement made with 3 selected PMTCT programme performance indicators following implementation of Continuous Quality Improvement (CQI) projects in Amathole district, Eastern Cape, South Africa.

METHODS: Health Care Professionals (HCPs) were trained on quality improvement initiatives, on-site mentoring and supervisory support conducted and CQI implemented using participatory data driven approach.

Review of routine data from the District Health Information System on 3 selected PMTCT indicators for the period 2015/16 (prior to implementation of CQI) to 2016/17 (one year after implementation) and training of Health Care Professionals (HCPs) involved in CQI.

Analysis of data involved: (i) selection of the 3 PMTCT indicators; (ii) data cleaning; and (iii) comparison of the degree of proportional change in the improvement or non-improvement of the indicators in 30 facilities.

RESULTS: (i) T test result which showed statistically significant improvement for the selected 3 PMTCT indicators (ii) linear regression done established that number of staffs involved in QI activities significantly predict improvement in 2 of the 3 PMTCT indicators (ANC 1st visit before 20 weeks rate, ANC clients initiated on ART rate, but not ANC clients re-test rate) and (iii) Pearson's product-moment correlation showed strong negative correlation for the 3 selected PMTCT indicators.

CONCLUSIONS: Despite the data challenges issues, this analysis has showed that the implementation of CQI has plausibly positive effects on the overall performance of the 3 selected PMTCT indicators in Amathole district, Eastern Cape. We recommend implementation and scale up of CQI across other facilities. CQI can be implemented with fidelity to improve programme performance beyond PMTCT indicators.

PEE1719

REACHING THE HARD-TO-REACH GROUPS: ASSISTED PARTNER NOTIFICATION, AN EFFECTIVE APPROACH TO FINDING UNDIAGNOSED HIV POSITIVE MEN IN UGANDA

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BACKGROUND: Background: HIV case finding and linkage to care are critical to the achievement of the first UNAIDS 90-90-90 targets. Men are at higher risk and lag behind in HIV prevention. In Uganda, approximately 20% of HIV positive individuals are unaware of their sero-status. To increase knowledge, World Health Organization highlights men as a hard to reach group. The Ministry of Health (MOH) recommends, Assisted Partner Notification (APN) as an effective way of reaching men who are sexually exposed to HIV. We compared effectiveness of APN and health facility testing on HIV case identification.

DESCRIPTION: Methods: A retrospective study was conducted among clients tested for HIV in Busia Health center and by Amalgamated Transport and General Workers Union (ATGWU), a Community Based Organization supported by AIDS Healthcare Foundation to conduct APN in Busia. Data used is for clients aged 15 years and older who consented to testing between May and December 2018. Standard MoH tools were used to collect the data. We compared HIV case detection and linkage to care between APN and testing at the health facility.

LESSONS LEARNED: Results: A total of 10,202 clients were tested, 5,691 (55.8%) were females, 210 (2.1%) tested through APN and overall 5.1% were HIV positive. Among APN client's, positivity was higher at 35.2% (95% CI 28.7%-41.7%) compared with 4.4%, (95% CI 4.0%-4.8%) among clients tested in the health facility. Among males tested through APN, positivity was higher at 30.8% (95%, CI: 21.9%-39.6%) compared to 3.5% (95%, CI: 0.1-7.0%) among males tested in the health facility. Equally, among females tested through APN, positivity was higher at 39.6% (95% CI 30.3-48.9%) compared to 5.2% (95% CI 4.6%-5.8%) among females tested in the health facility.

Overall, linkage to care and treatment was 91.3%, however it was higher among clients tested at the health facility at 92.1% (95% CI 87.5%-93.8%) compared to clients tested through APN at 86.5% (95% CI 78.7%-94.3%). There were no differences in linkage by approach after adjusting for sex.

CONCLUSIONS/NEXT STEPS: In high burden settings with generalized epidemics, APN is instrumental in enhancing male involvement in HIV prevention and is effective in finding HIV positive men.

PEE1720

HIV AND STRENGTHENING OF SUPPLY CHAIN SYSTEMS: IMPLEMENTING AN OPEN-SOURCE SUPPLY CHAIN MANAGEMENT SOFTWARE SYSTEM TO MAXIMIZE ACCESS TO HEALTH COMMODITIES

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BACKGROUND: Partners In Health (PIH) works in 11 countries to build capacity and strengthen health systems in the public sector. While HIV scale-up has necessitated robust supply chain systems and morbidity-based procurement and distribution of ART, the same has not been true of other health commodities in many countries. HIV programs depend on strong health systems, and access to medications, medical supplies, diagnostics, and equipment is a cornerstone of those systems. Because of this need, PIH developed a software system to improve the public supply of health commodities required for comprehensive HIV prevention and care. PIH uses this tool, OpenBoxes, to support ministries of health in Haiti, Liberia, Malawi, Rwanda, and Sierra Leone.

DESCRIPTION: Like many global health organizations, PIH historically had limited visibility of supply chain data to inform inventory management, forecasting, budgeting, and procurement. PIH largely based purchasing decisions on historical spend, adding safety stock across product categories to absorb consumption increases. In 2012, PIH began a phased implementation of OpenBoxes, a free, open-source supply chain management software designed for global health implementers. OpenBoxes has minimal hardware requirements, flexible implementation options, an intuitive user interface, and functionality to enable coordination across multiple supply chains (i.e. public sector, non-governmental organizations).

LESSONS LEARNED: With the development and implementation of OpenBoxes, PIH has increased visibility across the HIV prevention and care supply chain, enabling real-time monitoring of inventory levels, expiry dates, and incoming and outgoing quantities of health commodities. These data inform decisions regarding order frequency, safety stock, and in-country distribution. OpenBoxes also transforms consumption and request data into a demand signal, facilitating purchasing decisions that are based on real need and correct for observed gaps in availability, thereby preventing stock outs. Since PIH began using demand data for forecasting, fill rates (the percentage of demand met from available stock) have consistently reached 90%.

CONCLUSIONS/NEXT STEPS: Implementing purpose-built software can facilitate supply chain improvements in resource-limited settings by increasing data visibility, highlighting opportunities for process improvements, informing budgets, and increasing forecast accuracy. OpenBoxes is one example of such software—a free, open-source option for ministries of health and healthcare implementers globally to use and to contribute to.

PEE1721

BUILDING A SUSTAINABLE HIV CASE SURVEILLANCE AND RESPONSE SYSTEM FOR REACHING EPIDEMIC CONTROL: LESSONS LEARNED FROM ETHIOPIA

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BACKGROUND: In countries nearing HIV epidemic control, like Ethiopia, cross-sectional surveys are insufficient to monitor a waning national epidemic and emerging micro-epidemics. We describe the context, process of implementation and lessons learned in establishing HIV case surveillance, in integration with routine public health emergency management system (PHEM) in Ethiopia.

DESCRIPTION: Phase-I implementation is currently in 432 high-volume public and private health facilities. Data at HIV testing points is collected using paper-based case reporting form (CRF) – which captures information on client identifiers, demographic, baseline clinical, laboratory, and risk assessment data, and RTRI (AsanteTM) Result. The CRFs are entered into an electronic database (REDCap) at health facilities through a secure internet connection and stored at Ethiopian National Public Health Institute (EPHI) data servers. De-duplication and matching[1] will be done through defined algorithms derived from multiple client identifiers. Data analysis and visualization is done weekly and report is shared with stakeholders to guide individual and cluster HIV response. Regions have access to their respective datasets, to use for follow up of identified clusters. Phase II implementation will include longitudinal case surveillance system to capture data on all sentinel events[2], along the care cascade.

[1] De-duplication and matching is done to assure that each client is added to database only once

[2] All subsequent key events related to the specific HIV positive individual

LESSONS LEARNED: The key to successful implementation is government ownership and integration of HIV case surveillance with PHEM. Government of Ethiopia developed national HIV case surveillance guidelines, specifying implementation methodology and roles and responsibilities of PHEM and HIV/TB research departments – starting from facilities up to Ministry of Health. The collaboration between PHEM and HIV/TB research directorates in public health institute has enabled the government to leverage human and financial resources from both departments in moving the surveillance forward. The platform built will serve other PHEM disease reporting as well.

CONCLUSIONS/NEXT STEPS: Ethiopia has demonstrated that HIV case surveillance can be established in resource limited settings. Introduction of case surveillance has shifted Ethiopia's HIV program from being guided through measuring aggregated services to tracking interventions at individual level and access to differentiated HIV services.

PEE1722

HOUSING OPPORTUNITIES FOR PERSONS WITH AIDS (HOPWA) PROGRAM: THE U.S. GOVERNMENT'S HIV HOUSING PROGRAM

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BACKGROUND: The U.S. Department of Housing and Urban Development's Housing Opportunities for Persons With AIDS (HOPWA) program was enacted with the purpose to provide states and localities with the resources and incentives to devise long-term comprehensive strategies for meeting the housing needs of low-income persons with HIV/AIDS and families of such persons. The HOPWA program is the only federal program that targets resources to address the housing needs of low-income persons with HIV/AIDS and their families.

DESCRIPTION: HOPWA funding to States, localities, and community organizations provides housing assistance to low-income persons living with HIV/AIDS and their families who are experiencing housing instability or are at risk of homelessness. Communities may use HOPWA funds to support several different types of housing assistance and supportive services to assist clients with achieving and/or maintaining stable housing and positive health outcomes. In 2017, the Housing Opportunities Through Modernization Act (HOTMA) updated the HOPWA funding formula to target resources to reflect the current epidemic. Previously, the data used to determine eligibility for HOPWA formula funding and allocate resources was the cumulative number of AIDS cases. HOTMA changed the source of data to the number of individuals living with HIV or AIDS. The law provides that HOPWA modernization will begin in Fiscal Year 2017 and will be phased in over 5 years to avoid highly volatile shifts in either direction for any one jurisdiction.

LESSONS LEARNED: Over 60,000 households have been assisted annually since 2017 when HOPWA modernization was implemented. Full implementation of HOPWA Modernization will occur in 2022. Annually from 2017-2019, grantees reported over 90% of clients served had contact with a case manager, had contact with Primary Care, and accessed income. The Office of HIV/AIDS Housing (OHH) has provided webinars, tools, and direct technical assistance to assist HOPWA formula grantees with adjusts for gains or losses in funding under modernization.

CONCLUSIONS/NEXT STEPS: OHH continues to adjust and support HOPWA grantees experiencing shifts in funding due to HOPWA Modernization. The range of housing assistance and supportive services allows grantees flexibility to meet the housing and service needs of low-income persons living with HIV and their families in their communities.

PEE1723

END-TO-END STOCK DATA VISIBILITY: A CRITICAL TOOL IN THE PREVENTION OF HIV/AIDS COMMODITY STOCKOUTS

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BACKGROUND: The uninterrupted availability of HIV/AIDS commodities are critical to controlling the epidemic in low- and middle-income countries where pharmaceutical supply chain management capacity remains nascent.

DESCRIPTION: In support of UNAIDS 90/90/90 goals, the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project regularly compiles and analyzes central-and site-level stock data on HIV/AIDS commodities to avert potential stockouts. GHSC-PSM monitors HIV/AIDS commodity availability, monthly, in 59 central and regional warehouses in 18 countries. Facility-level data are monitored at more than 13,000 health facilities in 12 countries. Taken together these data provided PEPFAR, and others, visibility into product availability at the lowest levels of the supply chain.

Data are shared through a limited-access online dashboard with PEPFAR and other stakeholders, fostering increased collaboration to modify commodity procurements and expediate shipments as needed. These surveillance reports help reduce stockout risks of first- and second-line antiretrovirals and rapid test kits.

LESSONS LEARNED: From December 2018 to December 2019, the GHSC-PSM identified 110 instances of stockout risks in 18 countries through these tools. Based on this analysis, PEPFAR worked closely with donors to manage stockouts and expedite shipments avoiding program interruption.

Country data visibility also allowed decision makers to manage transitions to superior regimens such as tenofovir/lamivudine/dolutegravir (TLD) and leverage better collaboration between partners and countries. For example, when Zimbabwe identified a shortage of Lamivudine/Zidovudine 150/300 mg, Haiti transferred medicine from its overstocked supply. As a result, Zimbabwe shortened its procurement timeline by 11 weeks and achieved cost savings, while Haiti averted product expiry. This extensive repository of HIV/AIDS commodity data also allows program managers to rationalize the number of products procured and ensure patients are on optimal regimens.

CONCLUSIONS/NEXT STEPS: Increased data visibility is contributing to the resiliency and adaptability of country supply chains. Stakeholders are better able to work together from a common dataset to make informed decisions and identify solutions. GHSC-PSM is continuously improving the tools and expanding coverage to include more warehouses and facilities in more countries to hasten the achievement of epidemic control.

PEE1724

ESTIMATING THE ECONOMIC COST OF A COMPREHENSIVE HIV PROGRAM FOR KEY POPULATIONS IN KENYA AND MALAWI: A MICRO-COSTING APPROACH

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BACKGROUND: Several studies in low-and-middle-income countries have documented the cost of HIV services; however, most of these studies focus on services delivered in clinical settings for the general population. As a result, the literature on the economic costs of services for key populations (KP)—i.e., men who have sex with men, sex workers, and transgender people—remains remarkably scant. Such lack of evidence is partly explained by the complexity of services for KP that calls for innovative costing study designs. To fill this gap, we propose a micro-costing approach to produce robust estimates of the economic costs of HIV services for KP.

METHODS: We developed a framework to comprehensively capture costs of services in facilities funded by the LINKAGES program in Kenya (n=30) and Malawi (n=15). By tracing all relevant categories of program activities, we identified inputs and outputs linked to those activities. We estimated total costs, cost structure, and unit costs of services (elements) during fiscal years 2018 and 2019. We collected data at the above-facility and facility levels.

RESULTS: Preliminary results suggest an average cost of HIV testing services of US$58 in Kenya and US$410 in Malawi, whereas, the average cost per client diagnosed was US$8,018 in Kenya and US$1,602 in Malawi. The average cost per client on ART was US$799 in Kenya and US$65 in Malawi. Also, the analysis suggests that between 30% (for PrEP in Kenya and STI services in Malawi) and 88% (for ART in both Kenya and Malawi) correspond to costs of clinical supplies only. The results also point to large cost variability across facilitates and services in both countries.

CONCLUSIONS: Our micro-costing approach considers key components of service delivery to KP – pre-service delivery activities, project management, and interventions required to reach KP, and is comprehensive enough to capture key components usually ignored in other studies (e.g., cost of donated supplies and drug therapies). To our knowledge, there are no previous studies that estimate precisely the economic cost of HIV services for KPs, especially in low-and-middle-income countries.

PEE1725

HARD EVIDENCE VS. SOFTWARE: TIPS FOR MAINTAINING AN EVIDENCE-BASED EHEALTH HIV PREVENTION INTERVENTION ACROSS EVOLVING SOCIOTECHNICAL CONTEXTS

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BACKGROUND: Evidence-based eHealth HIV prevention interventions purport to provide advantages in cost-efficient dissemination over face-to-face programs. In practice, however, the technology can become a barrier to its own scalability. Traditional community-based HIV service infrastructures often have limited technical capacity to host and maintain complex technology, thus requiring new approaches to intervention delivery. EHealth interventions must also keep up with technological progression, social expectations, and advancements in HIV prevention science over time to maintain relevance and acceptability as well as functionality. The need for constant adaptation creates a challenge for ensuring ongoing effectiveness of such interventions. Little guidance exists on how to adapt eHealth interventions over time. Here, we describe principles that eHealth researchers can use to remain agile and responsive to shifting sociotechnical contexts while preserving intervention effectiveness.

DESCRIPTION: Keep It Up! (KIU!) is a web-based, multimedia HIV prevention program for young men who have sex with men (YMSM) designated as a best-evidence intervention by the CDC. In its efficacy trial, KIU! (version 2.0) was shown to reduce not only condomless anal sex but also STI incidence. A newer version of KIU! (3.0) is now being implemented across 44 US counties. Though KIU! 3.0 has substantially refreshed form and functionality, we believe it retains the intervention principles of 2.0.

LESSONS LEARNED: Maintaining the effects of KIU! over time while adapting to evolving contexts comprises four steps: First, we made certain technological design choices upfront to increase the ability of KIU! to respond to software bugs as well as new content. Second, we systematically adapted the intervention content utilizing Mohr's intervention principles framework. Third, we track and monitor usability metrics and feedback logs to identify emerging issues with the intervention. Fourth, we continue to evaluate the intervention using an effectiveness–implementation hybrid type III trial design.

CONCLUSIONS/NEXT STEPS: Achieving the promise of cost-efficient scalability of eHealth HIV interventions requires a paradigm shift toward treating interventions as a set of principles rather than a static product, coupled with proper planning in intervention design and ongoing usability monitoring. Novel methodologies, such as hybrid and optimization designs, can be used to continue assessing effectiveness.

EVALUATING LARGE-SCALE PROGRAMMES: APPROACHES TO RIGOROUS EVALUATION

PEE1726

AN EVALUATION OF THE EFFECTIVENESS, FACILITATORS AND BARRIERS OF HIV TEEN CLUBS IN ACHIEVING SUCCESSFUL TRANSITION FROM TEEN TO ADULT CARE IN BLANTYRE, MALAWI USING THE RE-AIM FRAMEWORK

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BACKGROUND: High attrition has been noted as a major problem when HIV positive adolescents move from pediatric to adult care. WHO's 2016 review of various Differentiated Service Delivery for adolescents recognized HIV Teen Club as an efficient model for ensuring strong adherence and viral suppression. With over 150 HIV Teen Clubs in Malawi, we estimated the proportion of eligible Adolescent Living with HIV(ALHIV) enrolled in HIV Teen Clubs who successfully transitioned to adult care within six months of the expected transition time, assessed health facilities' fidelity in the implementation of HIV Teen Clubs' adult care transition protocols and factors associated with successful transition from HIV Teen Clubs to adult Care.

METHODS: We conducted a retrospective cohort study in primary health facilities in Blantyre, Malawi using patient records of ALHIV in Teen Clubs who had reached the recommended transition age of 18/19 years between July - December 2017, collected observational data and perspectives of service providers in health facilities implementing HIV Teen Club.

RESULTS: Of the 131 ALHIV enrolled in the study from 14 facilities, we found that there is low proportion (6.9%) of eligible ALHIV enrolled in Teen Clubs who successfully transitioned to adult care within six months of the expected transition time. Fidelity in implementation of Teen Clubs' adult care transition protocols in health facilities was found to be medium (61.7%) and the findings also showed an association between implementation fidelity and ALHIV successful transition to adult care. Facility location and ownership was noted to be significantly associated with ALHIV successful transition. While sex of the adolescent and the type of adolescent guardian were observed to be not significantly associated with successful transition. Lack of training in transitioning ALHIV, lack of clear guidelines or tools to support transition, inadequate human resource and refusal of ALHIV to transition to adult care were factors noted to negatively influence successful transition.

CONCLUSIONS: Transitioning ALHIV from pediatric to adult care should be considered a serious challenge facing Malawi health system. The existence of many ALHIV in Teen Clubs who are refusing/failing to transition to adult care should be seen as a problem needing serious attention

PEE1727

TRENDS IN PEDIATRIC ANTIRETROVIRAL TREATMENT IN U.S. PRESIDENT'S EMERGENCY PLAN FOR AIDS RELIEF-SUPPORTED COUNTRIES IN SUB-SAHARAN AFRICA, 2016 - 2019

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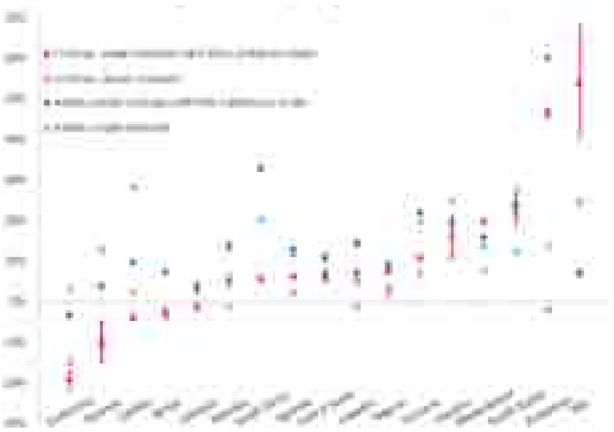
BACKGROUND: United Nations Programme on HIV/AIDS (UNAIDS) reports that only 54% of children living with HIV (CLHIV) are on antiretroviral treatment (ART) compared to 62% of adults, despite previous global initiatives focused on closing this gap. Robust modeling approaches can improve assessment of temporal trends in CLHIV on ART, especially relative to adults.

METHODS: Using U.S. President's Emergency Plan for AIDS Relief (PEPFAR) data, we used time-series modeling, assuming a Poisson distribution, and the log-link function to estimate and compare annual percent change in CLHIV <15 years on ART to adults ≥15 years on ART in PEPFAR-supported facilities in countries with availability of >95% age-disaggregated data from October 2016 to June 2019. We compared modeled estimates of annual percent change with simpler estimates calculated from the natural log of the first and last time points.

RESULTS: Of 17 countries eligible for analysis, 12 demonstrated growth in CLHIV on ART; of these, five [Tanzania, Lesotho, South Sudan, Zimbabwe, and Democratic Republic of the Congo (DRC)] demonstrated >10% annual growth (Figure 1). Five (Cameroon, Rwanda, Zambia, Kenya, and Ethiopia) demonstrated negative or no growth. In contrast, all countries except Cameroon demonstrated growth in adults on ART, with ten countries demonstrating >10% annual growth. Annual growth in adults on ART outpaced growth in CLHIV on ART for all countries except South Sudan, Lesotho, and DRC. Compared to modeled estimates of growth in CLHIV on ART, corresponding simple estimates were lower in eight countries and similar in seven countries.



[Figure. Annual percent change in CLHIV on ART by country with 95% confidence limits, 2016-2019]

CONCLUSIONS: Less than half of countries with age-disaggregated data demonstrated substantive growth in CLHIV on ART, regardless of the trend estimation approach. Due to the interdependence of time series data, the model likely estimates change over time more accurately than simpler methods. Our results emphasize the need for more focused efforts to expand HIV treatment for CLHIV.

PEE1728

IMPACT OF COMMUNITY-BASED ART DISTRIBUTION ON ART RETENTION IN HAITI

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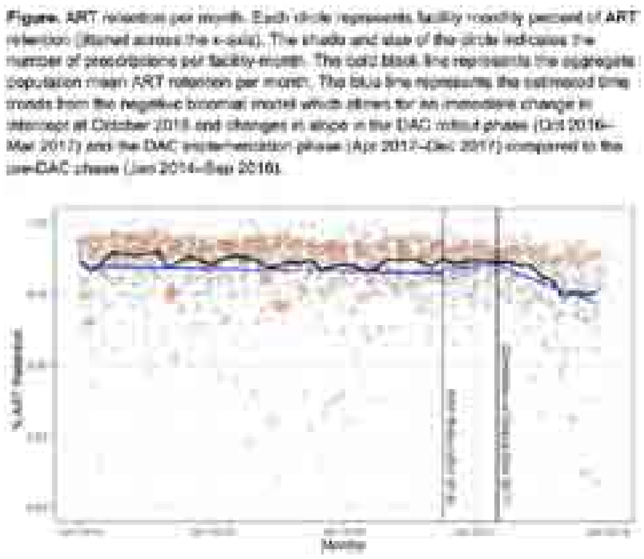
BACKGROUND: A community-based ART distribution strategy (DAC) was scaled up in Haiti in 2016 to improve antiretroviral therapy (ART) retention. We assessed the impact of DAC on average facility-level ART retention.

METHODS: Using an uncontrolled interrupted time series design, we assessed the impact of DAC on monthly ART retention in 24 facilities (January 2014–December 2017). Data were abstracted from iSanté. Each site's monthly ART retention was calculated as the proportion of ART visits during each month where patients returned for their ART refill within 30 days of the next expected visit. Adults on ART >=6 months were eligible to enroll in DAC. DAC was implemented in facilities between October–December 2016. Multivariable negative binomial models were used to model ART retention. P-values (p)<0.05 were considered statistically significant. We evaluated immediate impact of DAC and change in ART retention during DAC rollout phase (October 2016–March 2017) and DAC implementation phase (April–December 2017).

RESULTS: We included 20,918 adults and 291,498 study visits. Before DAC implementation, facility average monthly ART retention did not change significantly (risk ratio [RR], 0.999; 95% confidence interval [CI]: 0.998–1.000; p: 0.079). During 6-month DAC rollout, ART retention insignificantly increased (RR, 1.005; 95% CI: 0.995–1.015; p: 0.348). ART retention significantly decreased during DAC implementation phase compared to rollout phase (RR, 0.978; 95% CI: 0.964–0.991; p: 0.002). DAC implementation was associated with a non-significant immediate increase in ART retention (RR, 1.010; 95% CI: 0.962–1.060; p: 0.690).



[Figure]

CONCLUSIONS: DAC did not immediately affect facility-level ART retention in our study population and did not significantly increase retention during the rollout phase. Facility average monthly ART reten-

tion decreased in the implementation phase. Further investigation of the variability of DAC effectiveness across facilities in Haiti, DAC program procedures, participant characteristics, and other factors affecting program effectiveness is warranted.

PEE1729

NOVEL METHODOLOGY FOR ESTIMATING UNIQUE CLIENTS AND AVERAGE DURATION OF PREP USE FROM CROSS-SECTIONAL MONITORING AND EVALUATION DATA

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BACKGROUND: Impact of oral PrEP on HIV incidence relies on high risk individuals using the product, and methods for estimating use trends (unique clients and duration of use) rely on client- or cohort-level longitudinal tracking systems. To streamline sustainable reporting and programmatic analysis, we aimed to develop and pilot a methodology for estimating and tracking quarterly 'unique client volumes' and 'average duration of use' trends from cross-sectional M&E data.

METHODS: Monthly tallies of PrEP initiation, follow-up, and restart visits were organized by key population, age, and gender. Quarterly 'unique client volume' was estimated by summing the evaluation quarter's month 1-3 initiation and restart visits and month 1 follow-up visits with the preceding quarter's month 2-3 follow-up visits. Quarterly 'average duration of use' was estimated by multiplying tallied monthly visits by number of prescription months falling within the evaluation quarter to yield 'total client-months of PrEP use'. 'Total client-months of PrEP use' was divided by 'unique client volume' to yield 'average duration of use.' These methods were piloted on South Africa's national PrEP M&E data from June 2016 to June 2019 using Excel to compare use trends across age, gender, and key population groups.

RESULTS: Thirteen quarters of 'unique client volume' and 'average duration of use' were successfully estimated from cross-sectional monthly visit tallies. Although 17,832 new individuals initiated PrEP between June 2016 and June 2019, only 6,737 unique clients were estimated to be actively on PrEP in Q2 2019, indicating a 13% quarterly increase (n=5,986 in Q1 2019), 117% annual increase (n= 3,100 in Q2 2018). Average duration of use varied by age, gender, and key population with males 35+ years at MSM sites representing the longest users on average (2.7 months; n=549) and females 16-18 years at public sites representing the shortest (1.4 months; n=226) in Q4 2018. Duration of use increased across all groups over the three year period.

CONCLUSIONS: This methodology presents a range of opportunities for programmatic action, while easing the burden of data management and analysis. Tracking these two indicators is important for impact-oriented planning and evaluation of activities for oral PrEP and future prevention products.

PEE1730

WHAT IS OUR COLLECTIVE IMPACT?: EVALUATING A COLLABORATIVE APPROACH TO ADDRESSING HIV DISPARITIES IN THE US SOUTH

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BACKGROUND: The epicenter of the United States HIV/AIDS crisis lies in its 16 Southern states. The CDC estimates that while these Southern states account for 38% of the total US population, nearly 50% of all new HIV infections occur in the South. With its disproportionate impact on African Americans- 59% of all Black men who have sex with men and over 70% of Black women living with HIV reside in the South- high impact, multi-sectoral integrative approaches are necessary.

DESCRIPTION: The Collective Impact (CI) approach posits that large-scale social change requires broad cross-sector systematic collaboration, rather than individual intervention approaches. Through innovative long-term funding, Gilead is using an investment model to address the epidemic by strengthening program service availability and implementation capacity throughout the South. Using a mixed methods design, we are evaluating the collaborative efforts of the model using CI's "five core conditions": common agenda, shared measurement, mutually reinforcing activities, continuous communication, and backbone organizational support. Additionally, the evaluation design focuses on a sixth condition: Equity and inclusion.

LESSONS LEARNED: During the initial implementation phase, key partners jointly identified indicators to measure collaborative efforts. A brief survey drawn from CI tools was implemented with partners at the mid-point of the Initiative's three-year funding period along with in-depth interviews to capture themes and lessons regarding initiative startup and mid-point implementation. While there was strong alignment between partners on the common agenda and shared knowledge, more exploration is needed to understand how shared measurement, backbone support, and reinforcing activities support initiative goals. Additional early lessons have centered on managing timeline, funder expectations, organizational infrastructure and staffing.

CONCLUSIONS/NEXT STEPS: Collective Impact is a relatively new collaborative framework that is increasing in popularity as an approach to innovate social change. It has the potential to mitigate the challenges of launching and maintaining large scale HIV initiatives. It can support 1) understanding the role of partnerships, 2) selecting leading and supporting organizations, and 3) designing routinized reporting systems to monitor progress. CI has addressed complex issues including education, poverty reduction, and youth community development; this evaluation provides insights regarding adapting the CI approach to HIV collaborative initiatives.

EFFECTIVE APPROACHES TO LINKING POPULATION AND PROGRAMME DATA TO INFORM HIV PROGRAMMING

PEE1731

HIV RAPID TESTING TRENDS AMONG CLIENTS AGED 50 YEARS AND ABOVE IN UGANDA: A NEED FOR TARGETED PREVENTION SERVICES FOR THE ELDERLY

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BACKGROUND: By 2017, 72.5% of HIV-positive adults living with HIV in Uganda knew their status. Of these, 75.4 % were females and 67.3% were males (UPHIA 2017). HIV prevention interventions usually focus on pediatric, adolescents and those aged below 49 years with less focus on the above 50 years old. We present HIV testing yield trend analysis for the elderly (>49 years) during a 30 months' period and suggest next steps aimed at optimizing HIV testing among this age category in Uganda.

DESCRIPTION: We reviewed HIV testing program data from the Uganda District Health Information System for the period January 2017 to June 2019 to compute HIV positivity rates among clients aged 50 years and above who received HTS services.

LESSONS LEARNED: A total of 1,421,227 clients aged above 49 years were tested for HIV of which 732,489 (52%) were females and 688,738 (48%) were males. The average HTS positivity rate (yield) was 3.2% (n=45,102 out of 1,421,227)) but higher among males compared to females (3.5% vs 2.9%). The baseline yield was at 3% for males and 2.8% for females. The end line yield was higher than the baseline for both gender categories (Males 3.3%, females 2.9%). A total of 4,99 (11%) clients were presumptive TB cases, 53% (n=2,633) were males and 47% (2,354) were females. Out of the total tested, 32% (23,5048 females and 214,641 males) were testing for the first time. Only 7.8% of all those that tested HIV positive had early stage disease defined as CD4 above 500 c/c (Males 8.1% (N=1,50) females (7.1%, n=1528).

CONCLUSIONS/NEXT STEPS: HIV positivity rates for elderly clients aged 50 years and above have been increasing over the past 30 months with males having a higher than average national yield of 3.3%. There is need to extend targeted HIV prevention services to the elderly as well just as it is to other age groups. We could however not establish whether the increasing positivity rate was related to new infections (incidence) or due to improved identification of the positive. Next

PEE1732

FEASIBILITIES AND DETERMINANTS OF MULTI-MONTH SCRIPTING (MMS) OF HIV ANTIRETROVIRALTHERAPY IN THAILAND

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BACKGROUND: Multi-month scripting (MMS) has been endorsed globally with the goal of improving ART retention. Under MMS guidelines, treatment-adherent clients virally-suppressed >6 months, without opportunistic infections or adverse drug reactions and are not pregnant, can be prescribed ART supplies of >1 month at each visit. Providing MMS reduce patient visits and congestion at ART clinics thus improving ART adherence. MMS service in Thai facilities has not been thoroughly investigated. This study aimed to explore the feasibilities and examine determinants of MMS.

METHODS: To examine MMS patterns, Thai Ministry of Public Health IRB approved to conduct a mixed-methods study using the convergent parallel design. Two-ways ANOVA was used to analyze the association of province, hospital, payment scheme, and populations with MMS drawing from 3,438 electronic medical records at 25 hospitals in 8 provinces between July 2018-October 2019. Structural focus group discussions (FGD) were conducted with multidisciplinary healthcare team of each hospital to explore the feasibility of MMS.

RESULTS: Approximately 82% of patients received 3-6 months of ART prescription (Median=91, min=15: max=387 days). The results revealed that MMS implementation was significant differences among provinces, levels and types of hospitals, payment schemes, and populations (p=<.001).

From FGDs, ARV drugs supply, procurement, and inventory systems and national policies of health plans and benefits were found to be main barriers to MMS services. Stock-out and/or limited stock have regularly occurred. Different health benefit schemes allowed for different ARV stocks and prescription periods resulted in limited MMS services.

CONCLUSIONS: In Thailand, MMS is widely employed with some geographic variance. MMS implemented across these ART sites revealed the relationship between longer MMS intervals and these determinants. This could be a starting point to improve MMS services. ARV procurement, inventory systems and restrictions of health benefit schemes, particularly social security scheme, need to be revisited and amended to secure MMS feasibility.

Determinant Variables	Determinant Categories	Mean	Std. Error	F	p Values
Provinces	1 Chonburi : 8 Samutprakarn	100.005 : 68.329	3.775 : 6.019	4.834	<.001
Level of Hospitals	1 Tertiary Hospital : 2 Secondary Hospital	94.890 : 83.976	2.957 : 2.399	8.216	0.004
Payment Schemes	1 Universal health coverage : 2 Other payments schemes	92.663 : 81.388	1.142 : 5.539	3.974	0.046
Type of Populations	1 General Populations : 2 Key Populations	86.998 : 94.026	2.553 : 2.173	4.393	0.036
Type of Hospitals	1 Public : 2 Private	93.759 : 66.241	2.048 : 4.836	27.455	<.001

[Table]

PEE1733

PRACTICAL APPROACH TO ESTIMATING IMPACT OF ORAL PREP: SUCCESSFUL APPLICATION IN GUIDING PUBLIC SECTOR SCALE-UP IN SOUTH AFRICA

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BACKGROUND: Practical tools for routinely estimating and planning against impact of oral PrEP programming on new HIV infections are lacking. We sought to develop a novel methodology for setting and evaluating impact-oriented PrEP targets using routinely collected M&E inputs and geography- and population-specific epidemiologic data to guide national public sector scale-up planning in South Africa.

DESCRIPTION: Facility catchment population and district HIV prevalence were used to estimate HIV negative individuals for 3,138 facilities. Four risk strata were assigned to each facility's age and sex groups based on district incidence rates. Demand generation and testing targets were set according to risk strata. PrEP initiation targets were set using quarterly programmatic uptake trends as a baseline and applying a percent adjustment according to risk strata. PrEP initiation targets and anticipated duration of use were used to estimate facility-level commodity needs. Relative impact of each facility's age and sex group was estimated using a formula that incorporated programmatic data, district-level incidence, and PrEP initiation targets (Figure 1). Relative impact factors were aggregated into one composite score per facility and ranked. Facilities with the highest relative impact in each sub-district in the country were prioritized to begin implementation in Phase I to maximize impact and equitable access (n=240). Planned order of implementation subsequently followed the relative impact rank for outstanding facilities.

[Figure 1. Formula for estimating relative impact on primary infections]

LESSONS LEARNED: Facility-level target setting by age and sex for demand generation, testing, and PrEP initiations guided robust public sector scale-up planning in South Africa. The methodology developed enables impact-oriented facility prioritization, quantitative linkage between annual targets and programmatic impact, and routine tracking using M&E indicators.

CONCLUSIONS/NEXT STEPS: This approach to measuring impact of oral PrEP can be used to track progress of national scale-up in South Africa using routine indicators, as well as create a platform for comprehensive evaluation and prioritization of HIV prevention services.

MONITORING AND REPORTING IN THE SDG ERA

PEE1734

USING A MIXED METHODS APPROACH FROM QUALITY MANAGEMENT TO ASSESS THE IMPLEMENTATION OF ART CARE IN A REAL-WORLD PUBLIC RURAL UGANDAN SETTING

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BACKGROUND: More than 10 years after the beginning of Scale-up and decentralization of Antiretroviral Therapy (ART) in Sub-Saharan Africa, there is ongoing need for assessment of the quality of services offered in public ART-programs outside of research activities or external funding. We applied a mixed-methods approach coming from quality management research in order to identify possible bottlenecks or weaknesses within a public ART program in a rural Ugandan district in 2009.

DESCRIPTION: Using a convergent parallel and an exploratory sequential study design, all ART providing health facilities in the district were assessed using both qualitative methods as observations or in-depth-interviews with key informants, semi-qualitative interviews with patients and quantitative methods by digitization of paper-based patient files and registers for a retrospective cohort-analysis. To enhance validity, findings were then triangulated. The sequential study design allowed to adapt research tools during the study.

LESSONS LEARNED: By triangulation of several methods we identified Antiretroviral (ARV) drug-shortages and attrition to the program to be some of the main challenges in the district: Reviewing ARV logs showed that first-line non-nucleoside reverse transcriptase inhibitor was out of stock at some facilities up to 36,2% of time during 12 months prior study. ARV stock-out-time was the highest for facilities with the highest rates of ART initiation among their patients and with the best rates of retention in care in the retrospective cohort analysis. Key informants at all facilities reported drug shortages as a main problem. Out of 149 interviewed patients, 34(22,8%) indicated a previous treatment interruption and 16(47,1%) out of them stated a stock-out at the facility to be the reason for it. The research team observed how ARVs were not available on the day of visit and how health care workers had to improvise.

CONCLUSIONS/NEXT STEPS: In the face of widely improved access to ART, using mixed-method approaches and triangulation of results allows comprehensive assessment of the quality of ART at facility level and includes the perspective of the affected communities. To achieve the "90-90-90"-goals and ultimately epidemic control, we recommend the use of mixed-method approaches for early and comprehensive identification of bottlenecks and the development of responsive models of ART delivery.

PEE1735

CONTRIBUTION OF COMMUNITY SOCIAL WELFARE PLATFORMS TO PEDIATRIC TREATMENT OUTCOMES ALONG THE CONTINUUM OF CARE IN TANZANIA

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BACKGROUND: Extending health systems to the community is an approach to improve HIV treatment outcomes and reduce new HIV transmissions. In Tanzania, integration of HIV actions into the community social welfare system was explored as a complementary opportunity to improve obstacles to optimal pediatric HIV outcomes.

METHODS: A PEPFAR-support Orphans and Vulnerable Children (OVC) project in Tanzania collected pediatric ART data from October 2017 to October 2019 in 81 councils. Lay community social welfare volunteers supported HIV testing referral, linkage to care and test-and-treat services, and ART retention. The analysis tracked three cohorts of OVC aged <18 for 24 months: those on ART at enrolment; those who had dropped from ART care; and those who had unknown status, and after risk assessment and referral, were newly diagnosed. Descriptive statistical analysis was used to assess the outcomes.

RESULTS: The project enrolled 6,634 HIV+ OVC (51.7% female; mean age of 11.2 years). 55.4% were in-school. Disclosure counselling resulted in 61.6% of OVC aged 8+ knowing their HIV status. 82.6% were successfully linked to a support group for PLHIV; Overall, 99.7% (6,612) of the OVC were engaged in HIV care, with a 99.3% (6,588) retention

rate at 24 months. Of the 6,634 the 1,909 OVC on ART at enrollment had a 99.4% retention rate after 24 months. Of the 611 OVC that had discontinued ART at the time of enrollment, volunteers linked 98.7% to ART, with a 95.4% ART retention rate after 24 months.
100% of the 4,114 OVC who were newly-diagnosed HIV+ after enrollment were linked to care with a 99.6% (4,098) retention rate after 24 months. Volunteers applied family-centered case management methods (average of 16 monthly contacts over 24 months) and provided escorted referrals, linked caregivers to economic strengthening, supported health insurance registration, and worked across social welfare and health facility structures for continuum of care.
CONCLUSIONS: Community social welfare platforms that integrate HIV actions improve pediatric case finding, lost to follow up tracking, and treatment retention. Investment in social welfare staffing, training, and expansion of community systems can contribute to addressing non-health systems-related obstacles along the HIV continuum of care.

PEE1736

PHYSICAL OR MENTAL DISABILITIES AND THE UPTAKE OF ANTIRETROVIRAL THERAPY AMONG HIV POSITIVE CAREGIVERS OF ORPHANS AND VULNERABLE CHILDREN IN TANZANIA

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BACKGROUND: Uptake of antiretroviral therapy (ART) is crucial for better health outcomes among people living with the human immunodeficiency virus (PLHIV). People with disabilities are particularly vulnerable to contracting HIV due to sexual abuse and exploitation, among others. They are also limited in terms of access to information, testing and treatment. However, only a few studies or interventions focus on this population, possibly due to lack of appropriate data. This study compares uptake of antiretroviral therapy among disabled and non-disabled HIV positive caregivers of orphans and vulnerable children.
METHODS: Data are from the community-based, PEPFAR-funded project that aims to scale up the uptake of HIV/AIDS and other health and social services by orphaned and vulnerable children (OVC) and their caregivers. HIV positive caregivers of OVC who were enrolled in the project during January 2017 – June 2018 were included in this analysis. The outcome variable was ART status (either using or not), which was enquired of each OVC caregiver living with HIV. Physical or mental disability was the main independent variable. Data analysis involved multivariate analysis using random-effects logistic regression to study ART uptake by disability status.
RESULTS: 74,999 caregivers living with HIV with mean age of 44.4 years were analyzed. Of these, 1.5% (n = 1,127) were physically or mentally disabled. Overall ART uptake was 96.4%. ART uptake was 93.4% and 96.5% among disabled and non-disabled caregivers respectively ($p<0.001$). In the multivariate analysis, disabled caregivers were significantly (42%) less likely than those not disabled to be on ART (OR = 0.58, 95% CI 0.45–0.76). This observation was adjusted for place of residence, food security, sex, age, marital status, education, wealth quintile, health insurance, and village co-residence.
CONCLUSIONS: The degree of ART uptake among the HIV positive caregivers was notably high (96.4%), but lower among those with disabilities compared to those without. Service integration such as mental health and HIV treatment to address disabilities will likely enhance ART uptake among the disabled. There may be physical and logistical limitations to ART access among disabled PLHIV, thus a need for programs to target the disabled with interventions to improve their ART uptake.

TRACK F

LAWS AND POLICIES ON REPRODUCTION (INCLUDING COERCED STERILIZATION AND ABORTION)

PEF1735

SEXUAL AND REPRODUCTIVE HEALTH RIGHTS VIOLATIONS EXPERIENCED BY WOMEN LIVING WITH HIV IN THE ASIA PACIFIC

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BACKGROUND: The Asia Pacific region boasts two countries that have been validated by the WHO for the elimination of mother to child transmission of HIV (EMTCT), Thailand in 2016 and more recently in 2018, Malaysia. Yet despite advances in PMTCT science, women living with HIV in the region report significant challenges in accessing services and securing their SRHR persist including stigma discrimination and human rights abuses including coercive practices such as forced and coerced sterilization.

DESCRIPTION: Coerced or forced sterilization of women living with HIV is a pervasive global phenomenon and has been reported by women living with HIV and documented along with other coercive practices in more than 30 countries including multiple countries in the Asia Pacific Region, notably Thailand, Malaysia and recently in Indonesia. The practice occurs within a systemic pattern of discrimination and violations of sexual and reproductive rights experienced globally by women living with HIV. Ending discrimination and human rights abuses against women living with HIV and particularly those seeking to have children and participating in PMTCT programs is essential to retaining women living with HIV in care and in meeting global HIV and maternal health targets.

LESSONS LEARNED: ICWAP and our partner networks of women living with HIV have been documenting these experiences of stigma, discrimination and human rights abuses with the goal of articulating a set of strategies to address these issues. This session seeks to explore human rights violations such as coercion and denials of agency and bodily autonomy from the perspective of women living with HIV with the goal of articulating strategies to secure the rights and well-being of women living with HIV in care and in meeting global HIV and maternal health targets.

CONCLUSIONS/NEXT STEPS: ICWAP organized 3 seres of leadership school. The training was to expand and develop a core cadre, attached to ICWAP to regional and national levels who are well-informed skilled and positioned to represent to lead a diverse group of women living with HIV to various decision-making planning processes. Supportive policies must be in place to continue evidence-based advocacy and mostly resources must be allocated to have ethical research and reduce critical violations.

PEF1736

THE LACK OF ACCESS TO THE RIGHT TO CHOOSE AND THE SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS OF THE YOUNG WOMEN LIVING WITH HIV

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BACKGROUND: In Guatemala the 90% of the new cases people living with HIV acquired the virus by sexual transmission for the lack of access of the Comprehensive Sexual Education -CSE-. In 2017 the 40% of the new cases of HIV were in people under 30 years old.
Currently the access of the sexual and reproductive rights it is limited for legislative initiative called “Protection of the life and family”, specifically with young people living with HIV because the health personnel do not provide the information in the health services.

DESCRIPTION: The situation in Guatemala of the young women living with HIV i the health system do not let that the young women to decide of their own body.
Currently the health system does not allow young women decide how many children they want to have. When a women is pregnant and is HIV+ the health system does the sterilization process without their consent.
In Guatemala with the support of AMUGEN we have specific education project that looks to guarantee the access of SRHR and access to the ARV as a prevention strategy working in different communities including indigenous young women with HIV.
We I dentified 4 cases of young women with HIV who where sterilized.

LESSONS LEARNED: 1. The young women living with HIV did not know that they have sexual and reproductive rights and they normalized that the health personnel decided for their own bodies.
2. The young key population does not feel comfortable talking about their sexuality with their doctors.
3. The discrimination limited to enjoy their sexuality.
4. When a women know about U=U they feel more relax about the vertical transmission

CONCLUSIONS/NEXT STEPS: 1. Is important that young people with HIV know more about the target 90-90-90
2. The people living with HIV ignore that they have human rights.
3. The SRHR is necessary to all young people no matter their serologic status.
4. It is necessary that civil society did not limit the young leadership in LATAM.

LAWS AND POLICIES ON HIV TRANSMISSION

PEF1737

MEN WHO HAVE SEX WITH MEN LIVING IN STATES WITH HIV-SPECIFIC CRIMINALIZATION LAWS REPORT HIGH COMMUNITY STIGMA – NHBS, 2017

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BACKGROUND: In 2017, 36 states had laws penalizing persons with HIV (PWH) for sexual or no-risk behavior (e.g., spitting). Research shows these laws do not impact sexual risk behaviors or diagnosis rates. Citizens likely are unaware of these laws; we do not expect direct behavioral effects. However, laws reflect states' values and may mirror community attitudes towards PWH. Understanding how structural factors relate to stigma is important for stopping HIV stigma.
METHODS: National HIV Behavioral Surveillance used venue-based sampling methods to interview men who have sex with men (MSM) in 23 U.S. cities from June-December 2017. Using Center for HIV Law and Policy reports, we categorized states' HIV-specific laws as of June 2017. We compared MSM's perceptions of community attitudes towards PWH between MSM living in states with versus without HIV laws. We obtained adjusted prevalence ratios using log-linked Poisson models assessing the relationship between law and four community stigma attitudes (discrimination, rights, friendship, punishment), which we then compared between black MSM in states with versus without laws.
RESULTS: Two-thirds of MSM lived in states with HIV-specific laws. MSM in states with laws were more likely to report black race (38% versus 15%), poverty (23% versus 12%), or incarceration (25% versus 19%). Multivariable models found laws were related to perceived community beliefs that PWH "got what they deserved" (aPR=1.13, 95% CI: 1.03-1.24), but not other attitudes. Compared to black MSM in states without laws, black MSM in states with laws were more likely to believe persons in their community would discriminate against PWH (64% versus 50%), not support PWH's rights (25% versus 16%), not be friends with PWH (24% versus 13%), and believe HIV was deserved punishment (32% versus 22%).
CONCLUSIONS: MSM in states with HIV laws were disproportionately from marginalized groups. Laws were related to perceived community attitudes that HIV was deserved punishment; understanding specific stigma attitudes can inform interventions. Although black MSM reported high community stigma overall, stigma was significantly higher for black MSM in states with HIV laws. States may consider repealing or reforming HIV laws and focusing on effective prevention efforts to End the HIV Epidemic.

PEF1738

IMPROVING THE APPLICATION OF THE LAW: UPDATING GUIDELINES FOR PROSECUTORS IN ENGLAND AND WALES REGARDING SEXUAL TRANSMISSION OF INFECTION

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BACKGROUND: In England and Wales it is possible to be prosecuted for the sexual transmission of infection under the Offences Against the Person Act 1861 or the Criminal Attempts Act 1981. After the first prosecutions in 2003, National AIDS Trust (NAT) successfully advocated for legal guidance for prosecutors and worked with the Crown Prosecution Guidance (CPS) to develop this.
DESCRIPTION: In 2018 NAT requested that the guidance be updated. In January 2019 the CPS shared a draft of their revised guidance with NAT, who then coordinated a joint response from NAT and other key stakeholders. This successfully ensured that the new guidance reflects medical developments such as Undetectable=Untransmittable and clinical guidance.
Developments in case law have led the CPS to take the view that HIV/STI status deception may be capable of vitiating consent to sex. NAT is concerned that this could result in people who lie about their HIV status being prosecuted for rape or sexual assault, even with safeguards used and no transmission occurring. NAT prepared a briefing articulating legal, policy and public health arguments against this position, and presented it at a meeting with the CPS. As a result the CPS have added several caveats, but we still believe their position to be unacceptable and discussions are ongoing.
LESSONS LEARNED: The successes we have had in improving the guidance demonstrate the importance of long-standing proactive engagement, relationship-building and collaboration. Collaborating with a range of key stakeholders including clinicians and lawyers enabled NAT to leverage wider authority and expertise.
However, the issue of HIV status deception has illustrated the implications for HIV of legal developments in related but not directly transferable areas. Confidence in our understanding of the law and persistence in making our arguments heard has been crucial in ensuring ongoing engagement on this issue.
CONCLUSIONS/NEXT STEPS: The updated guidance will help to ensure that prosecutions for reckless or intentional transmission are conducted in a way that minimises harm to both individuals and the wider community.
Regarding the issue of HIV status deception, possible next steps include securing parliamentary engagement, pro bono legal opinions, and further representations from local government and public health bodies.

PEF1739

CRIME AND PUNISHMENTS: DEPORTATION PROCEEDINGS AGAINST PEOPLE CONVICTED OF CRIMINAL TRANSMISSION OF HIV

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BACKGROUND: A significant portion of people convicted of HIV transmission in Australia are not Australian citizens. Due to not holding citizenship, those convicted of serious criminal offences (which includes facing a prison term of 12 months or more), are at risk of hav-

ing their visas cancelled and being removed from Australia. The HIV/AIDS Legal Centre (HALC) has represented a number of these clients in both their criminal and subsequent immigration proceedings to assist these clients in preventing their removal from Australia.

DESCRIPTION: Where a person is not an Australian citizen and commits a criminal offence they are at risk of detention and removal from Australia. In two recent case studies of people with HIV convicted of HIV transmission, following the completion of their custodial sentences steps were then taken to cancel their visas and place them into immigration detention. Both clients had their visas cancelled and had to take steps to appeal the decisions. Part of the reason for the cancellation was the perception of ongoing risk to the Australian community. Neither client had been convicted of intentionally transmitting HIV to their sexual partner.

HALC continues to represent one of the clients mentioned and the other has now exhausted all appeal options.

LESSONS LEARNED: There are often many and varied reasons for HIV non disclosure and, from HALC's experiences, following criminal and public health interventions it is unlikely that a person with HIV would continue to place their sexual partners at risk of contracting HIV. Decision makers in migration proceedings appear to be unwilling to accept that a person with HIV would no longer place their sexual partner at risk of HIV transmission as the decision makers note in their decisions that they there remains a risk to the community.

CONCLUSIONS/NEXT STEPS: The outcomes of these cases demonstrates the need for ongoing advocacy and law reform in the removal of offences for HIV non-disclosure, exposure and transmission, except where actual intent can be established to a criminal law standard. The cases also demonstrate the ongoing need for continued robust representation of those, often vulnerable migrants, who are facing visa cancellation.

PEF1740

DECRIMINALIZATION OF HIV TRANSMISSION: ADVOCACY EXPERIENCE OF THE CIVIL SOCIETY COALITION FOR THE DECRIMINALIZATION OF HIV IN NIGER

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BACKGROUND: To effectively fight against HIV, Niger adopted Law No. 2007-08 of April 30, 2007 related on HIV prevention, care and control. This law included problematic provisions, including the criminalization of exposure, HIV transmission, and the non-disclosure of HIV to the sexual partner. Actually, PLWHIV continue to be victims of the application of the provisions criminalizing the transmission of HIV through several criminal prosecution cases in 2017.

DESCRIPTION: In June 2018, 13 civil society organizations created the "National Coalition for the Decriminalization of HIV in Niger". This one benefited from the technical and financial support of HIV JUSTICE WORLDWIDE. Its advocacy objectives, by 2021, are to : repeal of offenses criminalizing exposure and transmission of HIV ; research and disseminate reliable and convincing data on the impact of HIV criminalization on access to HIV-related services. Since its creation, the Coalition has carried out the following activities : National workshop for consulting civil society stakeholders on the exposure, transmission and non-disclosure of HIV in Niger ; The development of the Memorandum of December 20, 2018 entitled "exploring ways and means to resolve the problems of legal proceedings against people living with HIV in order to reduce to zero the new infections, deaths and discrimination linked to AIDS" ; Organization of several advocacy meetings during the "zero discrimination" day (March, 2019) for public decision-makers and partners.

LESSONS LEARNED: · judicial police officers and magistrates have to exercise greater caution when considering a criminal prosecution, and in particular, carefully assess the latest scientific data on the risks of transmission and the consequences of the infection;

· National AIDS Control Program need a comprehensive assessment of the application of criminal legislation on the transmission, exposure and non-disclosure of HIV status in order to measure its impact on the effectiveness of national response.

CONCLUSIONS/NEXT STEPS: The criminalization of HIV transmission undermines public health efforts and does not take into account the reality of PLWHIV and especially women who are not always able to disclose their HIV status without fear of reprisals or violence, or to impose the wearing a condom. The threat of possible criminal prosecution only increases their vulnerability.

PEF1741

POPULATION-LEVEL IMPACT OF A POLICE EDUCATION PROGRAM ON HIV RISK AMONG PEOPLE WHO INJECT DRUGS IN TIJUANA, MEXICO

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BACKGROUND: People who inject drugs (PWID) often report negative interactions with police that could elevate their risk of acquiring HIV. Some interactions can occur proximally on the causal pathway (syringe confiscation leading to syringe sharing) or distally (arrest outside methadone providers). To align policing with public health, from February 2015 – May 2016, we trained over 1,800 police officers in Tijuana on occupational safety, drug policy reforms, and epidemiology of HIV and harm reduction services. We assessed how the training could have impacted the HIV risk environment in a parallel cohort of PWID in Tijuana.

METHODS: We recruited 589 PWID by street outreach among whom 39% were female and 70% reported receptive syringe sharing at baseline. Data on police interactions were limited to visits 21 months before, 15 months during and 18 months after the training. We adopted an interrupted time series design to assess temporal trends in police interactions reported by PWID. We partitioned data into 3-month intervals which were classified into 3 periods: pre-training (7 intervals), training (5 intervals), and post-training (6 intervals). We conducted mixed effects logistic regression to estimate the mean predicted probability of the outcomes for each 3-month time interval and used these values in segmented regression to estimate the immediate change in probabilities of the outcomes from one period to the next and the change in trend within one period and the next.

RESULTS: Compared to the pre-training period, perception that participants would be arrested for carrying new syringes declined significantly during the training period (p=0.03). Further, we observed a significantly decreasing trend in the probability of syringe sharing (p=0.02) during the training period, which continued to decline in the post-training period (p=0.03). We also detected an increasing trend in the probability of accessing methadone during the training

period, which marginally increased in the post-training period.

CONCLUSIONS: Police trainings that integrate public health concepts could be a novel structural intervention to reduce HIV risk among PWID. Police officials should ensure that street-level officers understand how their behaviors impact health of PWID and have the capacity to refer PWID to harm reduction programs.

PEF1742

REMOVING LEGAL BARRIERS TO ACCESSING HIV SERVICES IN MALAWI: IMPACT OF REGIONAL- AND NATIONAL-LEVEL INTERVENTIONS

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BACKGROUND: Building on the work of the Global Commission on HIV and the Law, and in order to promote an enabling environment for achieving the 90-90-90 targets, UNDP has supported regional- and national-level work on removing legal barriers to accessing HIV services in sub-Saharan Africa. Covering over 20 countries, this work consists of regional-level capacity building for duty-bearers and rights-holders from the different countries and in-country activities tailored to local realities.

DESCRIPTION: In 2019/20, we evaluated the impacts of this work through a review of project documents and key informant interviews with stakeholders including civil society representatives, government officials, and UNDP staff, and conducted an in-depth case study in Malawi.

LESSONS LEARNED: Participation in regional spaces empowered national-level stakeholders in their country level work. A participatory legal environment assessment (LEA), jointly owned by government and civil society, served as the starting point and the resulting document, providing an overview of the strengths and weaknesses of HIV-related national laws and policies, has served as a cornerstone for subsequent activities. For example, national advocacy efforts informed by the LEA, and participation by the Chair of the Parliamentary Committee on HIV in regional activities, were key to shaping a revised HIV law to better align with international human rights law. The new law has led to the reform of the institutional framework for the national HIV response. Judges participated in regional judges' fora where they could request information on HIV-related science, discuss lived experiences with key populations' representatives and hear about how legal issues were being addressed across the region.

Lawyers from across the region took part in joint training. After one such training, and with technical support from regional partners to create a strong case, a lawyer chose to appeal the conviction of a woman under Malawi's law criminalizing HIV transmission. The presiding judge had attended regional judges' fora and, drawing on a firm understanding of HIV transmission dynamics, overturned the original ruling.

CONCLUSIONS/NEXT STEPS: A mix of regional and national level activities allows for tailoring of activities to national contexts while also providing space for peer networking and support where 'difficult' issues might more easily be discussed.

LAWS AND POLICIES ON EMPLOYMENT, WORK AND RESIDENCE PERMITS

PEF1743

COLLABORATING WITH REGULATORS TO ACHIEVE SYSTEMIC CHANGE FOR PEOPLE LIVING WITH HIV: A CASE STUDY OF EMPLOYMENT DISCRIMINATION IN LONDON'S SOCIAL CARE SECTOR

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BACKGROUND: The United Kingdom's Equality Act 2010 makes it unlawful to ask job applicants questions about their health which are not directly relevant to the job. This should prevent discrimination against applicants living with HIV. However, employers' limited knowledge of equality law and a lack of enforcement by regulators means that some employers continue to ask about HIV status during recruitment. We undertook a project to determine the extent to which illegal pre-employment health questionnaires were being used by employers and challenge their use.

In order to manage the scope of the project, we focused on the social care sector in London. Our rationale was twofold: London has the greatest number of people living with HIV compared to other cities, and we had anecdotal evidence that social care providers were asking job applicants about their HIV status.

DESCRIPTION: We reviewed the websites of 1000 social care providers and identified 71 providers using unlawful health questions in their online application forms. We contacted them, highlighting their breach of legislation and asking them to change their practice. We contacted the Equality and Human Rights Commission (EHRC) – the regulator of the Equality Act – and the Care Quality Commission (CQC) – regulator of social care – to draw their attention to this issue. The EHRC agreed to us referring providers who did not respond or refused to remove unlawful health questions to them for further investigation.

LESSONS LEARNED: 45 providers responded positively, and we supported them to modify their application forms. We also shared guidance on how to improve employment and social care for people living with HIV. The remainder were referred to the EHRC.

With the EHRC and the CQC, we developed guidance on pre-employment health questions for CQC inspectors, including how to refer providers to the EHRC.

We learned that gathering evidence of widespread unlawful behaviour is key to gaining the support of regulatory bodies. Their support strengthens challenges to organisations behaving unlawfully and enables systemic change to reduce HIV discrimination.

CONCLUSIONS/NEXT STEPS: Legislation alone is insufficient to prevent HIV discrimination. Civil society should collaborate with regulators to ensure effective enforcement of the law and increase understanding of HIV

AGE OF CONSENT LAWS REGULATING ACCESS TO HIV TESTING AND TREATMENT AND OTHER SERVICES

PEF1744

A CRITICAL ANALYSIS OF THE FALLING AGE OF INITIATION AMONG THE INJECTING DRUG USERS AND THE PROGRAMMATIC RESPONSE IN MANIPUR, INDIA

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BACKGROUND: Manipur is the first pioneering state in India to implement Harm Reduction (HR) in India. Manipur lies adjacent to the Golden Triangle . Manipur has the third highest rate of HIV Sero-prevalence in India. There are about 32,000 injecting drug users (IDUs) in Manipur (Quest 2011). The National AIDS Control Organisation (NACO) classifies Manipur as high-HIV prevalence state. The IDUs in Manipur contributes to 50% of the total HIV infection (NACO HIV epidemiological surveillance 2005).

DESCRIPTION: Literature review using the modified conceptual framework adapted from Andersen and Newman to interrogate the literature and My 7 years of my working experience in Manipur for implementing Harm Reduction (HR) project with Project ORCHID funded by (BMFG) . Project ORCHID works in selected district of 2 states in north eastern state in India, Manipur and Nagaland, with 31 (NGOs). With the target of 18,000 (IDUs), 4000 (FSW), and 1450 n (MSM)

LESSONS LEARNED: The age of initiation of injecting drug use is decreasing in Manipur. Adolescent IDUs are more vulnerable than adult IDUs, as consequences of legal obligation and non-availability of Harm reduction (HR) services No HR services in India below 18 years. About 94.5% of first injection was usually administered by adult IDUs so , It increases in sharing of needle and syringes, paraphernalia and unsafe sex which increase in HIV, HCV, STIs, overdoses, abscess and premature mortality. While HR for adult IDUs has proved to be effective in Manipur, it has in decrease in HIV prevalence among adult IDUs from 76% in 1997 to 12.8% in 2011.

CONCLUSIONS/NEXT STEPS: Acknowledging the decrease in age of initiation and vulnerability.The magnitudes of barrier to utilisation of HR services for adolescent IDUs can facilitate early intervention of HIV prevention programs. During my research field findings there is no adolescent IDU HR services in the world. As if we are waiting for the adolescent IDUs to get infected with HIV/AIDS and other BBVs . Therefore, the International, National and state Government should urgently revise and update the current HR policies to allow adolescents as beneficiaries, conduct size estimation for adolescents IDUs,establish adolescent friendly centres, strengthened referral and linkages with other programs.

PEF1745

PROXY CONSENT AND CASE MANAGEMENT OF ADOLESCENTS LIVING WITH HIV (ALHIV): THE CASE OF ILOILO CITY, PHILIPPINES

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BACKGROUND: The Philippines is one of the countries with the fastest-growing HIV epidemic in the World in 2008-2018. The Philippine AIDS Prevention and Control Act of 1998 (RA 8504) requires minors to secure parental consent when undergoing an HIV test. To address the multi-faceted issue of HIV, UNICEF, in partnership with other organizations, advocated the proxy consent protocol for HIV testing in 2016. Government agencies at the national level such as the Department of Health (DOH), Department of Social Welfare and Development (DSWD), National Youth Commission (NYC), Department of Justice (DOJ), and the Council for the Welfare of Children (CWC) endorsed the protocol.

DESCRIPTION: A pilot project of the proxy consent was conducted in the city of Iloilo by the Family Planning Organization of the Philippines (FPOP). In 2016-2018, of the 135 minors tested by FPOP, four were found positive. The Iloilo City Information and Service Delivery Network (IISDN) was established through lobbying at the Local Government Unit of Iloilo City. The paper will discuss the model to integrate adolescent sexual and reproductive health services towards HIV prevention. HIV issues were viewed from both the medical and social perspectives. An evidence-based adolescent HIV programming approach to prevention and treatment was implemented.

LESSONS LEARNED: With this model, working closely with the government agencies, NGOs, development partners, and peer educators, and integrating health, psychosocial, legal and protection, and financial support, service delivery to adolescent health, especially for minors living with HIV, is attainable. The paper will also describe how the evidence gathered in 2016-2018 through the pilot testing became instrumental in lobbying to lower down the age of consent. Under the new law (RA 11166 or the Philippine HIV and AIDS Policy Act of 2018), minors aged 15 to 17 years old can now undergo an HIV test without parental consent.

CONCLUSIONS/NEXT STEPS: The model is a leap toward realizing an age-inclusive HIV programming and that can be replicated in other cities or regions. The lessons learned in this case could be used by other cities embarking on a similar program.

HUMAN RIGHTS VIOLATIONS AGAINST PEOPLE LIVING WITH HIV

PEF1746

COMMUNITY EFFORTS SUCCESSFULLY LEADS THE POLICY CHANGE

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BACKGROUND: People living with HIV in Bangladesh often face stigma and discrimination from the family, society, work place and also accessing health, education and legal services. Stigma Index report UNAIDS 2017, 47% HIV+ experienced at least one event of stigma and discrimination, 53% refused health care services. A fact is presenting here the scenario. In August 2019, a nursing student identified HIV positive during the blood donation campaign in his institution, a confirmatory test was performed by the authority forcefully. The student assaulted in front of faculties and students; a medical board of the nursing institution recommended to suspend the student as he identified HIV positive moreover MSM. The student received a letter 4 days before the final exams from the institution stopping him all kinds of academic activities. Education is basic human rights which every human being is entitled. The student was referred to Bandhu Social Welfare Society (Bandhu) for help, as the organization works for HIV prevention and human rights among MSM and Transgender.
DESCRIPTION: Bandhu visited the hospital authority in order to secure the victim's participation in the final exam. Activities were undertaken to change the mindset of the hospital authority: organized meeting referring the national strategy, responses of HIV prevention and treatment, engaged National AIDS/STD Program and national human rights commission, Facebook posting for creating awareness and to stand beside the student as a result 20 people from CSO and community leader visited the college and protested, conducted advocacy meeting with teachers of the institution for changing institutional policy towards PLHIV, all event were organized in Sept-Oct, 2019.
LESSONS LEARNED: The hospital authority withdrawn the suspension letter and gave permission sitting the exam. Continuous advocacy efforts lead to policy change. Correct information can replace the myths and misconceptions. Social media (Facebook) also helped to create a pressure from the civil society.
CONCLUSIONS/NEXT STEPS: The national AIDS/STD program took the responsibility to conduct series of advocacy meetings and awareness amongst the private medical college hospitals and educational institution to create awareness in the country as the national program has its main role of HIV prevention and treatment in Bangladesh.

PEF1747

MISSION (IM)POSSIBLE: HOW COMMUNITY OF PLHIV SHALL CHANGE PATENT NATIONAL LEGISLATION ON ACCESS TO TREATMENT IN UKRAINE

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BACKGROUND: The total budget of centralized purchases in Ukraine in 2018 amounted to $ 155.710 million, of which $ 77,190 million is spent on drugs protected by patents.
It is estimated that 238, 000 people are living with HIV (PLHIV) in Ukraine. The total state budget for the purchase of ARVs in 2018 was $24 million.
But for only one drug, Aluvia, Ukraine annually spent $12, 690, 000, covering only 27, 000 patients out of 90, 000 PLHIV receiving ARV.
Since 2015, CO 100% LIFE has been fighting to expand access to treatment and market access for generic HIV drugs.
DESCRIPTION: To increase access to generic drugs on the Ukrainian market, CO 100% LIFE advocates for changes in patent law in Ukraine. To this end, the patient community has developed 2 relevant draft patent laws and the following steps have been taken:

- specialized parliamentary committee members were provided with infographics depicting the negative influence of patent evergreening on drug prices.
- campaign to push members of the relevant parliamentary committee and MPs representing regions to support proposed changes
- - letter from the Ministry of Health in support of the proposed draft law.
- draft Law received positive feedback from WHO and UNDP.

Consequently, the specialized parliamentary committee voted to approve the draft law.

- Two training sessions on patent law were held for patient organizations.
- More than 20 expert appearances in media as well as a street action "Golden Drug" under the Parliament of Ukraine organized resulted in more than 50 publications.

Thanks to these efforts, two bills on patents and intellectual property received the preliminary support and are considered by the Parliament of Ukraine.
LESSONS LEARNED: The critical changes initiated by the community in patent and intellectual property law will benefit drug pricing expanding the number of patients treated by 40% as early as 2021.
Trainings on advocacy for patient organizations proved to be an important tool to bring legislative change.
CONCLUSIONS/NEXT STEPS: The pressure of the community-based organizations to expand access to treatment has yielded results in the form of two registered bills that will be adopted by the Parliament of Ukraine in the next six months.
The first to benefit from the adoption of these bills are PLHIV. In addition to those in treatment, another 60, 000 patients will be able to receive medication.
These bills will simplify the market for generic drugs for patients of other nosologies: with hepatitis C (82 thousand patients), patients with cancer (140 thousand patients annually)

PEF1748

BUILDING COMMUNITY CONSENSUS ON HIV/AIDS DISCRIMINATION IN NIGERIA TO ENCOURAGE STATE ACTION ON ANTI-STIGMA LAW

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BACKGROUND: In Nigeria, stigma and discrimination are major obstacles to effective HIV/AIDS prevention, treatment, and care services. Nigeria's Anti-Discrimination Act of 2014 makes it illegal to discriminate based on HIV positive status. However, the lax judicial and legal environment renders the law ineffective. Notably, in states yet to put the law into practice, no legal compensation can be sought for rights infringements. It thus becomes important to rally community consensus for the law to work and serve the people.
DESCRIPTION: The Stigma Clinic is a roving platform of dialogue, story sharing, and partnership building that seeks to educate society on the Anti-Discrimination Act by leveraging key community influencers. It is led by patients and incorporates government, CBO, and CSO partners. Media is also used to highlight and moderate institutionalized HIV discrimination targeting PLHIV, while linking individuals seeking assistance for legal services. So far the Clinic has been held in two states and is moving soon to a third soon to continue creating a more supportive environment for PLHIV.
LESSONS LEARNED: The Clinic reveals stark disparity between what state officials in charge of the HIV response know and what the situation is on the ground. This directly impacts commitment. Governments showed willingness to act after gaining more knowledge and understanding of the situation, which suggests that constant strategic engagement and education is critical to achieving desired results from state actors. In Kogi, where the Clinic was first held, a commissioner became involved and began championing the process of enforcing the law. Changes also took place in some hospitals when PLHIV shared information in their testimonials. In Benue, a taskforce on stigma and discrimination was initiated immediately after the Clinic was held.
CONCLUSIONS/NEXT STEPS: Community ownership of initiatives on stigma is vital to creating a supportive environment that allows PLHIV to flourish. Safe spaces for PLHIV to share their stories unhindered within the treatment cascade is essential to inspire others. Direct, constructive dialogue with stakeholders, led by PLHIV, is a strategy that holds promise to normalize the environment and decrease stigma and discrimination.

PEF1749

IMPLEMENTATION OF THE STATE-OF-THE-ART LEGAL AID TOOLS FOR PEOPLE LIVING WITH HIV BY COMMUNITY-LED ORGANIZATION

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BACKGROUND: PLWH in Ukraine are systematically subject to violations of their rights.
15% experienced denial of access to treatment, 17% reported disclosure of HIV status by healthcare providers, 4% experienced discrimination in the workplace, and so on.
Therefore, in Ukraine there is an urgent need to put in place effective mechanisms for providing legal assistance and restoring violated PLWH rights.
DESCRIPTION: Since 2018, CO "100% LIFE" has been implementing a Legal Networking Project aimed at providing legal assistance to PLWH and vulnerable groups and restoring their abused rights.
The project is national in scope with coverage of all regions of Ukraine, with 12 local counseling offices..
Two approaches were applied to the implementation of the Project:
Restoration of violated rights of PLWH through legal support of court and pre-trial cases.
Creating an modern IT solution that enables PLWH and others to receive on-line and optionally, anonymous legal answers to the most common questions asked by people with HIV.
LESSONS LEARNED: During 2018-2019, 4680 PLWH and representatives of vulnerable groups applied for legal assistance concerning issues of violation of rights to access to medical care.
Over the course of the project:

- 47 court appeals were initiated and covered:
- disclosure of PLWH personal information.
- protecting the rights of a person growing cannabis for medical purposes;
- renewal of social security payments;
- administrative liability for driving while intoxicated due to false positive test results while taking ART, etc..

Ten cases have been referred to the European Court of Human Rights, one of which has been resolved in favor of the client, the other is still pending.

- "Legal Bot 100% LIFE" is developed and works across all major online platforms and messengers to inform and refer potential clients to human rights defenders and advocates for further support.

CONCLUSIONS/NEXT STEPS: 59% of court cases and 75% of pre-litigation were resolved in favor of clients.
Every month Legal Bot records at least 400 requests thus extending the on-line access of PLWH to legal information on the protection of their rights.
Through Project mplementation and Legal Bot functioning, PLWH and key communities have access to qualified legal assistance.

PEF1750

REDUCTION OF GENDER-BASED VIOLENCE (GBV) IN THE KÉDOUGOU GOLD REGION: WHAT COMMUNITY PARTICIPATION?

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BACKGROUND: In Kédougou, GBV is frequent and is considered to be a factor of vulnerability of young people to HIV. The victims generally remain poorly known due to aspects linked to socio-cultural burdens. Those who come forward do not use formal justice and civil protection structures. The level of knowledge of the communities is low. To strengthen their participation in the fight against GBV and the sexual and reproductive health of young people, the CNLS, USAID / Neema and the CCA have joined their efforts to intervene in this direction.
GOALS: Describe the community mobilization strategy carried out in Kédougou to combat GBV with the involvement of the authorities.
DESCRIPTION:

- Coordination meetings with stakeholders

- Sharing of terms of reference for activities with administrative and medical authorities
- Empowerment of BajenuGox (community actors) and women's groups
- Involvement of players in education and sports and cultural associations from the desig of activities
- Meetings with neighborhood leaders

LESSONS LEARNED:

- Mass activities, training and local communication have seen35 men and 75 women sensitized to the Community Forum who took firm resolutions in response to GBV
- 724 students, including 307 boys and 417 girls participating in the awareness walk with reading and delivery of a memorandum to the Prefect of Kedougou
- 12 men, 204 women and 07 neighborhood leaders registered for social mobilization committed to combating GBV
- 266 boys and 351 girls participating in the community animation podium with a song competition on GBV
- 30 girls trained on GBV and committed to hosting talks
- 26 talks with 780 young beneficiaries
- 6 radio programs hosted by resource people with the participation of populations protesting against GBV
- Commitment of the Prefect to deliver the Memorandum to the competentauthority

CONCLUSIONS/NEXT STEPS: These activities have led to the commitment of authorities and community actors to reverse trends in GBV.

For the global response to HIV, it is essential that communities get involved. AIDS control programs such as the Youth Promotion Program, the Ministry of Youth, Reproductive Health of Adolescents and Young People of the DSME / MSAS should also include the fight against GBV in their prior

LAWS, POLICIES AND PRACTICES IMPACTING ACCESS TO HIV TESTING, PREVENTION, TREATMENT, CARE AND SUPPORT

PEF1751

ENABLING ACCESS TO CARE: COVERAGE OF HIV TESTING AND TREATMENT IS HIGHER IN COUNTRIES WITH SUPPORTIVE POLICY ENVIRONMENTS

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BACKGROUND: While effective HIV testing and treatment services are increasingly available around the world, the ability for individuals to access these services is often dependent upon the implementation of a myriad of evidence-based national policies. Given the importance of an enabling policy environment, we would expect to see that countries that have lagged behind in implementing key policies will generally achieve lower coverage levels for HIV testing and treatment.

METHODS: The Sustainability Index and Dashboard (SID) is a tool developed by PEPFAR and UNAIDS to assess the sustainability of a country's HIV response. The Policies and Governance element of the SID measures the degree to which a national government has adopted a range of key policies and laws, including those that maintain best practices for treatment and prevention guidelines, protect key populations, and mitigate structural barriers. In this analysis, we investigate whether national-level implementation of a package of key HIV policies is associated with HIV testing and treatment coverage (as measured by UNAIDS data).

RESULTS: Scoring on the Policies and Governance element of the SID is positively associated with HIV testing and treatment coverage among 23 PEPFAR bilateral recipient countries. Scoring one point higher in the SID's 10-point Policies and Governance element was associated with an increase of 7.104 percentage points in percentage of PLHIV who know their status and an increase of 5.718 percentage points in percentage of PLHIV on ART in 2018.

	(1) Percent of PLHIV who know their status (2018)	(2) Percent of PLHIV receiving ART (2018)
Policies and Governance Score (0 to 10) SID 2017	7.104*** (2.075)	5.718** (2.676)
R^2	0.588	0.346
Number of Countries	21	23

Notes: Models represent OLS regression estimates. % of PLHIV who know their status and % of PLHIV receiving ART both come from UNAIDS 2018 estimates. Controls include income group (World Bank 2018), HIV prevalence (UNAIDS 2018), and total number of PLHIV (UNAIDS 2018). 99% (***), 95% (**), and 90% (*) confidence.

[Table 1. Association between policies and governance SID score and HIV testing and treatment levels]

CONCLUSIONS: Continued progress in implementing key policies is likely to be an important factor for closing testing and treatment gaps in the short-term and for establishing sustainable control of HIV in the long term. The SID can be a helpful tool to foster dialogue among governments and key partners to identify and address policy barriers that may be preventing further improvements in testing and treatment coverage.

PEF1752

TREADING LIGHTLY: NAVIGATING THE SHADOWLANDS BETWEEN POLICY AND LAW FOR SEXUAL AND GENDER MINORITIES IN EAST AND SOUTHERN AFRICA

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BACKGROUND: *"Bridging The Chasm"*, a SRH-R project implemented by Positive Vibes, through Amplify Change, partners with LGBTIQ and sex-work organisations in five Southern/East African countries to increase quality access to effective, appropriate sexual and reproductive health services for sexual and gender minorities; promote rights-forward approaches to health; and utilise local evidence to influence practice and improve policy engagement. Monitoring, accountability, public participation, active citizenship, democratisation of public health and good governance constitute underlying concepts and activities.

DESCRIPTION: In 2019, LGBTIQ and sex work organisations applied *"Setting The Levels (STL)"* amongst their constituencies in Lusaka, Harare, Francistown, Walvis Bay, Gulu and Mbarara. This participatory methodology for systematic community-led monitoring of health facilities supported diverse populations, communities and healthcare workers from 18 local facilities to review, reflect and dialogue around their distinct perspectives, perceptions and experiences of healthcare, and plan for measurable, accountable improvement.

LESSONS LEARNED: Proximity to communities and organised civil society in five countries allows for illuminating context analysis. It highlights the glaring gap between policy, law and lived experience of minority citizens, the illogical inconsistencies of which frame a *shadowland* where marginalisation, exclusion and structural injustice bloom. Where Ministries of Health pass progressive policy – eg. multi-million dollar "pro-KP" National AIDS Plans – dramatically at odds with punitive policies of Ministries of Justice, within the same government. Where a limited band of SRH services for "KPs" are outsourced to NGOs to avoid responsibility and integration by primary health facilities in the public sector. Where, despite domestic Constitutional obligations and international treaty commitments, laws are misapplied, conveniently, to fuel prejudice, to gain electoral popularity, to institutionalise violence through State apparatus, to deny services to populations whose identities have been leveraged by the same State to attract aid.

CONCLUSIONS/NEXT STEPS: The effects are not benign. At best, they confirm a troubling lack of integration at structural level, where duty-bearers offer a duplicitous acknowledgment of minorities to the international community and an intractable domestic denial. At worst, the law is used with impunity – a blind eye, a cold shoulder, despite policy or promise – to harass, persecute and isolate those most vulnerable, to the detriment of HIV outcomes.

PEF1753

NATIONAL EX-PRISONERS ASSOCIATIONS IN SOUTHERN AFRICA BREAKING BARRIERS AND CREATING ALLIANCES FOR REGIONAL ADVOCACY TO IMPROVE ACCESS TO HIV/AIDS, PSYCHO-SOCIAL RESILIENCE AND MENTAL HEALTH SERVICES

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BACKGROUND: Ex-prisoners living with HIV experience weak health referral, poor case management, loss to follow up, stigma and discrimination from families, communities and health care providers, leading to poor treatment adherence and continuation of high risk behaviors. Formation of National Ex-prisoner associations in Eswatini, Malawi, Zambia and Zimbabwe created national and regional advocacy platforms for more accessible health services, including psychosocial support and mental health, leading to reduced recidivism and improved institutional support.

DESCRIPTION: The Regional Project set up National Ex-prisoner Associations in four countries, led by ex-prisoners including women and youths, with participation from families, community representatives, civil society organisations, Prisons and Correctional Services The platforms promote psycho-social resilience for ex-prisoners and advocate for operationalization of the SADC Minimum Prison Health Standards for HIV and AIDS, STIs, TB, and other non-communicable diseases. These National Associations came together to form a Regional platform to advocate for ex-prisoners rights.

LESSONS LEARNED:

- National Associations create safe spaces for ex-prisoners living with HIV, contribute to their psycho-social resilience and provide a platform to build more trusting relationships with families and communities.
- The platforms break barriers around accessing treatment, contribute to reduced stigma and discrimination and promote health seeking behaviors including accessing SRH services.
- They have amplified the voice of a key population, supporting ex-prisoners to advocate for their health rights whilst also building their own confidence and resilience.
- Forming a Regional Platform has resulted in a regional advocacy approach being adopted in support of the implementation of the SADC minimum standards for treatment, care and support of prisoners with HIV, STIs, TB and those needing psycho- social support.
- A stronger health referral approach to ensure linkages between prisons and communities is needed to ensure better case management for ex-prisoners living with HIV.
- National Ex-prisoner Associations contribute significantly to ensuring that a key population is not left behind in the fight to end AIDS by 2030.

CONCLUSIONS/NEXT STEPS: Thanks to the initiative of the ex-prisoners, connections made and alliances and networks created, the regional project received funding from Robert Carr Foundation to strengthen national platforms, register them and engage with SADC to provide strategic support in influencing member states.

PEF1754

USING THE LEGAL GAPS IN THE LEGAL SYSTEM TO PROVIDE HIV AND TB SERVICES TO SEXUAL MINORITIES, PLHIV AND THOSE WITH TB: A CASE OF THREE DISTRICTS IN UGANDA

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BACKGROUND: Uganda is one the countries where national laws criminalize and penalize behaviors of some key populations and are used arbitrarily to arrest and detain them and their health care providers. The current laws against homosexuality, drug abuse and prostitution, and the way they are enforced has fueled widespread human rights violations against sex workers, sexual minorities, PLHIV and people who use drugs, compounding the multiple vulnerabilities to HIV that these and other Vulnerable populations already experience.

DESCRIPTION: CEHURD undertook a study to map and identify the current existing laws and regulations that may affect the rights of vulnerable populations to HIV and TB health services in Uganda and determine how these current laws and regulations affect provision of HIV and TB services to Vulnerable populations and PLHIV at national, district and service delivery levels and also use the same laws and policies to benefit these populations.

LESSONS LEARNED: It was found out that the Ministry of Health is implementing, differentiated HIV and TB services tailored to the risks and vulnerabilities of KP and PLHIV that has legal gaps arising from rushed legislation to curtail the increasing number of sexual minorities in Uganda. There are sections within the laws for example like the anti Narcotic act that prohibits the use of drugs but has a clause where government is mandated to create rehabilitation centers for drug users. The HIV prevention Act mandates the government to create the AIDS Trust Fund among others.

CONCLUSIONS/NEXT STEPS: CEHURD used Strategic Litigation and policy analysis to help the Ministry of health and policy makers to review these contradicting laws and to make adjustments to address these contradictions; enact the laws to address the risks and vulnerabilities for the specific KPs and PLHIV; and simplify the laws and policies so that they can be easily understood at all levels of services

delivery. MoH have used the policies and guidelines to guide parliament on the legislation of the rights of KP and PLHIV to HIV and TB services. A policy brief has been developed out of this study to guide government and Ministry of Health in implementing the recommendations.

PEF1755

CRIMINALIZATION OF SEXUAL AND GENDER MINORITIES IN ZAMBIA: IMPLICATIONS FOR THE HIV TREATMENT CASCADE

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BACKGROUND: While sexual and gender minorities (SGM) carry a particularly high burden and risk of human immunodeficiency virus (HIV) infection, the criminalization of same-sex sexual behaviors impedes HIV prevention and care for SGM. To effectively respond to the HIV epidemic in Zambia, a comprehensive understanding of the impact of anti-SGM legislation is needed. This study reviews Zambian legislation impacting SGM and outlines potential consequences at the individual and societal level, and for the HIV treatment cascade.

METHODS: A critical literature review in HeinOnline, Index to Legal Periodicals & Books, PubMed, and Medline was conducted in June and July 2019. Search terms were organized by three categories: LGBTQ, law and policy, and Zambia/Sub-Saharan Africa. Grey literature and Zambian law codes were searched online. Literature was analyzed and synthesized using thematic synthesis and meta-synthesis methodology.

RESULTS: The critical review identified three Zambian statutes prohibiting gender-based discrimination and promote gender equality. Same-sex attraction is not illegal in Zambia. However, three laws were found that affect SGM by criminalizing/restricting same-sex sexual behavior, marriage, and adoption. Thirty-six identified literature sources highlight the negative effects of such legislation at the individual and societal level, and for the HIV treatment cascade. At the individual level, such laws may limit legal protection and representation for SGM, increase their vulnerability for violent and other criminal acts, and expose them to stigma and discrimination. At the societal level, anti-SGM laws pose significant threats to human rights. Effects on the HIV treatment cascade include underrepresentation of SGM in HIV policy, programming, and research; lower access to and utilization of HIV prevention, testing, and care due to fear and stigma; and suboptimal quality of care by healthcare providers.

CONCLUSIONS: This review illustrates the extent and impact of laws criminalizing same-sex sexual behavior in Zambia. Short-term policy recommendations derived from this review include prioritizing protections for vulnerable individuals, including SGM. In addition, increasing the capacity for SGM-friendly healthcare services, including HIV testing and care, is a priority. Long-term recommendations include the decriminalization of same-sex sexual behaviors, explicit protection of the human rights of SGM, and broad public efforts to reduce stigma towards SGM.

PEF1756

CASE-LAW OF THE INTER-AMERICAN COURT OF HUMAN RIGHTS, CASE CUSCUL PIVARL AND OTHERS VS. GUATEMALA: CASE 12484

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BACKGROUND: In Guatemala the access to Comprehensive HIV Care and Treatment is exclusively for two hospitals out of 44, which means that people have no access to Comprehensive HIV Care, resulting in premature deaths, mother-to-child infection etc.
In the year 2000, a lawsuit was filed against the State of Guatemala for lack of access to Comprehensive HIV Care, along with 39 people with HIV, demanding to protect their lives throughout the territory of Guatemala.

DESCRIPTION: In 2000 an unprecedented process began in Guatemala and the latin region for the lack of Comprehensive HIV Care, a lawsuit started at internal level to ensure a Comprehensive HIV Care, then it was raised to the Inter-American Commission on Human Rights, which in 2005 became Case 12484, requesting a substantive report from the State of Guatemala and from the victims; the process of research and gather the information requested by the Inter-American Commission was a titanic deed but after a long process of 13 years finally it was elevated to the Inter-American Court of Human Rights, where we held a hearing with two of the victims and their representatives to deliberate the liability of the State.
http://www.corteidh.or.cr/docs/casos/articulos/seriec_359_esp.pdf

LESSONS LEARNED: Perseverance and union for 18 years managed to obtain a sentence in favor of humanity.

CONCLUSIONS/NEXT STEPS: There must be constant monitoring of the sentence in order to the sentence be fully complied in Guatemala. The jurisprudence derived from the judgment means that if in other countries parties of the OAS, can cite Case 12484 and automatically win the Case.

PEF1757

CHANGING DRUG LAW AS VECTOR FOR DRUG USERS ACCESS TO HEALTH SERVICES IN MYANMAR

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BACKGROUND: Early 2018 the amended Narcotic Drugs and Psychotropic Substances Law (NDPS) was passed by Parliament ("Pyidaungsu Hluttaw"), the law showed improvements, albeit not in sync with the applauded public health oriented national drug policy. Critical issue is the exclusion of the "exemption" clause for personal use and possession (section 16 C); resulting possession of any quantity of substances is "punishable with imprisonment which may extend from a minimum of 5 years to a maximum of 10 years".

DESCRIPTION: This study examines the awareness of the drug use & community 'acceptance of exemption for possession of a certain amount of substances in order to prevent barriers for drug users to access health services.

LESSONS LEARNED: The qualitative study collected data Bamaw Township through in-depth interviews with 30 drug users and 4 focus-group discussions with 24 community members.

Of the interviewed random selected drug users, 43% of had a history of incarceration for possession of drugs for personal use, of which 71% did not receive continuation of treatment including HIV and MMT as during incarceration, there was no access to treatment options. Among the drug using participants, 90% of drug users underwent detox or rehab at least once, with 90% relapse rate, 53% did not find current drug law assist in accessing treatment and 57% felt a need for exemption of possession of predefined amounts. When the community members were asked for option for drug users, all community suggested drug users need support and/or treatment to mitigate burden on communities. 75% favored psycho-social support, all respondents support MMT, 12.5% of the participants see NSP as solution. 58% of community members would accept exemption of possession.

CONCLUSIONS/NEXT STEPS: The existing legislative, cultural and political circumstances in Myanmar makes an enabling environment and providing support and care to PWID/PWUD very challenging. Evidence suggest that there is mixed objections/resistance from community on exemption for possession for personal use would aggravate barriers for drug users to access health services. More community based advocacy and awareness raising is in critically needed.

PEF1758

PROMOTING MIGRANT HEALTH THROUGH SUCCESSFUL ADVOCACY TO STOP SHARING OF MIGRANTS' PERSONAL DATA BY THE UK NATIONAL HEALTH SERVICE WITH IMMIGRATION AUTHORITIES

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BACKGROUND: NHS Digital (holding data for the UK's National Health Service) had been sharing personal data on patients with immigration authorities for immigration enforcement purposes in the UK. Migrant populations are disproportionately affected by HIV in the UK. There was consensus and evidence that data sharing acts as an obstacle to accessing healthcare in the UK. Data sharing deters migrants from accessing HIV prevention, testing and treatment and presents a risk to individual and public health.

DESCRIPTION: NAT brought together a coalition of HIV sector, migrant groups and medical professionals to campaign against data sharing. NHS Digital agreed to review the practice, however, the data sharing practice was instead formalised by a Memorandum of Understanding (MoU) without consultation. NAT escalated the matter to the UK Parliament's Health Committee who agreed to undertake an inquiry. The coalition gathered evidence for the inquiry and demonstrated public disagreement with the MoU through petition. The Committee's report recommended the immediate end of the MoU. Following these interventions, the Government agreed to suspend the MoU and restricting instances where data can be shared. In November 2018 the MoU was withdrawn. NHS Digital has assured coalition partners that we will be consulted on the development of any new MoU. NAT also worked with the National Data Guardian and MPs to secure legal change to give the National Data Guardian more powers in the future to influence such decisions.

LESSONS LEARNED: This was achieved even in a political environment which is increasingly hostile to migrants. By combining pubic campaigning with evidence, the coalition gained respect and trust from NHS Digital and the National Data Guardian. Advocacy groups were able to influence greater change by not only ending the MoU but enhancing future accountability through the National Data Guardian.

CONCLUSIONS/NEXT STEPS: The coalition continues to build on these relationships to advocate for the right of migrants to access healthcare without fear of immigration enforcement. NAT is also working to ensure that migrants are considered a key population in the UK's response to HIV and work with coalition members to prevent further data sharing is critical to this.

PEF1759

A COMPREHENSIVE REVIEW OF HIV MEDICAL GUIDELINES IN STATE AND FEDERAL PRISONS IN THE UNITED STATES

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BACKGROUND: HIV prevalence among people living in U.S. federal and state prisons is three to five times higher than the national prevalence. The CDC recommends that all correctional medical clinics offer opt-out HIV screening, provide HIV education to all inmates during intake and incarceration, and provide medication and link-

age to medical services to the inmate upon release. However, these guidelines are not uniformly incorporated. We review all Bureau of Prison (BOP) and department of corrections' (DOC) medical guidelines to examine state-level variation in prison HIV policies.

METHODS: Medical guidelines from the BOP and DOC for each state and Washington, D.C., which were searchable through publicly available online sources or obtained through email correspondence with DOC staff (n=42) were reviewed for evidence of HIV polices. For HIV testing, data from a BOP review of HIV testing practices in state prisons was used for all states and Washington D.C. (n=51). Guidelines were reviewed for policies related to: 1) HIV testing, 2) education, 3) linkage to care after release, and 4) post-discharge ARV supply services – as recommended by the CDC. For each category, states were coded as "yes" if there was any evidence of the HIV service in the medical guidelines.

RESULTS: The BOP guidelines mandate the provision of all four CDC recommended HIV services for federal prisons. For state prisons, all states offer HIV testing, but only 33.3% (17/51) provide best-practice opt-out testing, as opposed to mandatory or opt-in testing. 71.4% (30/42) of DOC mandate the provision of HIV education, 26.2% (11/42) mandate the provision of ARVs, and mandate linkage to community services upon discharge. Five DOC (Louisiana, Maryland, Pennsylvania, Tennessee, Washington D.C.) mandate the provision of all four of the CDC recommended HIV services, while eight DOC (Florida, Hawaii, New York, N. Dakota, Oregon, Rhode Island, S. Dakota, Utah) do not include any of the recommended services.

CONCLUSIONS: The majority of state DOC do not have HIV polices that align with CDC guidelines. This is a missed opportunity that must be corrected in order to meet the HIV and health needs of this high risk population during and after incarceration.

PEF1760

STIGMATIZED AND CRIMINALIZED: NAVIGATING PATHWAYS TO PREP FOR IMMIGRANT LATINX MEN WHO HAVE SEX WITH MEN (MSM) IN CALIFORNIA

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BACKGROUND: Although Latinx individuals are more likely to be interested in pre-exposure prophylaxis (PrEP), they have the lowest overall rates of PrEP uptake in California. Further, disparities with regard to immigrant populations may reflect the current political climate, including anti-immigrant sentiment enshrined in federal law and policy.

In California, however, numerous actors collaborate to expand access to PrEP throughout the state by enrolling people, regardless of immigration status, into the State's PrEP Assistance Program (PrEP-AP) which covers eligible participants' PrEP-related costs. This study sought to identify barriers and facilitators to increasing PrEP uptake among immigrant Latinx MSM (ILMSM).

METHODS: Using community-based participatory research (CBPR), we recruited HIV service providers currently working within PrEP-AP programs (N=11) with experience serving ILMSM, including ILMSM without documented immigrant status. Through semi-structured, qualitative interviews conducted via an online video conferencing platform, we sought to understand providers' current strategies for increasing awareness and uptake of PrEP among ILMSM clients and barriers and facilitators to doing so. Interviews were recorded, transcribed verbatim and analyzed using a rapid assessment process for health policy research. Prominent themes were identified and organized in a matrix to highlight key domains of inquiry across participants.

RESULTS: Core themes included: (1) how culture intersects with various forms of stigma to reduce PrEP knowledge; (2) how documentation status influences access to information about PrEP; and (3) how perceptions about eligibility for PrEP services influence the accessing of PrEP resources. While these themes elucidated the many barriers to increasing PrEP use by ILMSM, data also pointed to potential facilitators. These included factors related to PrEP-AP staffing, flexibility in service provision, additional health and social supports needed and cultural humility and basic competency to address complicated queries related to immigration and use of publicly-funded services.

CONCLUSIONS: PrEP-AP is an innovative attempt to expand PrEP services to ILMSM in California. Our findings suggest allocating more flexible funding to local communities to conduct direct outreach to ILMSM, ongoing training to develop culturally informed staff and structural changes in service delivery protocols to address uncertainties ILMSM face, which may be related to the current political climate.

PEF1761

MY HEALTH MY RIGHTS: IMPROVE HEALTH AND HUMAN RIGHTS PRACTICES AND ACCESS TO JUSTICE FOR COMMUNITIES AFFECTED BY HIV/AIDS IN MEXICO

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BACKGROUND: My health, my rights (MHMR) is an institutional program managed by Colectivo Sol in partnership with five CSOs working on HR. The program was launched in 2008 with the purpose of reinforcing the sense of citizenship of LGBTTTI populations in Mexico through community systems strengthening, evidence-based advocacy actions and external relations. The program focuses on transgender women with emphasis on transgender women who are also sex workers, and effeminate gay men, two sub-population segments whose rights suffer most abuses, violence, human right violations and assassinations in Mexico.

DESCRIPTION: MHMR transfers practical tools and community-based peer outreach strategies to enable partner organizations to record data on human rights violations experienced by individuals from key populations (KP); provides information and referrals of abuse victims to health, legal and other public services; and uses collected and systematized data to inform state-based human rights-based HIV programming, policy and advocacy at municipal, state and national level. MHMR follows the REAct methodology (Rights - Evidence – ACTion), Developed by AIDS Frontline.

LESSONS LEARNED: Access of MHMR partners to dynamic and practical tools provided by the program, have opened new opportunities to address KPs' needs and to develop new capabilities on health, rights and security-related activities undertaken by KPs and public servants at local level.

Wide acceptance of KP in terms of training methodologies on human rights, health and security has been an excellent way to consolidate a grassroots approach and to facilitate integrated collaboration with program partners.

CONCLUSIONS/NEXT STEPS: To share with strategic stakeholders addressing human rights violations of KPs the results of the MHMR model developed by the program, including activists, public servants, sexual diversity secretariats of three political parties and municipal authorities.
To design, organize and promote a public campaign on decriminalization of HIV from penal codes in program localities.
To publish and disseminate case studies addressing the value of MHMR community-based approach

LAWS AND POLICIES REGULATING ACCESS TO DRUGS AND MEDICAL DEVICES (INCLUDING INTELLECTUAL PROPERTY AND TRADE REGIMES, COMPETITION LAW AND PRICE REGULATION)

PEF1762

3-STEP RESEARCH ON PATENT MONOPOLIES IMPACT ON ACCESS TO ESSENTIAL TREATMENT FOR HIV PATIENTS

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BACKGROUND: Intellectual property is a well-known factor impacting access to the essential HIV treatment worldwide, nevertheless, there is a lack of measurement data proving the restrictive impact of the unfair patenting practices on access to medicines. The 100 Percent Life has launched 3-step research aimed at determining sums annually overpaid due to the unfair patent monopolies within the medicines procurements.
METHODS: The starting point of the research is an analysis of the state procurements and determining the percentage of INNs procured from a single source in Ukraine. Researching patent status for those INNs allowed to assess the number of medicines monopolized due to the patents. The next step is an analysis of patent-protected medicines according to the UNDP guidelines for pharmaceutical patent examination and evaluation of the number of INNs monopolized by evergreening patents. Comparing the originator`s prices for those medicines in Ukraine and the generic prices in similar countries according to GDP per capita allowed assessing actual overpay caused by unfair monopolies. A similar methodology could be used for understanding the losses caused by supplementary protection certificates, data exclusivity and absence of Bolar exemption.
RESULTS: Evaluation of state medicines procurement determined that about 50% percent of medicines were bought from a single source without any generic competition. Patent search for single-source INNs demonstrates that more than 90% of single-source INNs are monopolized by the patents. The price comparison of medicines procured from the originator in Ukraine and monopolized by the evergreening patents and prices for the generic versions of the same medicines in similar countries according to GDP per capita allows estimating approximate annual overpay in the amount of 20 million USD (about 15% of all yearly budget for medicines procurement in Ukraine). Determining the costs of data exclusivity and other TRIPS-plus provisions in Ukraine is ongoing and to be finalized in the middle of 2020.
CONCLUSIONS: The methodology used in the research proved to be an effective tool for determining the losses of the country due to excessive patent protection. The detailed, evidence-based figures of the damages caused could be further effectively used for the advocacy of TRIPS-flexibilities implementation.

PEF1763

OPPOSITIONS AGAINST ABUSIVE PATENTS ON MEDICINES BY CIVIL SOCIETY: AN EFFECTIVE WAY TO BREAK MARKET MONOPOLIES AND REDUCE TREATMENT COSTS

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BACKGROUND: Price is a key determinant of access to medicines. It is directly linked to the degree of protection of the medicine by patents, which guarantees the patent holder a market monopoly for a period of 20 years prohibiting the use of much more affordable generic versions. In 2015, ITPC launched the Make Medicines Affordable campaign in collaboration with a consortium of associations from middle-income countries (Argentina, Brazil, Thailand and Ukraine). The campaign aims to facilitate the entry into the market of generic versions of antiretrovirals by opposing the abusive patents aimed to prohibit or delay the market entry of generics.
DESCRIPTION: To carry out its actions, the consortium work is based on the legal provisions included in national intellectual property laws and international agreements (the TRIPS Agreement) which allow third parties, including civil society organizations, to oppose the issuance of patents that do not meet criteria set by law. Between 2015 and 2019, 18 oppositions were filed with the patent offices in our countries of intervention.
LESSONS LEARNED: 5 oppositions resulted in the rejection of the patent, 1 patent has been abandoned by the owner and 12 are currently under examination. Contrary to our expectations, patent offices appreciated the contribution of civil society as a means of improving the quality of examination of patents by allowing third parties to provide information that would not be available to offices. An independent external evaluation (relating to 14 oppositions) commissioned in 2018 by UNITAID the donor of the project estimated the actual savings at between US $ 238 and 345 million.
CONCLUSIONS/NEXT STEPS: Opposing abusive patents is an effective way to break monopolies in the drug market by making it easier to bring more affordable generic versions to the market and saving money for national HIV programs. Civil society, when well trained and equipped, can carry out this type of activity. Given the success of the activities, at the end of 2018, UNITAID agreed to extend the project until 2021 with an extension from 4 to 17 middle-income countries and by extending the field of action from HIV to HCV and tuberculosis.

PEF1764

PROMOTION OF ACCESS TO MEDICINES: IS COMPULSORY LICENSING OR VOLUNTARY LICENCING THE ANSWER?

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BACKGROUND: It has been globally questionable if voluntary licensing is a good tool for the promotion of sustainable access to affordable medicines. The territory restriction in the voluntary licenses is problematic. Developing countires in need of affordable medicines are left out. Criteria of the inclusion in the licenses are unclear and subjective. After compulsory licensing issued by several developing countries, inlcuding Thailand, voluntary licensing has been used more widely by the giant pharmaceutical industry to promote their better image and to undermine the use of compulsory licensing.

Thailand had never used any voluntary license until the late 2018, its first voluntary license for sofosbuvir and sofosbuvir/ledipasivr.

This paper aims to demonstrate influence of compulsory license by Malaysia consequently resulting in the extended license for sofosbuvir to Thailand, Malaysia, Ukriane, and Belarus.countries, including Thailand.

DESCRIPTION: The information of the paper is based on experience the civil society's movement and actions in Thailand demanding hepatitis C treatment with newer HCV DAAs at no cost under the country's universal health coverage scheme since 2013 – 2019.

Consequently, from April 2018 – June 2019, almost 30,000 people living with chronic hepatitis C, included HIV+ peple with HCV co-infection in Thailand were treated with sofosbuvir & sofosbuvir/ledipasvir.

LESSONS LEARNED: The success requires united movement of civil society groups in different countries who share the same faith in the lack of access to affordable HCV DAAs and advocacy and actions across the regions and in the countries to create pressure to the governments and the giant pharmaceutical industry.

CONCLUSIONS/NEXT STEPS: Issuance of a compulsory license by a country will have great impact not only in that country but also but other developing countries. For instance, Thailand's compulsory license in 2007 influenced the original-drug companies to cut down their ARVs' prices worldwide announced to reduce their ARVs' prices. The compulsory licensing by Malaysia forced Gilead to extend its voluntary license to cover more developing countries allowing those countries to import generic sofosbuvir at affordable prices into the countries.

Compulsory license is an influent tool for lowering prices and scaling up access, and also influencing the extension of voluntary licenses to cover more countries.

PEF1765

COUNTERING HIV AND HEPATITIS EXCESSIVE DRUG PRICES IN EUROPE BY ADOPTING INTELLECTUAL PROPERTY STRATEGIES FROM ACTIVISTS IN LOW- AND MIDDLE-INCOME COUNTRIES

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BACKGROUND: Since the 2010s, high-income countries began to face difficulties in accessing innovative drugs due to excessive prices. It became clear in 2014 when Sofosbuvir, the new hepatitis C medicine, was commercialized in Europe for 40k€ the 3-month-cure. However, in low- and middle-income countries (LMIC), activists had already developed various intellectual property strategies to counter patent system abuses and exorbitant prices, including patent opposition, unilaterally fixed price and compulsory licensing.

DESCRIPTION: Based on the experience of activists in LMIC, European civil-society organizations started to take into account price-setting concerns, linking them to access issues for the first time. This transition was illustrated clearly in two cases:

In March 2017, a coalition of organizations including AIDES filed an opposition to contest one of the patents covering Sofosbuvir by claiming it was not an innovation per se. In September 2018, the European Patent Office ruled in favor of maintaining the patent, although it amended its scope. The civil-society coalition has decided to appeal this decision in order to maintain pressure against unfair pricing and patenting.

Civil-society coalitions also combated the extension of Truvada's monopoly. While the patent on this HIV drug was due to expire by July 2017, the pharmaceutical company Gilead obtained a supplementary protection certificate (SPC) maintaining its monopoly until February 2020. SPC provides for a compensatory extension when the period between the patent's filing date and the marketing authorization exceeds 5 years. A thorough analysis from European treatment activists and a referral to the European Union Court of Justice were necessary to demonstrate the extension was invalid.

LESSONS LEARNED: Both procedures contributed to lower prices in 2017: cures went from 41 to 28,7k€ for Sofosbuvir and from 400 to 160€ for Truvada. Price-cutting was especially critical to roll-out Truvada's use for PrEP in France.

CONCLUSIONS/NEXT STEPS: This transfer of experience from precursor activists in LMIC to activists in Europe illustrates that challenging drug prices has become a global issue, and that civil-society organizations must expand their expertise to counterbalance the hegemony of pharmaceutical companies. Our efforts with the Sofosbuvir appeal must now continue, as we consider its price is still excessive.

PEF1766

PUBLIC PURCHASES AND HIV IN GUATEMALA, 2018

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BACKGROUND: Guatemala is the country most affected from Central America in terms of the rate and prevalence of HIV, HCV and TB. The treatment coverage is only 47% for HIV and even less for HCV and TB. High prices of drugs in Guatemala, caused by legal barriers such as intellectual/industrial property, issues related to lack administrative management and use of purchasing modalities that do not guarantee efficient use of resources, what makes a weak procurement system, at the same time, low level of community´s education and skills in access to treatment advocacy issues have made impossible an effective dialogue with the Authorities of National Health System along the years.

METHODS: The analysis performed for the construction of this document was quantitative, and retrospective. For this purpose, the "Official Projection of the need for medicines Guatemala 2017" was used, carried out in 2016. as the basis of medicines to which would be followed up on the issue of publicly funded acquisitions in 2017 and 2018. The research was on patent status and data protection of antiretroviral drugs in Guatemala was carried out, identifying Patent number, expiration date and source.

RESULTS: With the acquisition price data compared against the reference price data was established efficient and inefficient purchases, also was determined how many bottles were acquired against how many could have been acquired, and building a scenario on how this would impact coverage, through a unique Spanish speaking platform, interactive and dynamic that display on a screen the most relevant information of each acquisition, or the set of purchases analyzed, or segmenting data by purchasing unit or protection with legal barrier.

The ITPC LATCA support on the regional level influences to increases advocacy activities lookingo for make medicines affordable in countries.

CONCLUSIONS: The analysis of public purchases of medicines provides an effective panorama for decision-making and creation of strategies that can be used by civil society organizations to demand

rights that guarantee universal treatment coverage, and predictive data analysis to build projections, in addition; transformation of data into useful and timely information to support the decision-making process and the prioritization of strategic and institutional objectives.

PEF1767

PATENT OPPOSITIONS ACADEMY. A PROMISING COMMUNITY-DRIVEN LEARNING INITIATIVE TO PREVENT LOW QUALITY PATENTS ON MEDICINES AND PROMOTE ACCESS TO TREATMENT

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BACKGROUND: Affordability of HIV medicines is closely related to presence of competition on the market.

Back in 2001 generic competition led to lowering of price of HIV treatment from $10439 to $295 ppy, which enabled scale up of treatment coverage in the last 19 years from 0,6 mln to 24,5 mln people. However, today, most countries are obliged to grant patents on medicines making such competition more and more difficult and the vast majority of these patents are not legitimate and don't comply with patentability criteria set internationally and nationally.

Patent oppositions is an effective instrument in removing patent barriers. Back in 2001 it was generic industry that filed patent oppositions to enable entrance of generics on the markets, but recently less and less interventions come by generic industry's initiative and civil society remains last stand in filing patent oppositions in MICs.

DESCRIPTION: Patent oppositions are technical and require involvement and teamwork of community leaders, lawyers and chemists, which is challenging for NGOs. To address it, experts from different fields should be jointly trained and mentored on how to do patent oppositions on medicines.

Within two regional Patent Oppositions Academy programs (POAs) 62 community leaders, lawyers and chemists from 13 countries were trained on steps for preparation of patent oppositions, practiced in groups prior art search and process of preparation of arguments. Using questionnaires a significant increase of knowledge was identified. After training, participants are involved gradually in opposition cases filed in different resource-limited countries by the Make Medicines Affordable consortium.

So far, 18 patent oppositions filed by Make Medicines Affordable campaign will generate savings of US $ 472 million for national HIV treatment programs.

LESSONS LEARNED: Participation in trainings of experienced mentors from local NGOs were instrumental in sharing experience and building connection with participants.

CONCLUSIONS/NEXT STEPS: As patent oppositions is a complex technical process involving team of experts with different competence, Patent Oppositions Academy have created an environment for building technical knowledge and dialogue between community leaders, lawyers and chemists. It is expected that POAs will help to increase number of patent oppositions filed in the countries by community leaders.

PEF1768

THE DEVELOPMENT OF DRUG PRICING PRINCIPLES TO STRENGTHEN EQUITABLE AND SUSTAINABLE ACCESS TO HIV AND HCV PREVENTION AND TREATMENT IN THE U.S.

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BACKGROUND: Treatment and biomedical prevention advances have revolutionized our ability to end the HIV and hepatitis epidemics in the U.S. HIV treatment and biomedical prevention drugs, hepatitis C direct acting antivirals, and opioid reversal drugs are critical public health tools, and our ability to access them must be considered a public health imperative. Yet access in the U.S. has been inefficient, expensive, and profoundly inequitable.

DESCRIPTION: Federal, regional, and local efforts to end these epidemics serve as an important catalyst to approach drug pricing and access with the goal of achieving sustainable systems of treatment and prevention. The entire drug pricing and delivery system, including patients and providers, has a role to play in reducing drug prices and improving access. Using a highly consultative process involving policy, community, and public health stakeholders, NASTAD developed a set of drug pricing and access principles to address the health disparities that have fueled disproportionate access to healthcare in the U.S.

LESSONS LEARNED: Prescription drug prices, including out-of-pocket costs, can vary depending on the state, the purchaser, the type of public or private insurance coverage, and the disease. Inefficiencies in our current system lead to perverse incentives, notably a heavy reliance on artificially high list prices to ensure revenue streams for critical public health infrastructure. In turn, sustainable prescription drug access in the U.S. requires multi-faceted, evidence-based policy solutions to address treatment and biomedical prevention scale-up, high list prices and price increases, discriminatory payer formulary restrictions and cost-sharing requirements, inequitable access to prescription drugs developed with significant government and philanthropic investments, and significant reliance on manufacturer charitable contributions. Any solution to our drug pricing challenges comes with trade-offs, requiring community input and buy-in as we develop consensus for ethical and sustainable policy changes.

CONCLUSIONS/NEXT STEPS: High prescription drug pricing is a structural barrier to critical public health interventions in the U.S. Drug pricing principles tailored to address the unique biomedical prevention and treatment challenges among people living with or vulnerable to HIV and HCV should serve as a policy roadmap to ensure equitable and sustainable access.

CONCEPTUALIZING POLITICAL DRIVERS AND THEIR IMPACTS

PEF1769

IMPORTANCE OF USING VALUE BASED MODEL ON THE PREVENTION OF HIV RELATED ISSUES TO LOCAL POLICY CONTROLLERS WITHIN MUSLIM COMMUNITY: HIGHLIGHT FROM OUTCOMES IN MJINI, MERU COUNTY

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BACKGROUND: Various outcome from all stakeholders including government, civil societies, community based organization and non- governmental organization in their intervention to tackle the issue of preventing HIV new infections and stigmatization most use a number of approaches and models. They include youth centered approach, right based approach and participatory models. This has shown to reduce the number of new infections and stigmatization towards people with HIV in the communities. However the coverage at the ground community level especially for the Muslim community has been minimal. Health decisions for young Muslims are highly affected by religious and cultural policies. The direction given by their leaders also influences their take on this issues. The purpose of this research was to evaluate the influence of religious policies and religious leaders on youth in access to information and services about HIV.

METHODS: A study was done by Family Health Options in November 2019 in Meru, Mjini area on the influence of religion (Islam) and religious leaders on the influence they have on health decisions made by Muslim youths. The study was done to 23 religious leaders and 45 youths to evaluate their perception on HIV. FDGs and key informant interviews was the method of data collection used. SPSS toolkit was used to analyse the findings.

RESULTS: Outcome: The study showed that a big number of Muslim youths and religious leaders had vague information about HIV. This was influenced by religious inhibitions. That is why programs around value based approach were created to support sensitization of the epidemic. The sensitization led to incorporation of CSE session in Madrassa (religious schools). Organizations working to reduce the prevalence of the disease have involved this religious leaders to assist them in unpacking the Islam religion therefore enabling them to create relevant information toolkit and policies which has shown positive results.

CONCLUSIONS: To increase the impact of intervention to other local communities , making sure all the other religious leaders are sensitized on the HIV epidemic is key. Apart. This would help in creating value favorable interventions. Continuous monitoring and evaluation should be done to measure the impact of the interventions in the community.

POLITICAL VIOLENCE AND ARMED CONFLICT

PEF1770

EFFECTS OF TERROR ATTACKS AND VIOLENCE ON TREATMENT ADHERENCE AND PREVENTION OUTCOMES: CASE STUDY OF KENYA'S COAST

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BACKGROUND: Studies show that violent conflicts disrupt and affect consistent health services access and uptake including HIV treatment and ANC. Coastal Kenya suffered terrorist attacks in 2014 prompting series of security interventions including militarization of parts of the region. Massive population dislocation resulted, especially in Lamu. The study aims to answer the question: Do these terror attacks affect HIV prevention, treatment and related services in Kenya? Using the Kenya case, the study examines how terrorism affects HIV-prevention/treatment services access/uptake and related outcomes. It hypothesizes that terrorism has a direct effect on HIV prevention and treatment services.

METHODS: The study adopted an ex-post facto design- studying the terrorism event long after its occurrence Steps: i. Identified and mapped 3 terror affected health facilities in Kenya's coastal region; ii. Extracted relevant HIV and ANC data from the DHIS entries of the selected facilities covering the period of January-December 2014; iii) Conducted analysis to test the hypothesis using selected key health access and outcome indicators.

RESULTS: The attacks engineer massive dislocation of people; enforcement of military and security curfews restricted movements including accessing hospitals. Folliwing violent attacks and insecurity incidents: i) health facilities lose key staff through transfers, relocation and death; ii) some health facilities close due to fear of attacks and reprisals (night services are stopped); loss of health service personnel and disrupted supply of essential commodities. Within months- eg July-September 2014) the following effects were observed: a) rapid decrease in HIV treatment service uptake which accelerated in July – 50% drop in key indicators; b) significant drop in ANC (1st/4th visits) service uptake (40%); c) HIV positivity rates surged three months after the attack-up to 20%.

CONCLUSIONS: Terror attacks negatively affect access and uptake of HIV treatment and ANC services by occasioning missed appointments, defaulting and dropout from treatment routines. This led to rapid and direct decrease treatment adherence; increased risky sexual practices including sexual violence (rape) thus rise in positivity. The link between terrorism and political violence versus access to ANC and HIV prevention and treatment deserves priority attention. As a result this will affect HIV treatment outcomes, increase eMTCT lapses and ultimately deaths.

FORCED DISPLACEMENT

PEF1771

ESTIMATION OF QUEER REFUGEE QUALITY OF LIFE GOALS IN URBAN-BASED SAFE SPACES OF KENYA, AUGUST 2019-DECEMBER 2019: INFORMING SERVICES TARGETING QUEER REFUGEES

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BACKGROUND: LGBTIQQ identity, mixed with non-citizen status, social factors and personal choices impact security and safety of Queer refugees. The aim of the study was to characterize the factors influencing choices, perceptions and practices impacting quality Queer refugee health goals in Kenya.
METHODS: 59 Queer refugees were reached between August-December 2019 through respondent driven sampling; Key Informant, questionnaire administering, checklist analysis for Knowledge, Attitude and Practices were conducted. Arrival in Kenya in 2014 from Uganda, Congo, Somalia and South Sudan formed basis for eligibility (59 eligible out of 109).
RESULTS: All 59 ranked influences on health and wellness goals as follows: location (27), ease of integration in host community (59), living condition (32), social factors (20); refugee status (28), HIV status (30), drug-use (45), depression (25), daily life needs and income (50). The respondents are scattered in various Kenyan towns: Nyeri (9), Nakuru (6), Kisumu (5), Machakos (7), Mombasa (10) and Nairobi (22). Twenty (20) were staying in group homes called Shelters; 39 were staying with friends or in rented units. All 59 reported they used money to go toward rent, utilities, food security, transport fare, wellness needs and had UNHCR refugee status. 12 had drug or alcohol use disorders; 8 were living with HIV; All reported that at one time they depended on sex-work for survival. 15 had a steady income and last depended on sex-work 2 years back; 41 reported they earned most of their money from sex-work; 3 with mental depression still pick up stipends from UNHCR which is used to pay rent, nutrition, general welfare and transport for medical check-up.
CONCLUSIONS: Primary, secondary and tertiary influences on quality refugee life include: Local community integration was primary; financial, political, religious, social, cultural and legal factors were tertiary; and LGBTIQQ Identity, individual choices and practices impact one's safety and security were secondary. This research was based on self-reporting. Recall bias could have impended a more comprehensive narrative. Further research into how access to qualified service providers and one's qualifications for gainful employment can impact integration skills, interpersonal/intrapersonal skills is called for.

PEF1772

VIOLENCE AMONG LGBTQ REFUGEES IN URBAN KENYA AND KAKUMA CAMP 2019

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BACKGROUND: By now humanitarian actors knows that LGBTQ refugees face particular risks of violence, in both camps and urban contexts because of their diverse sexual orientation, gender identity or presentation, or bodily diversity, LGBTI refugees face higher levels of discrimination and violence than that experienced by the general refugee population. kenya has been one of the country accommodating the LGBTIQ refugees mostly from Uganda ,Somali, Sudan and Burundi where by most refugees have have faced violence from they country and the country they receiving asylum from.
METHODS: Data and information for this study was obtained from sources: Published reports from CBOs and LGBTQ Refugee rights' bodies such as ROSCEA, ISHTAR MSM,REFCEA and data from police, court cases and other institutions by using the online reporting tool Utunzi: www.untunizi.com, a platform where LGBTIQ community report cases secondly interviews conducted on segment of the affected population, victims and survivors of violence at recovery centers, Medical reports.
RESULTS: Over 200 LGBTIQ refugees across Turkana and Nairobi reported facing heightened Violence risks because their sexual orientation and/or gender identity or presentation does not conform to main- stream expectations. The violence they reported ranged from verbal abuse on the streets, to being denied housing and employment, to physical abuse and rape by members of the host community and other refugees, to instances of fellow LGBTI refugees being killed. It is widely agreed that transgender refugees are most at risk, given their visibility and the strong transphobia that exists in many host countries and their countries of origin. Transgender refugees highlighted that having gender markers on their identity documents that do not match their gender presentation creates additional risks of violence for them, especially from service providers and police.
CONCLUSIONS: The need of policy makers and stakeholders be sensitized on LGBTIQ issues, need of international laws to be sensitization to the lGBTIQ asylum seekers, understanding laws in the country they seeking asylum from. Develop safe and anonymous feedback mechanisms and safe spaces for LGBTIQ refugees, so they can communicate protection gaps to UNHCR and its partners in ways that foster accountability while preserving refugees' confidentiality.

HUMANITARIAN CRISES

PEF1773

POST-DISASTER CRISIS INTERVENTION FOR PLWHIV: CRISIS RESPONSE PROGRAM FOR EARTHQUAKE ON PALU, INDONESIA

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BACKGROUND: Crisis in Central Sulawesi Province was caused by an earthquake that caused tsunamis and liquefaction which resulted in severe damage to the infrastructure also caused difficulties in accessing ARVs due to service personnel who have also been affected by the disaster have not been active to work in the Service. Programs for post disaster crisis response for disaster victims, both patients with HIV and health workers who are also affected by disasters, this program ensure the availability of ARVs to continue treatment of people who had undergone ARVs, including psycho social support, and tracking PLWHIV who do not return to service.
DESCRIPTION: The program was implemented in areas affected by liquefaction and Tsunami disasters Central Sulawesi of Indonesia. it's carried out during the post-disaster period of 5 months October 2018

to March 2019. The activities carried out in this program include; Outreach of PLWHIV or patients for ARV access, Psycho social support for each key population, Psycho social support for Children with HIV, Shelter for ARV patients or key populations who are displaced, and logistic distribution for PLHIV and Children With HIV.

LESSONS LEARNED: This program reach 252 PLHIV on ARV in 3 Hospitals, there are 104 people who access ARV through the ARV Mobile Command Post, 66 and 67 people in 2 different services. This means that approximately 247 PLHIV can be sure to have received ARV services again. Based on these preliminary data, there are still a gap of about 5 people living with HIV who cannot be tracked. 85 people got psycho social support, and 16 new cases discovered, including 20 children.

CONCLUSIONS/NEXT STEPS: the HIV and AIDS service system was down, it was finally able to be overcome with the presence of the ARV Mobile command post so that it was able to move and run a the system at post-disaster. Difficult to access ARVs at the hospital because service personnel who are also affected by the disaster have not been served on service, but this can be overcome by the availability of ARVs at the post which then distributes them to people with HIV who start running out of ARVs.

PEF1774

ENSURING CONTINUITY OF CARE FOR PLHIV AND THOSE AT RISK IN CRISIS: USING MOBILE CLINICS TO PROVIDE INTEGRATED HIV CARE IN THE AFTERMATH OF 2019 FLOODING IN MALAWI

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BACKGROUND: Sustained heavy rains in the lead-up to Cyclone Idai in March 2019 caused extensive flooding and widespread damage in Southern Malawi. Phalombe, where 16% of adults are living with HIV, was declared a disaster area with residents sheltering in displacement camps in need of medical care and treatment.

DESCRIPTION: The Global AIDS Interfaith Alliance, a nongovernmental organization, operates mobile clinics in Southern Malawi, including Phalombe. During flooding GAIA worked closely with the District Health Office to quickly mobilize resources to respond to the crisis. Working with the district's disaster response team, GAIA identified the need for urgent medical care, food, sanitation, HIV prevention efforts and ongoing care for people living with HIV. GAIA committed to share the cost of operating five weekly mobile clinic sites at each of the camps from March-July 2019. With available funding and additional district support, clinics continued operating 3 days per week through December 2019. GAIA was responsible for providing the clinic vehicle, fuel, driver, two nurses, and a nurse aide. The Phalombe DHO provided a nurse, an HIV diagnostic assistant (HDA) and medicines.

LESSONS LEARNED: Emergency relief clinic assisted 14,136 clients (78% female). 113 clients were screened/treated for STIs and 83 received HIV testing. The HDA tested 766 people at risk for HIV with 4 testing positive (all women) and linked immediately to care. 255 HIV+ clients were provided care for other ailments. We provided health talks on HIV prevention/treatment, sanitation, and other communicable diseases. The nurse-led clinic lowered operating costs and allowed for most clients to be screened and treated at the clinic and others referred when necessary.

CONCLUSIONS/NEXT STEPS: GAIA mobile clinic model enabled a quick response to the floods and concomitant urgent medical needs; the Phalombe DHO's commitment to support mobile clinics allowed for continuity of care for both acute and chronic conditions especially HIV, and helped avoid an outbreak of cholera. The flexibility of mobile outreach clinics to nimbly provide quality, efficient, cost-effective care in a high-HIV burden district provides a model for how to ensure continued care for populations at risk of climate crisis in geographies with limited resources for healthcare.

PEF1775

ASSISTING HIV VENEZUELANS REFUGEES IN COLOMBIA

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BACKGROUND: AID FOR AIDS (AFA) Colombia addresses the humanitarian crisis in Venezuelan by providing an effective response to alleviate the lack of attention to Venezuelan migrants and improve the health and welfare of migrants with HIV by minimizing the social impact and harmful health effects of the crisis. The program objectives are: 1) Establishing a network and strengthening programs and services dedicated to the prevention, treatment and care of Venezuelan migrants with HIV in the Colombian territory; 2) providing ARVs to migrants who hope to regularize their legal status, focusing on undocumented migrants. 3) Collecting data: number of Venezuelan migrants with HIV, and especially needs of ARV medicines in Colombia.

DESCRIPTION: This work is carried out through articulating efforts with Community-based Organizations, International Cooperation Agencies, Health entities and Institutions of the Colombian State, as well as specialized Volunteers HIV doctors. Furthermore, thanks to agreements reached with recognized laboratories, price reductions on CD4 and Viral Load tests have been achieved. AFA executes monthly ARV donations to the beneficiaries to ensure adherence to treatment and monitoring, we also do one-on-one adherence and group counseling through workshops. We provide ARVs mainly to the undocumented Venezuelan population while regularizing their legal status and being inserted into the Colombian health system. And to the documented Population with 3 to 6 months of treatment, while they are inserted into the health system.

LESSONS LEARNED: AFA has characterized more than 400 people, provided ARVs to 300 people, efforts that have led to the improvement in the health condition of beneficiaries. However, challenges remain in monitoring treatment and maintaining adherence to treatment due to the emotional and social problems they face as refugees.

CONCLUSIONS/NEXT STEPS: These efforts reiterate the need for developing a solid comprehensive care network in order to address not only medical conditions directly linked to HIV, but also psychological and mental health services. AFA's work in the region has been a successful response to the crisis and will scaled up in order to strengthen the service routes and expand them into other regions of the country.

SEXUAL- AND/OR GENDER-BASED INEQUALITIES, INEQUITIES AND VIOLENCE

PEF1776

CRISIS RESPONSE TEAMS: COMBATING VIOLENCE AGAINST SEX WORKERS IN SOUTHERN AFRICA

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BACKGROUND: Sex workers in Southern Africa are often confronted with violence and discrimination, with 70% claiming they'd suffered violence from a client, according to an Aidsfonds research study. Correlations between violence with decreased condom use and rises in HIV infections were also identified, highlighting the impact of violence on sex workers' ability to protect themselves from HIV, and maintain good sexual health. As a result, North Star Alliance's Crisis Response Team (CRT) intervention was established to address gender-based violence, strengthen access to sexual reproductive health and rights, and reduce risks of HIV exposure amongst sex workers.

DESCRIPTION: Embedded within an existing sex worker peer educator (SWPE) model, the CRTs employ a unique multi-sectoral approach, involving influential community representatives, human rights groups, local police, border control, North Star clinic staff and the SWPEs themselves. They provide a first responder system, which is deployed when a sex worker falls victim to sexual and gender-based violence, which in turn provides access to an integrated package of sexual and reproductive health (SRH) provision, including healthcare, legal and emergency services, without discrimination. SWPEs together with the CRT leaders are responsible for completing 'violence against sex worker' forms, which are used to monitor the number of cases reported to the authorities.

The formation of the CRTs has also been pivotal in mobilising and recruiting sex workers. In 2015, North Star mobilised 2,097 sex workers, compared with 11,034 in 2017 following the formation of the CRTs. In total, 93 cases of sexual and gender-based violence were documented during this period and as a result of the SWPE outreach and awareness raising efforts, sex worker visits to the eight clinics involved in the CRT initiative, increased from 14,756 to 41,032.

LESSONS LEARNED: Addressing violence against sex workers must fundamentally be human rights focussed, and works best when combined with a multi-sectoral approach towards improving SRH.

CONCLUSIONS/NEXT STEPS: By adapting a peer-educator outreach model in a healthcare setting, North Star has fostered meaningful involvement of community stakeholders to maximise sex workers' access to HIV and sexual reproductive health services. Plans are now underway to scale up CRT activities in East Africa using established SWPE networks.

PEF1777

AUDIT OF DRUG USE AND HIV POLICIES IN KENYA AND GHANA: A GENDERED LENS

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BACKGROUND: Numerous studies have demonstrated link between intravenous drug use and HIV transmission. Generally the rate of HIV infection is high for people who inject drugs. However, young women are even more vulnerable in an ageist and patriarchal African society. For this reason, young women who use drugs especially face compounded challenges.

DESCRIPTION: Taking into account structural drivers of the epidemic and social determinants of health, 2 members of Youth RISE international working group collaborated to implement a project to understand the gender gaps in terms of policy and programming as pertains to treatment, care and support for adolescent girls and young women who use drugs. The overall goal of the project was to identify gaps that exist as far as women especially adolescent girls and young women who use drugs are concerned using a mixed method harm reduction approach that focuses on public health and human rights approach to bring about social change.

OBJECTIVES:

- To explore interventions in terms of policies, programs and research that targets the needs of adolescent girls and young women who use drugs
- To collaborate with young women who use drugs and to proffer recommendations to inform programming, policy making and research.

LESSONS LEARNED: - Kenya and Ghana have both passed policies on HIV prevention and drug use. However all of the policies are gender blind, to some extent they are borderline or explicitly discriminatory as relates to criminalization.

- Due to the legal and policy context, there is a general lack of interventions in terms of programs and research adolescent girls and young women who use drugs
- Where existent, services and programs focus on information provisions and referrals but not addressing systemic and structural barriers that sustain gendered discrimination.

CONCLUSIONS/NEXT STEPS: There is need for drug policy reform to be gender responsive and to be cognizant of realities of adolescent girls and young women. This aligns with the broader need for a more holistic and gender response HIV response that addresses risk and vulnerability in ways that nurtures resilience.

DEVELOPMENT AND POVERTY ALLEVIATION

PEF1778

WFP MULTI-SECTORAL SUPPLY CHAIN OPERATIONS ENHANCE THE QUALITY OF ETHIOPIA'S TRANSPORT INDUSTRY AND SUPPORT THE HIV RESPONSE

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BACKGROUND: Negative health trends such as HIV adversely affect transport corridors around the world. In Ethiopia while the national HIV prevalence is 1%, the prevalence among truck drivers and mobile and resident workers in hotspot areas is 4.9% and 1.5% respectively. The World Food Programme and the North Star Alliance supported the Ethiopia Federal Transport Authority HIV Unit in implementing a HIV prevention programme designed to foster healthy and safe supply chains. Its primary objective was to foster road safety and induce improved health outcomes by making services available to truck drivers and corridor communities.

DESCRIPTION: The Healthy Supply Chains programme was implemented through outreach activities between May and November 2019 in Modjo, Ethiopia's largest dry port. 42 peer educators, com-

prised of sex workers, drivers, mechanics and members of PLHIV associations, underwent a 5-day training to conduct outreach activities at pre-identified hotspots, such as truck parks, bars and lodges, where truckers congregate.

The outreaches, which included moonlight activities, offered services such as: HIV testing, counselling and referrals, STIs screening, condom demonstrations and distributions, nutrition assessment and counselling and linkages to income generating activities conducted by associations of PLHIV.

LESSONS LEARNED: A total of 3302 beneficiaries were reached. Among them 2100 were truck drivers, 850 were community members, and 352 were female sex workers. Overall, six truckers, 4 female sex workers and 3 community members tested positive to HIV and were referred for services.

Integrated HIV programming can strengthen regional supply chains and help communities become more resilient in facing health issues while stimulating the professionalisation of the transport sector.

Healthy supply chains foster sustainable transport corridors and a professional workforce directly enhancing the overall performance and cost efficiency of the country's transport industry.

CONCLUSIONS/NEXT STEPS: The transport sector plays a pivotal role in Ethiopia's macro and micro economic development: it sustains the country's ability to import and export goods and move economic inputs and outputs and enables individuals to move and trade ensuring they can generate income and sustain a livelihood.

Multi-sectoral programmes can foster a healthy and productive workforce to support returns on investment and contribute towards national economic development.

ACCESS TO EDUCATION

PEF1779

ACTIVATING COMMUNITY HIV PREVENTION FOR LATINO HOMELESS POPULATIONS: A STRATEGY FOR GETTING TO ZERO AMONG IMMIGRANTS

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BACKGROUND: Immigrant and homeless individuals are vulnerable populations hardly reached by HIV education and prevention programs. Immigrant communities living on the streets learn HIV concepts from word of mouth and often result in inaccurate information that could result in risks for HIV transmission.

DESCRIPTION: The San Francisco AIDS Foundation-Latino Programs piloted the Todos Somos Familia project, through the support of the 2018 Kaiser Permanente-Community Benefit Grant. It trained Latino homeless immigrant individuals as Health Activators in HIV Education/Promotores de Salud. A structured training was developed with the Activators input. The diverse life experiences from the Activators made a rich and yet challenging part of learning.

Many times the aspects of working with homeless individuals means lack of success due to lack of engagement. Project trainers became students of our participants and facilitated an activation learning epicenter among the project trainees. During the learning process, trauma, human suffering, and healing were unavoidable experiences. Practicing wellness and inclusion were part of the learning lessons we acquired in the project, as well tolerance, flexibility and understanding of social diversity.

LESSONS LEARNED: A total of 16 Latino homeless immigrants were trained as Activators. Working with homeless individuals is challenging. Our program was successful because we cultivated resilience among activators and allowed resilience to grow. We have none of the 16 activators leave the program during the duration of the study. the trainer of the promoters made it a priority to build a sense of comraderies and responsibility. The activators felt valued and respected. They saw the need for the program and were invested in making the program a success. They made 376 health education contacts with other Latino homeless individuals; 175 of those 376 individuals made a second contact with project staff and HIV screening referrals. Of those 175 who made a second contact with the San Francisco AIDS Foundation, 25 were absorbed into SFAF case management and another 49 entered into other services.

CONCLUSIONS/NEXT STEPS: Community Activation works and it is sustainable and a foundation of resilience! Community informed HIV Education activities are developed from the bottom up and promise success for Getting to Zero among marginalized communities.

CRIMINALIZATION, INCARCERATION AND LIVING IN CLOSED SETTINGS

PEF1780

CRIMINAL JUSTICE INVOLVEMENT AND SEXUAL RISK BEHAVIORS IN A SAMPLE OF BLACK WOMEN IN NEW YORK CITY: IMPLICATIONS FOR HIV PREVENTION AND CRIMINAL JUSTICE REFORM IN AN HIV VULNERABLE POPULATION

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BACKGROUND: This study assessed relationships between criminal justice involvement (CJI), and sexual risk behaviors in a sample of Black women in community corrections in New York City (NYC). We hypothesized that contacts with police, feeling unfairly treated, and having sexual partners with recent incarceration would be associated with greater sexual risk behaviors with paying, non-paying and primary partners.

METHODS: Data included a sample of 356 Black women in community corrections collected from 2015-2018 in NYC. Generalized linear modeling estimated associations between CJI and relative risk (RR) of any condom-less sex with primary, paying and non-paying intimate partners and incidence rate ratio (IRR) of number of sexual partners using robust variance estimation.

RESULTS: Police questioning in the past year was associated with greater number of paying partners (IRR=4.93, CI95%=2.71, 8.96, p<.001) and risk of condom-less sex with paying partners (RR=2.44, CI95%=1.04, 5.73, p<.05). Feeling unfairly stopped, searched or questioned by the police was associated with greater number of paying partners (IRR=2.01, CI95%=1.02, 3.93). Greater number of male partners who were incarcerated was associated with greater number of

paying (IRR=1.55, CI95%=1.22, 1.97, p<.001) and non-paying (IRR=1.36, CI95%=1.15, 4.84, p<.001) sex partners, condom-less sex with paying (RR=1.14, CI95%=1.04, 1.24, p<.001) and non-paying sex partners (RR=1.21, CI95%=1.09, 1.34, <.001). Drug court participation was associated with increased incidence of number of paying (IRR=2.59, CI95%=1.28, 5.27, p<.008) and non-paying partners (IRR=2.34, CI95%=1.45, 3.82, p<.001) and risk of engaging in condom-less sex with paying partners (RR=2.72, CI95%=1.23, 6.05, p=.013). Prior conviction for disorderly conduct (RR=2.87, CI95%=1.27, 6.52, p=.012), drug law violation (RR=2.47, CI95%=1.11, 5.51, p=.026) and prostitution (RR=3.67, CI95%=1.37, 9.88, p=.010) was associated with greater risk of engaging in condom-less sex with paying partners.

CONCLUSIONS: Findings from this study underscore the importance of increasing access to HIV prevention resources for Black women in the United States. Criminalization of drugs and sex trading coupled with the disproportionate policing and prosecution of black women may contribute to racial and ethnic disparities in HIV infection among black women the US. Structural interventions involving criminal justice reforms may reduce racial disparities in HIV infection among black women in the United States.

PEF1781

RACIAL AND GENDER DISPARITIES IN FLORIDA NEWSPAPER COVERAGE OF HIV RELATED ARRESTS

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BACKGROUND: According to the Centers for Disease Control and Prevention (CDC), as of 2016, 108,003 people live with HIV (PLHIV) in Florida, which also has the highest rates of new HIV diagnoses in the country. Numerous complexities worsen Florida's HIV risk environment, including sex work, human trafficking, injection drug use, and sex tourism. These topics are often bases for HIV-related arrests that journalists cover. HIV criminalization describes statutes that criminalize otherwise legal conduct or that enhance penalties for illegal conduct based on a person's positive HIV status.

METHODS: This study employed a systematic review of Florida news articles on HIV-related arrests published between 2009-2019. Through qualitative content analysis, our study analyzed how race, gender, and journalistic tone coalesce in reports of HIV-related arrests.

RESULTS: A 2018 report from the Williams Institute indicated that white Floridian women are primarily arrested for HIV-related crimes. The systematic review found zero news reports on HIV-related arrests of white Floridian women, and only one article identified a female perpetrator whose race was undisclosed. Sixty-four other articles reported solely on the HIV-related arrests of men, predominantly black men. We identified two categories of articles where HIV was either central to the arrest, or the person's HIV-positive status was reported but exhibited little pertinence to the arrest.

CONCLUSIONS: Journalistic and police reporting behaviors risk inadvertently stigmatizing PLHIV at a time when public awareness of HIV depends on perceptions of HIV. This information will be used to shape equitable local nonprofit campaigns for community prevention, and HIV decriminalization efforts, while also combating the perpetuation of HIV misinformation.

LAW ENFORCEMENT AND PUBLIC HEALTH

PEF1782

ADVOCACY CAMPAIGN TO ENHANCE HARM REDUCTION SERVICES IN MOMBASA COUNTY: EXPERIENCE AND LESSONS LEARNED

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BACKGROUND: Drug use and possession remains illegal in Kenya through the enactment of narcotic drugs and psychotropic substances (control) act 1994 (Cap 245). This act makes many drug users vulnerable to infectious diseases, HIV, Hepatitis, another sexual transmitted disease. The same act is used to prosecute drug users and those on possession of drugs and paraphernalia.

DESCRIPTION: In 2016, Reach out Centre Trust(RCT) through the United Nation Office On Drugs and Crime (UNODC) and Open Society Initiative for Eastern Africa (OSIEA), funding conducted a three days conference for the 70 Criminal Justice system(magistrates, Court clerks and registrars, probation officers and judges) on Human rights, methadone and harm reduction, Training's and sensitization meetings for 150 senior police officers and 80 county police on human rights, the negative impact of criminalization on people who use drugs and Harm Reduction. 2 exchange visits for 6 senior police officers to Keeping Alive Society Hope (KASH) organization to learn on the best practices on Harm reduction.

This strategy was to convince the law implementer s aware of developments and benefits of harm reductions and realization of drug use as a public health issue. Secondly, was to convince the criminal justice system that the punitive laws impedes human rights and access to HIV services. Other advocacy strategies used includes; Police stations visits and collaborations with Governor's office, Area members of the parliament and Members of County Assembly of the region.

LESSONS LEARNED: By 2019, 5314 (3978m&1336f) PWUDs were given alternative sentence while 2090 (1810m&280f) PWUDs were referred to RCT for drug treatment on methadone and drug treatment centers. 3409 (2980m&429f) PWUDs were released on police custody unconditionally.54 (45m&6f) incarcerated persons on opioid dependent access Methadone medication at Kisauni Methadone clinic and Kombani MAT clinic in Mombasa and Kwale counties. RCT is a stakeholder in the Court Users Committee (CUC) and Prisons Discharge Board. Minimal arrests and raids have been noticed. The Kenya President directed the war on drugs to drug Barons.

CONCLUSIONS/NEXT STEPS: RCT experience suggests that partnership with criminal justice systems and other law implementer s and makers can enhance uptake of HIV services, improve PWUD wellbeing and end decriminalization of the PWUD community.

PEF1783

#DRUGREFORMNOW – 21ST CENTURY CROSS-SECTOR CAMPAIGNING FOR RADICAL CHANGE IN SCOTLAND

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BACKGROUND:
Drug-related deaths in Scotland are the highest in Europe. Injecting cocaine, and the associated risks and behaviours, has led to one of the largest HIV outbreaks in Europe among people who use drugs, which has been ongoing since 2015. The power over the laws that govern drug use in Scotland is reserved to the UK Parliament. A general election was called for 12th December 2019.
DESCRIPTION: A cross-sectoral partnership of Non-Governmental Organsiations (NGOs) developed a campaign for prospective parliamentary candidates and political parties to ask them to commit to reforming laws surrounding drugs. The main ask of the campaign was for a future Government to support taking a public health approach to drug use, as opposed to the current criminalisation of people who use drugs. This would have multiple benefits, including giving the Scottish Government the power to open a Drug Consumption Room to support a reduction in new HIV diagnoses.
LESSONS LEARNED: Out of 230 candidates standing for election, 101 prospective parliamentarians signed the #DrugReformNow pledge. The First Minister of Scotland, Nicola Sturgeon MSP also supported the campaign as the leader of the Scottish National Party. Following on from the election, 40 out of the 59 MPs have supported the #DrugReformNow campaign and at one of the first sessions of Prime Minister's Questions, the Prime Minister was asked to support the campaign to enable a Drug Consumption Room to open in Scotland.
CONCLUSIONS/NEXT STEPS: During an intense general election campaign, it can be difficult for NGOs to break through with specific issues. The #DrugReformNow campaign was supported by candidates from every party and had a high level of engagement. The campaign helped to challenge stigma around drug use and people who use drugs. A majority of Scottish MPs support drug law reform, which is a major success. The cross-sector partnership of NGOs helped to make the campaign a success, reaching more people and amplifying the campaign. The next steps of the campaign are to continue to increase the pressure on the UK Government to act in order to reduce drug deaths and new HIV transmissions.

AVAILABILITY AND ACCESS TO HARM REDUCTION (INCLUDING OST AND NSP)

PEF1784

SILENT CRISIS: UKRAINIAN HARM REDUCTION COMMUNITY IS IN DESPAIR WHEN FACED WITH REALITIES OF ANNOUNCED "SUCCESSFULL TRANSMISSION TO NATIONAL FUNDING"

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BACKGROUND: During last 5 years Ukraine has been internationally accepted as a case model for successful transmission to national funding from GFATM projects. Yet, the striking succes of PLWHA's activists advocacy that resulted in effective price reduction in 2007-2011, ongoing sustainable work on reforming and capacity building of National Procurement System, changes in narcotic drugs regulations done by Principla Recipients has resulted in effective ARV procurement by the state in 2014 and complete taking over of ARV treatment for more than 150 thousands patients by 2017.
In 2019 Ukraine has been celebrating the first budget allocation for the support of Programs on HIV prevention in vulnerable groups and establishment of National Center for Public Health (NCPH), a new structure that is responsible for operating more than 83 mln UAH (3 458 333 USD) for HIV prevention and care activities.
DESCRIPTION: More than 50 Harm Reduction organizations that had participated in national tender and national LGBT leader, "Liga", have raised their questions about the critical barriers for project implementation and even existence of NGOs:
- national legislation that automatically makes any NGO that provides services under national funding a WAT payer. 20% of WAT undermines budgets of organizations and also puts them under huge risk of penalies from the side of fiscal organs (that they simply can not pay from any of their budget costs);
- Ukrainian Tax legislation has special articles about WAT-free services however there nothing in the list about NGOs working in the field of TB, HIV.
- Both NCPH and Principal recipients withdraw themselves from any expert assistance on the issue and ignore multiple applies from grass-root organizations.
LESSONS LEARNED: There is a need to launch an informal union of HIV-service experts to provide assessment and ensure effectiev dialogue to address any future legislative, programmatic and policy issues in terms of effective and sustainable programming of HIV in Ukraine.
CONCLUSIONS/NEXT STEPS: On behalf of Harm Reduction community of Ukraine we call upon international society to assist us:
- provide expert support to our advocacy;
- provide assessment of current tax legislation;
- developing Guide on realities of transfer to national budget.

PEF1785

TRANSITIONAL FUNDING OF THE PROGRAMS TARGETING PWID IN UKRAINE

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BACKGROUND: Programs on harm reduction and prevention of HIV infection among injecting drug users in Ukraine, as a low-income country, were funded solely by international donors. Prevention programs were not financed by state. This created the preconditions for instability of service delivery and dependence on donor funding.
Since 2019, Ukraine has stepped up national funding for its own response to a more sustainable response to HIV. This became possible due to implementation of the Transition Plan from donor to state funding.
DESCRIPTION: In 2019, Ukraine has become the first country in Eastern Europe and Central Asia that undergoes transitional funding for HIV prevention services. The transition process is scheduled on 3 years. To ensure state funding, the government approved a series of legal acts regulating the procurement of prevention services at the expense of the state budget, namely, the Procedure for providing

HIV prevention services among representatives of high-risk groups and methods of calculating marginal tariffs on delivering HIV-related services.

The structure of HIV prevention services for PWID is designed to form sustainable behavioral changes that reduce risky behavior, thus leading to harm reduction and improvement of their health and quality of life. Among core services are providing targeted informational, educational and communication interventions; distribution of condoms and lubricants; syringe exchange; HIV testing.

LESSONS LEARNED: In 2019, the state budget has allocated funds to provide prevention services among PWID for 150,281 persons and to provide HIV-related medical care and adherence support for 1 975 people with HIV. OST programs covered 11,385 people, 27.4% of the assessed need. As of December 31, 2019, 164357 consultations, 170011 syringe exchange cases, 47616 HIV tests and 53615 TB screenings were provided to PWID.

CONCLUSIONS/NEXT STEPS: In 2020, the state program funding is increased by 23%. The estimated number of PWID who will receive HIV prevention services is 194,264 persons, the engagement of new PWID for providing HIV-related medical care and improvement of adherence is 4,680.

This positive trend in shifting to more pronounced state funding has a lot of advantages for Ukraine. They include fostering ownership and accountability in the implementation of the national HIV response and increasing their sustainability.

PEF1786

STRENGTHENING HARM REDUCTION IN EASTERN AFRICA THROUGH STRATEGIC POLICY

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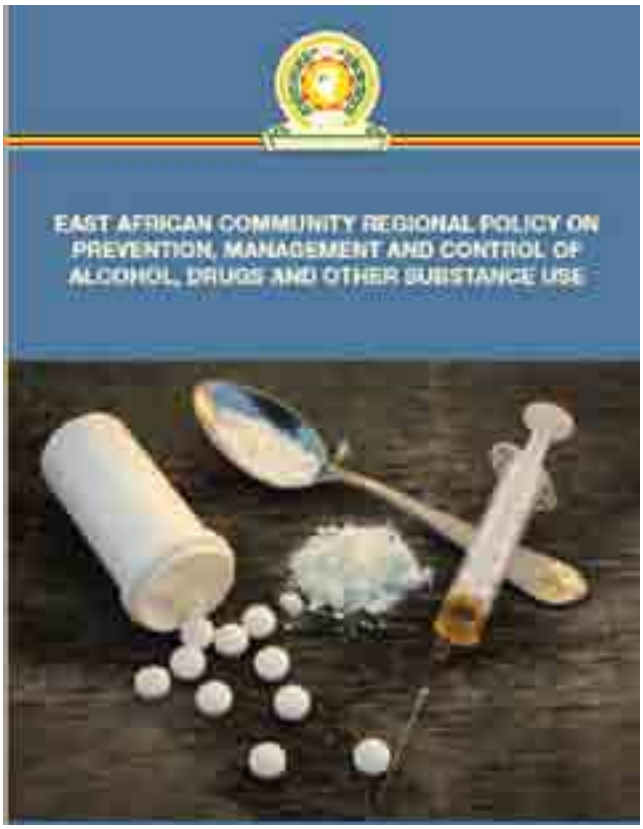
BACKGROUND: East Africa is home to about 150 million people, 260,000 among them being people who inject drugs. This constitutes about a fifth of the population of people who use drugs in Africa and growing. Eastern Africa region is recorded as a drug transit route with use of drugs for recreation. Consequently this has fueled the growth of the HIV epidemic standing at about 18%, arising from the sharing of injecting equipment and related sexual behavior.

DESCRIPTION: In October 2015,KANCO supported by the Global Fund through the Regional HIV and Harm Reduction Project, embarked on a journey to introduce and cement harm reduction in eight Eastern Africa countries. Prohibitive policy environment, irregular capacity of professional service providers and limited information on harm reduction characterized the terrain. KANCO in partnership with the East African Community (EAC) Secretariat and eight country implementing partners embarked on developing a policy to address 5 broad policy areas:

Data collection to inform Harm Reduction, Developing national harm reduction policies, Delivering interventions to people who use drugs, strengthening the capacity of PWUDs across EAC as well as creation of a supportive legal environment.

LESSONS LEARNED: Policy development is a long journey that takes at least two years. The consultative process navigates various stages both at regional and national levels. This includes the literature review and data collection to draft a comprehensive situational analysis; the formulation of the draft policy document; country consultations; experts' meetings and peer review consideration, regional validation of the final draft and Ministers approval.

CONCLUSIONS/NEXT STEPS:



On 26th March 2019, EAC council of Ministers approved the attached policy. It gives platform for sensitization, advocacy and access to services and calls to the member countries stakeholders to adopt, sensitize and promote its understanding for effective application to bridge the service gap for people who use drugs in the region.

PEF1787

ACHIEVING SAFER INJECTING PRACTICES: SHIFTING DRUG RESPONSES AWAY FROM A HOSTILE NATIONAL POLICY CONTEXT AND TOWARDS THE LOCAL

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BACKGROUND: HIV among people who inject drugs has been low since the 1980s (currently 1.7%) but a shift in drugs policy coupled with cuts to drug treatment services has compromised this. Scarce harm reduction services were a key contributor to a recent HIV outbreak in Glasgow. Drug-related deaths in the UK are at an all-time high. Since national Government is adopting a punitive, abstinence-based approach NAT chose to focus instead on change at a local level.

DESCRIPTION: We sent 40 local authorities experiencing particularly high rates of drug-related deaths Freedom of Information requests to understand their response and then tracked their progress in navigating the legal and policy barriers to effective harm reduction, for example, drug consumption rooms (DCRs) - currently not possible in UK law. We mapped common challenges, responses and successful strategies.

With little interest from the Home Office in harm reduction NAT coordinated with allies and undertook advocacy with sympathetic parliamentarians; submitting evidence to the Health and Social Care

Committee's inquiry into drugs. In October 2019 the Committee recommended increased investment, moving drugs policy into public health and DCRs. In November the Scottish Affairs Committee echoed these recommendations and called for the UK government to devolve the relevant policy area to the Scottish government.

LESSONS LEARNED: We have used the government's localism agenda to push for local autonomy in drug responses. 15% of local authorities we spoke to expressed interest in setting up DCRs but were concerned about prosecution. While the safest option is a change to the law, we identified other solutions that could be in place via agreements between local policing and health stakeholders. There is a precedent, with examples of these are now being advocated for through local leadership, courage and innovation such as in Glasgow.

CONCLUSIONS/NEXT STEPS: This is a turning point for harm reduction in the UK. Without authorisation from the government nor indication of support, local leaders are working outside of the law to establish DCRs in order to test out how it will respond. By tracking, supporting and amplifying these small-scale interventions NAT is working from the bottom up to impact national policy.

SAFE HOUSING, SOCIAL PROTECTION AND OTHER CARE AND SUPPORT FOR PEOPLE AFFECTED BY HIV

PEF1788

UNSTABLE HOUSING AND HIV PREVENTION PRACTICES AMONG LATINX MEN WHO HAVE SEX WITH MEN IN PUERTO RICO

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BACKGROUND: The relationship between homelessness and HIV has been widely documented. Studies have highlighted the impact of homelessness and HIV testing and care outcomes and less focus have been placed in understanding how the diverse levels of unstable housing (not being able to pay rent, residential transients, living in public housing, SROs, shelters) affect HIV testing and risk practices. Our study examined self-reported experiences of unstable housing and how it relates to HIV prevention practices among Latinx MSM in Puerto Rico (PR).

METHODS: In June 2017, data about HIV prevention practices and socio-behavioral characteristics were collected from an online sample of 256 Latinx MSM. Eligibility criteria were Spanish-speaking MSM, ≥18 years, self-reporting HIV-negative, and residing in PR. The primary outcome was the self-reported experience of unstable housing and concerns of losing their homes in the following months. Bivariate analysis was used to understand the relationship between unstable housing, HIV prevention (i.e. testing), and risk practices (i.e. condomless sex and no PrEP use).

RESULTS: Participant mean age was 30.5yrs. Most lived in non-metropolitan areas (56.7%), had completed at least high-school (92.58%), were employed (73.05%) and had an annual income of <$20,000 (57.42%). Most had ever tested for HIV (92.6%). Overall,12.1% of participants had ever been without a safe place to live and 27.7% had concerns about losing their home in the following months. Participants with experience of not having a safe place to live were less likely to test for HIV in the next 6 months (p-value=0.0094) and more likely to engage in risky sexual practices (p-value=0.0241). Furthermore, participants with concerns about losing their home in the following months were more likely to report recent (last 90 days) risky sexual practices (p-value<0.001).

CONCLUSIONS: Findings suggest that not only the experience of not having stable housing but concerns of not having a safe place to live in the future might influence HIV prevention practices and risk practices among this group. It is necessary to develop research the looks more in-depth into this relationship and that informs structural and culturally-relevant interventions to mitigate the risk of HIV for people who experience unstable housing.

ACCESS TO APPROPRIATE HEALTHCARE SERVICES (INCLUDING FOR CO-INFECTIONS AND CO-MORBIDITIES)

PEF1789

HIV TREATMENT IN MOROCCO AND LEBANON FROM PERSPECTIVE OF RECIPIENTS OF CARE

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BACKGROUND: Little is known about delivery of HIV treatment today. ITPC-MENA joined in 2018 a multi-country study to assess the current state of HIV treatment delivery and document the various challenges and barriers faced by PLHIV to access the continuum of HIV care and treatment. The study was conducted in Morocco and Lebanon.

METHODS: Survey participants were randomly selected from seven different health care facilities providing HIV-related services in Lebanon (N = 63) and Morocco (N = 300). A quantitative survey assessed access and barriers related to HIV care and access to treatment through questionnaires. Qualitative interviews have been conducted with representatives of people living with HIV (PLWHIV), health workers and government officials selected at each site in the country to assess challenges to accessing and providing HIV care.. Fifteen interviews were carried out in total (six in Lebanon and new in Morocco).

RESULTS: The results reveled that HIV services in Lebanon depend mainly on the private sector where 98.4% receive their treatment, which creates a barrier for monitoring and achieving the 90-90-90 targets. Anti retroviral therapy is free in both countries, however, lab tests and treatment for opportunistic infections had to be paid for by patients.

35% of participants in Morocco said that they stopped ART because they did not have the financial resources to go to the treatment center. In Lebanon, funding for tests is a major challenge, while in Morocco, shortages of drugs and incomplete test kits are urgent. Self-stigma was high among respondents in Morocco, since 61% of respondents (N = 183), blamed themselves more than once for being infected with HIV.

CONCLUSIONS: Despite progress to improve treatment coverage and quality in the MENA region, our survey reflects persistent access gaps and gaps in the quality of care for people living with HIV. Based on the findings of the study, the international treatment preparedness coalition (ITPC) team made several recommendations to address these gaps.

ACCOUNTABILITY ON THE HIV RESPONSE

PEF1790

TRACKING ACCOUNTABILITY AND EFFECTIVENESS IN NIGERIA'S GLOBAL FUND AIDS, TUBERCULOSIS AND MALARIA SUPPORTED PROJECTS AND NIGERIA'S COUNTRY COORDINATING MECHANISM (CCM)>

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BACKGROUND: Nigeria since 2002 has received over US $1.4 billion from the global fund making the country the greatest recipient. With this funding about 750,000 Nigerians with HIV have access to treatment, 310,000 tuberculosis cases detected and treated, over 93 million mosquito nets distributed. Despite these accomplishments, challenges of accounatbility and transparency in the management of funds still exist as highlighted in the 2011 and 2016 audit reports from the global fund office of the Inspector General. This abstract presents efforts by Nigeria's civil society health watch to demand accountability and transparency in global fund supported HIV projects in Nigeria.

DESCRIPTION: Nigeria civil society health watch is modeled after the Africa Health Watch and the global fund observer program. Comprised 60 civil society organizations and committed to five main tasks. These are: provision of directory of CCM representatives and grant recipients and services they offer; ongoing dialogues with CCM members and principal recipients about improved services and value for money;; independent civil society monitoring of global fund sites and documentation of findings; facilitating connections between end users and implementers to promote proper utilization of funds, quartely publications of findings via news letters.

LESSONS LEARNED: The civil society health watch mechanism is effective in engaging broad stake holders' participation in monitoring the use of funds and programming. A good strategy to help communities understand how global fund works in country and help end users find access to global fund supported treatment and services. Effective platform for sharing information on the significance of grant performance.. Useful in tracking deliverables by principal and sub recipients across various sites in relation to funding received and quality of service received by end users.

CONCLUSIONS/NEXT STEPS: There is need for increased effort to ensure grants provided for poor and middle income countries achieve the desired result for the end users. This will scale up efforts to prevent and treat HIV, TB and malaria. We recommend more civil society health watch mechanisms. Organizations involve in the watch dog role should not at the same time be principal or sub recipients of funds they are tracking.

PEF1791

THE WAXING AND WANING OF CIVIL SOCIETY SPACE IN THE HIV RESPONSE

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BACKGROUND: Civil society plays well-recognized and critical roles in the HIV response –including as service providers, advocates, researchers, governmental watchdogs. Government actors, for good and for bad, not only play a large role in shaping the response but create the environments within which civil society can operate. When there is alignment in goals and expectations, this works well (e.g. service delivery to hard-to-reach populations); at other times the dynamic between these groups becomes complicated (e.g. civil society pressure on government to fulfil legal and human rights commitments).

DESCRIPTION: In conducting a series of multi-country evaluations of HIV programs across sub-Saharan Africa in recent years, the expansion and contraction of civil society spaces has been particularly striking. We sought to better understand factors influencing these changes.

LESSONS LEARNED: Neither government nor civil society is monolithic and yet the action of whatever part of government regulates civil society space (e.g. Ministry of the Interior) affects how all civil society can act, including how they can collaborate with other parts of government (e.g. Ministry of Health).

When there is conflict, e.g. when legal intervention is sought to pressure government to augment efforts to address HIV, regardless of the court ruling government more broadly may respond by making it difficult for NGOs to operate e.g. by limiting the channels through which they can receive funding or exacting demanding and/or expensive registration processes. Similar barriers may also be erected by governments in response to donor funding being channeled directly to civil society actors, particularly when at the expense of direct budget support to government.

CONCLUSIONS/NEXT STEPS: The importance of the different roles played by government and civil society in the HIV response is undisputed. Sometimes they work in partnership with shared goals and sometimes in direct opposition. In this time of deep and polarized political division, and decreasing funding for HIV, it is critical that governments and civil society continue to find ways to collaborate constructively even when one feels attacked or constrained by the other. A sense of mutual accountability is required to ensure that an effective HIV response remains the joint priority.

PEF1792

THE GLOBAL FUND REPLENISHMENT CONFERENCE (FRANCE, 2019): A SUCCESSFUL AND GRADUATED MOBILISATION FROM COMMUNITIES AND CIVIL SOCIETY

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BACKGROUND: In order to generate a financial and political mobilization from donor countries, the community-based organization AIDES and the Paris Regional Centre for AIDS Prevention (CRIPS-IDF) raised civil society awareness before the Global Fund Replenishment Conference (GFRC) that has been held on October 9th-10th 2019, in Lyon.

DESCRIPTION: During fall 2018, an activist working group from AIDES has been set up to build a strategy and produced internal & external mobilization tools. Taking opportunity of the NGO local events, 2100 activists were trained on GFRC issues on how to inform the general public and their communities about the GF. In September 2019, the "Red Ribbon Loop" (*Boucle du Ruban Rouge* – BRR) operation, initiated by the CRIPS-IDF with AIDES' support, gave visibility to the GFRC across France. These distinct sequences were supported by a massive media campaign launched by AIDES, in May-August 2019, and in September-October 2019.

LESSONS LEARNED: This mobilisation, targeting stakeholders and communities, increased the visibility of the issues related to the global fight against HIV, in favour of common goals:

1) among CSOs: launch of a petition supported by more than 50 associations for World AIDS Day 2018 ;

2) through communities: speeches from spokespersons from Global Fund recipient organizations during communities' "key dates" on March 8th (Women), May 17th (LGBTQ) and June 26th (PWUD) and during Pride Walks in France, AIDES' Congress in June 14th and the GF Replenishment Conference itself in Lyon ;

3) among general public: using public space, traditional and social media, giving a strong visibility of the media campaign (258 media clips) and during the 33 steps of the BRR ;

4) towards elected officials: during the BRR, many elected officials made public commitments and/or shared our demands including the Mayors of Paris and Lille as well the Presidents of the northern region, and Paris region, and several MPs.

CONCLUSIONS/NEXT STEPS: With a graduated and progressive action strategy, AIDES, the CRIPS-IDF and their partners have contributed to the success of the GFRC, being the most important fundraising for global health with USD 14 billion raised and especially a 20% increase for the French contribution, and involving over 1000 participants.

PEF1793

PERFORMANCE OF STATE AND NON-STATE IMPLEMENTERS OF GLOBAL FUND-SUPPORTED HIV GRANTS IN SUB-SAHARAN AFRICA: A COMPARATIVE ANALYSIS

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BACKGROUND: The Global Fund to fight AIDS, tuberculosis and malaria spends nearly $4 billion per year fighting those diseases. It invests more than 70% of these funds in sub-Saharan Africa. Global Fund channels its monies either through state or non-state entities, where the state entities or Principal Recipients (PRs) such as the Ministries of Health or Finance manage the largest proportion of the grants in sub-Saharan Africa. Grants managed by state entities use national systems such as the public financial management systems and human resources. This analysis seeks to determine whether there is a difference in performance between the state and non-state implementers of Global Fund grants and identify opportunities for improvement through enhanced accountability.

METHODS: We obtained data from the Global Fund databases, available on its website, related to active Global Fund-supported HIV grants in sub-Saharan African countries over the 2017-2019 funding cycle. Information obtained included grant signed amounts, type of implementer, and grant performance as shown by recent grant ratings. The Global Fund rates grants as either having exceeded expectations (A1), met expectations(A2), adequate (B1), inadequate but potential demonstrated (B2) or unacceptable (C). The final analytical sample consisted of 64 active grants from 41 countries amounting to $4 billion.

RESULTS: Slightly less than half of the active grants (31) were state-managed and amounted to $2.6 billion. The majority (77%) of these state-managed grants received a B1 rating, whereas only five of the 31 (16%) received A rating. In contrast, 44% of non-state managed grants received an A rating while only 42% received a B1 rating. Preliminary analysis showed that there was a significant difference in performance between the state and non-state implementers. State PR-managed grants are almost five times more likely to receive a B1 or B2 rating than an A rating, as compared to the non-state actors (p=0.009).

CONCLUSIONS: In sub-Saharan Africa, non-state implementers of Global Fund HIV grants perform better than the state implementers. Thus, in-country accountability structures such as Supreme Audit Institutions and the Country Coordinating Mechanisms (CCMs), need to step up and monitor and oversee state grant implementation and promote accountability for these funds

HUMAN RIGHTS OF PEOPLE LIVING WITH HIV AND KEY AND VULNERABLE POPULATIONS

PEF1794

PROTECTIVE SHIELD OR PUNITIVE SWORD?: A CRITIQUE OF THE UGANDA HIV AND AIDS CONTROL AND PREVENTION ACT, 2014 FROM A HUMAN RIGHTS PERSPECTIVE

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BACKGROUND: The purpose of the research: To assess the compliance of the Uganda HIV and AIDS Control and Prevention Act, 2014 (the Act) with international human rights law standards.

Problem: In 2014, the Government of Uganda enacted a law to control and prevent HIV and AIDS. However, human rights advocates contest that the law contains provisions that don't comply with international human rights law standards.

METHODS: Study period: August 2014 - August 2015

Study design: Qualitative design.

Data collection: The study used a document analysis method.

Method of analysis: The study identified international human rights law standards related to HIV and AIDS and used them as benchmarks for the review, analysis and synthesis of the literature.

RESULTS: The study established that: The Act carries provisions that comply with international human rights law standards. These include HIV counselling, testing, and treatment; state responsibility in HIV and AIDS control; the establishment of the HIV and AIDS Trust Fund; HIV-related human biomedical research; and prohibition of discrimination in various settings on grounds of HIV status.

The Act also contains provisions that are not compliant with international human rights law standards. These include mandatory HIV testing, disclosure without consent, criminalization of actual and attempted HIV transmission, and criminal penalties for vaguely defined conduct.

The Act lacks provisions that would make it more effective in controlling and preventing HIV and AIDS. These include commitments by the state to be accountable for its obligations stated in the Act; definition of what constitutes discrimination in various settings; and addressing challenges such as the causes of discrimination, inadequate professional human resources at health facilities, lack of HIV-friendly services in health facilities, and unregulated informal sector in complying with the law.

CONCLUSIONS: The study identified the compliance and non-compliance of the Act to international human rights law standards. It made recommendations to the Government of Uganda, organisations of people living with HIV and AIDS, organisations that advocate for human rights, and national human rights institutions, on the need to eliminate, revise and add some provisions in the Act to create an enabling legal environment that conforms with international human rights law.

PEF1795

UPHOLDING THE RIGHTS OF PEOPLE LIVING WITH HIV IN SUDAN THROUGH PEER SUPPORT: LESSONS FROM THE FIELD

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BACKGROUND: HIV-related stigma and discrimination continues to lead to human rights violations against people living with HIV (PLHIV) in Sudan. In 2015, The Sudanese People living With HIV/AIDS Care Association (SPCA), a member association of over 7,000 PLHIV, documented an increase in the numbers of rights violations against PLHIV in the fields of employment, education, and healthcare. In response, the SPCA launched a project to contribute into the protection and promotion of PLHIV rights in Sudan. Specifically the project aimed to improve PLHIV legal literacy through interactive literacy sessions and free legal system services.

DESCRIPTION: The project implementation took 22 month during 2016-2018, in 9 selected states of Sudan, namely, Khartoum, Gezera, Sinnar, Blue Nile, Kassala, Gadarif, Red Sea, North Kurdufan and South Darfur.

From the start, it was clear that HIV stigma aggressively burdens communal communications on HIV issues.

Peer support intervention used in the project, through recruiting a number of 25-40 active PLHIV peer educators per each state, in counseling and educative communications succeeded in expanding dialogues among PLHIV communities on their rights and how accessing justice. The peer educators in collaboration with the project hired legal advisors conducted a number of 224 formal interactive literacy sessions for the PLHIV members on their rights, through which they reached over 2600 PLHIV member, of them 46% male, 50% female and 4% children.

LESSONS LEARNED: As a result of the program, SPCA documented 104 rights violation cases against PLHIV, of which 62 cases were legally represented and solved. Additionally, according to the project evaluation final report, over 2100 of the participants in the program reported increased knowledge, decreased internalized stigma, and increased access to available legal resources. Our results indicate that peer educators could effectively communicate through barriers of stigma and rejection to assist PLHIV members to stand up and protect their rights.

CONCLUSIONS/NEXT STEPS: For effective project expansion, we recommend the inclusion of peer support in programming to address stigma and uphold the rights of PLHIV in Sudan as a key method of intervention. This is especially important in rural areas where silence surrounds many HIV issues.

PEF1796

ACHIEVING INCLUSIVE HEALTH PRACTICES THROUGH UMUNTHU

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BACKGROUND: The purpose of the Umunthu program is to promote health access as a basic human right of LGBTI people in Malawi. To accomplish this, the program aims to reduce discrimination and build the capacity of civil society and health service providers to support and implement inclusive health policies and practices. With specific regards to HIV, global evidence demonstrates that stigma and discrimination prevent key populations from; seeking and accessing HIV testing, disclosing their HIV status, accessing and practicing prevention, accessing care, and adhering to treatment"

DESCRIPTION: ArtGlo harnesses the power of the arts to nurture creative leadership and to ignite bold conversations and actions. Umunthu program use art as a catalyst for discussion, providing a platform to address contentious human rights issues that have an implication on health. Umunthu is a Pan-African philosophical concept of humanity often defined in a phrase "I am because we are."

The project is being implemented in eight districts across Malawi. It has so far engaged 930 Frontline Health Workers, 310 community leaders, 60 grassroots organizations and 420 Health Worker Students.

LESSONS LEARNED: So far, the midline evaluation has indicated promising positive shifts in attitudes towards LGBTI people amongst frontline health service providers in Malawi. 78% of the trained clinicians are acknowledging the negative implication of discrimination in health service provision and are putting in place strategies to test, treat and manage HIV/AIDS, and promoting health-seeking behavior amongst key population groups and other vulnerable population, that have previously faced discrimination and shied away from accessing services.

CONCLUSIONS/NEXT STEPS: African culture and philosophy are diverse, evolving and subject to interpretation. It is possible to use African belief systems- specifically those focusing on interdependence and tolerance- to promote health-seeking behavior, getting the key population tested, enrolled in ART, ensure adherence and eventually achieve viral suppression. Confrontational approaches can lead to a backlash that entrenches people more firmly in their beliefs. Creative participatory approaches that work with participants' familiar values and ideologies, and facilitate exploration of underlying basis of discrimination, could be an effective way of impacting popular thinking and achieve a positive shift of attitude towards LGBTI people.

PEF1797

THE CONSTRUCTION OF THE SINGULAR THERAPEUTIC PROJECT IN THE RETENTION PROCESS OF PATIENTS LIVING WITH HIV

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BACKGROUND: Demonstrate the importance of the Singular Therapeutic Project (STP) in the process of retaining people living with HIV (PLHIV). The STP is a care organization and systematization device built between health team and patient, considering subject singularities and case complexity.
DESCRIPTION: Intervention research in HIV care services in the city of São Paulo / Brazil, from 2017 to 2022, considering the linkage to care of newly diagnosed cases and retention to antirretroviral treatment (ART). It was observed that the motivations of PLHIV for interruption to treatment are multifactorial and issues such as work, unemployment, shame, difficulties in accepting the diagnosis, social vulnerability, drug abuse, family problems, among others, require articulations that go beyond care centered on medical consultation and / or antiretroviral (ARV) withdrawal. Retention to HIV treatment requires health teams to monitor PLHIV who has vulnerabities that can take them to interrupt their follow up, by providing regular and continuous medical follow-up to ensure clinical follow-up with low bureaucratic demands. However, the singularities of each case must be considered. There were cases of patients treated by the project team who, for successful retention, demanded articulation with specific program networks such as: Social Assistance, Judiciary, Guardianship Council, Basic Health Unit, Family Health Program, once medical scheduling and ARV withdrawal were not sufficient for "good" treatment adherence.
LESSONS LEARNED: Construction of STP involving articulation with care networks and continuous care, enables the approach of the patient to the health service, favoring the construction of joint "goals" for treatment; some cases without STP showed retention failure, contributing to unproductive repetition of appointment scheduling, non-use of ARVs and transmission chain; Qualified listening, on a case-by-case basis, enables better assessment and sharing with health teams and other networks, contributing to the process of retention to HIV treatment.
CONCLUSIONS/NEXT STEPS: The retention to care of PLHIV is directly articulated with the specificity of each case, the guarantee of care and human rights networks.

PEF1798

REMOVING LEGAL BARRIERS TO ACCESSING HIV SERVICES IN NIGERIA: ESTABLISHMENT OF GENDER AND HUMAN RIGHTS STATE RESPONSE TEAM

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BACKGROUND: The Nigerian HIV prevalence rate is declining, however; stigma indices do not show corresponding decline. The project on the removal of legal and human rights barriers to HIV and AIDS response in Nigeria focuses on strategic investment in human capital resources in the systems that drive policies, quality service provision, facilitate law reforms, law implementation, and legal literacy of stakeholders including key and vulnerable populations with particular focus on popularizing the HIV and AIDS Anti-Discrimination Act (2014) and other relevant laws at the State level.
DESCRIPTION: To drive implementation of the National Plan of Action on the Removal of Legal and Human Rights Barriers to HIV Response in Nigeria (2017-2022), the National Agency for the Control of AIDS (NACA) with the support of UNDP facilitated the capacity building on gender and human rights establishment of State Gender and Human Rights State (GHR) Response. The response team was established in six states comprising legal and paralegal personnel for redressing GBV and other human rights violations targeted at key and vulnerable populations. Results of the engagement were establishment of human rights focal points for reporting and redressing human rights violations and stigma and discrimination cases in the States; developed Plans of Action for GHR Focal Point; established GHRRC WhatsApp platform for easy communication and opportunities between national and state level institutions and partners.
LESSONS LEARNED: The above meeting equipped MDA officers and human rights officers at the national and sub national on the popularization and implementation of the HIV Anti-Discrimination Act (2014). It also strengthened gender and human rights responsiveness of the State HIV/AIDS programme by improving capturing, documenting and reporting data on GHR in the State HIV response especially reporting and redressing stigma and discriminatory practices.
CONCLUSIONS/NEXT STEPS: The consultative meeting agreed on critical next steps to ensure sustainable human rights structure in States thereby expanding access to justice, and promoting human rights of key and vulnerable populations for improved access to HIV services in a coordinated manner in Nigeria. The lesson learned from the operational States will be leveraged to inform the scale up of the structure to other states.

PEF1799

TRANSLATING LAWS PROTECTING PEOPLE LIVING WITH HIV INTO IMPACT: LESSONS AND DIRECTIONS FROM MANILA, PHILIPPINES

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BACKGROUND: Since 1998, the Philippines has enshrined legal rights for people living with HIV (PLHIV) in Republic Act 8504. In early 2019, the Philippine HIV and AIDS Policy Act of 2018 (Republic Act 11166) was signed into law in order to address the rapidly growing HIV epidemic in the Philippines, concentrated among men who have sex with men (MSM). This law contains enhanced legal protections for people living with HIV (PLHIV), yet little research has examined how laws translate into awareness and understanding for key populations to maximize the impact of laws in improving quality of life for PLHIV, including MSM with HIV.
METHODS: We present findings from interviews with 21 HIV-positive MSM Manila, Philippines regarding awareness, understanding, and needs regarding HIV-specific legal protections at the time just before new revisions to the omnibus HIV law were passed.
RESULTS: Overall, there was no standardized way participants became aware of legal protections; few became aware through healthcare providers, while most learned through online resources, social

media, and advocacy organizations. However, even after learning about HIV-specific legal protections, many found the law too complex to understand or did not understand how to use such protections. This led participants to preemptively take action to avoid HIV-related discrimination, even if they were protected by law. Participants demonstrated a strong desire for interventions and policies to improve legal awareness and understanding for PLHIV, government officials, and private businesses.

CONCLUSIONS: This research demonstrates the value of increasing awareness and understanding in policy-specific interventions designed to improve quality of life for PLHIV including MSM with HIV. Interventions centered around legal protections are currently underdeveloped, providing a strong opportunity to integrate such interventions in existing practice or as stand-alone tools to decrease perceived stigmatization. Interventions like plain language materials communicating legal protections as well as legal databases containing successful cases related to discrimination based on HIV status can help maximize social impact for laws protecting PLHIV, including MSM with HIV.

PEF1800

HOW ADOLESCENTS AND YOUNG PEOPLE LIVING WITH HIV ADVOCATED AGAINST ISSUING OF EXPIRED ANTI-RETROVIRAL TREATMENT USING SOCIAL MEDIA

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BACKGROUND: According to the Kenya AIDs Estimates Report over 184,718 adolescents and young people living with HIV (AYPLHIV) in Kenya require daily antiretroviral medication to live longer healthier lives. This abstract seeks to demonstrate new advocacy strategies used by AYPLHIV in Kenya that ensured Anti-retrovirals being issued at health facilities were of standard and quality as well as how to hold the relevant ministries accountable.

DESCRIPTION: In September 2018 the Organization of Young People Living with HIV (Y+ Kenya) which is the umbrella network of AYPLHIV Organizations shared with AYPLHIV social media pages asking AYPLHIV to check their expiry dates. Responses were collected via all Social Media avenues. Y+ Kenya established that AYPLHIV on Lopinavir are being issued expired medication. Y +Kenya with the support of Youth led organizations asked the arm of the MOH responsible for treatment and care of PLHIV that is National Aids and STI control programme (NASCOP) via a letter to address the issue but this was not taken up. In March 2019 AYPLHIV led by Y+ Kenya took it to twitter and asking NASCOP to address this matter. For 8 working hours AYPLHIV trended on twitter under the #OurLivesMatter. We managed to attract over 123000 impressions.

LESSONS LEARNED: NASCOP reached out to Y+ Kenya who mobilized AYPLHIV for dialogue with seven high ranking officials at NASCOP. AYPLHIV stood their ground agreeing that they want to be at the forefront of getting Virally Suppressed. The officials issued notice to all health care facilities asking them to recheck the expiry of Lopinavir. AYPLHIV were to be changed to available options as recommended in the National treatment and Care Guidelines. The officials commended AYPLHIV for noticing faults in systems and trying to address them. They committed to respond to issues affecting AYPLHIV with urgency.

CONCLUSIONS/NEXT STEPS: It is important to realise that use of social media and its impact can be used to effect change. New technology has enabled the measuring and connection between social media and its tangible change. In future it is important that communities develop accountability mechanisms to ensure governments provide quality commodities and provide treatment literacy information to PLHIV.

PEF1801

CAN YOU HEAR ME? CONNECTING THE UNHEARD VOICES OF YOUNG KEY POPULATIONS IN BANGLADESH

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BACKGROUND: According to the National AIDS/STDs program in Bangladesh, persons living with HIV are 7500. The risk is sustained due to lack of knowledge about safe sexual behavior among young key populations, social stigma in accessing RH, legal barriers including Article 18 of Bangladesh Constitution prohibits sex work, and Section 377 criminalize same sex relationship, and increasing number of injecting substance abuses together resulting into inclining the risk rate among youth. Policy remain reluctant regarding young key people´s participation at national development process especially regarding their health and rights.

DESCRIPTION: We designed a youth advocacy project to raise the voice of the young key population in the post-2015, and national development agenda. The project titled ´Can You Hear Me?´ organized 8 divisional, and 1 national youth consultations with young people affected by HIV/AID, national advocacy workshops to develop strategic partnerships, and raised inputs and opinions of more than 300 young key people in the country during November-2015 till January-2016.

LESSONS LEARNED: The youths reached ministry of health, international actors including Partners in Population and Development (PPD), and provided inputs at global events including the International Conference on Family Planning, and 12th Inter Ministerial Conference on Population and Development to ensure their voices heard. The consultations under this project were held in all the 8 divisions across the country. Each of that was attended by 20 young key people affected by HIV/AIDS. Participation was ensured from diverse backgrounds as male have sex with male (MSM), Transgender, female sex workers, injecting drug users, persons living with HIV/AIDS (PLHIV), and adolescents.

CONCLUSIONS/NEXT STEPS: The consultation provided a platform for them to express their experiences around sexual and reproductive health and rights, focusing access to services, laws and policies affecting their lives, health and well-being. Given their knowledge and experience on their own societies and state policies, they provided inputs at a Q&A session. Those inputs remark mostly focused their demands on a discrimination free and inclusive society and high level government officials committed to take appropriate actions to remove barriers around access to SRH services for young key population.

PEF1802

INNOVATIONS IN REDUCING HUMAN RIGHTS-RELATED BARRIERS TO HIV SERVICES WITHIN EECA REGIONAL PROJECT

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BACKGROUND: In most of the post-soviet countries such behaviors as same-sex relationships, sex work and drug use are regarded either criminal or qualify for administrative punishment. Due to high level of stigma in medical and social facilities, and multiple legal barriers in accessing services, the HIV treatment and prevention adherence among key populations is still very low (only 20% of estimated KPs are covered with services).

DESCRIPTION: REAct - developed by Frontline AIDS, is a human rights (HR) monitoring and response system that helps to record and manage cases at the community level. Being online and cloud-stored, it is more secure for those, who use it; system deprives superfluity of papers and simplifies case documenting and solving process.

Within the EECA regional #SoS_project funded by the Global Fund, REAct is implemented by the Alliance for Public Health in 4 countries of the region and serves here as a field for cooperation of service-providing and HR-protecting organizations to ensure prompt and integrated (medical, social and legal) help to the victim, as organizations can refer client and work on the same case in concord. The idea was to coordinate, integrate and optimize efforts in reducing HR violations instead of creating one more documenting system.

LESSONS LEARNED: Online-based way of cases documenting is more secure/faster and integrated.

Cooperation of service and legal organisations is crucial for complex help to victim.

Case documentation has to be community-based but stately-encouraged.

Case documentation is needed as a evidence base for future advocacy.

Case documentation only makes sense if is followed up with concrete advocacy plan.

CONCLUSIONS/NEXT STEPS: REAct is a powerful tool for gathering the evidence needed to advocate for change. A considerable base of hundreds of real cases registered just in a couple of months may serve as a persuasive and powerful argument in dialog with governments to reduce legal barriers and stigma, as changes have to be made systematically on the state legislative level. Using #SoS_project regional platform, Regional Drug Policy Commission and having REAct evidence base, communities can push governments to take measures in facilitating access to HIV prevention and treatment services.

PEF1803

PATIENTS' ACCESSIBILITY ON THE COUNSELING, VIRAL LOAD TESTING, AND TREATMENTS FOR OIS IN ART DECENTRALIZATION SITES IN YANGON REGION

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[1]Aye Nyein Metta, Yangon, Myanmar, [2]Asia Catalyst, Yangon, Myanmar

BACKGROUND: Anti Retroviral Therapy (ART) decentralization had been initiated in Myanmar since 2014. In Yangon, the decentralization sites are in urban health centers. The decentralization centers provide consultations, drug dispensing and counseling for the clients.

METHODS: Aye Nyein Metta, a community based organization led by People Living with HIV (PLHIV) conducted community led qualitative study by interviewing 40 patients taking ART from the 4 decentralized sites in the Yangon Region. The interviews were conducted by peer educators from September to November 2019. The questions were designed to understand their experience and difficulties in getting ART and HIV care services in the decentralized sites.

RESULTS: The respondents were between 20-60 years old and the mean age is 39.6 years. They had been transferred to the decentralization sites for 1-3 years.

Counseling

27 (68%) of the respondents did not receive regular counseling in the decentralization sites. The counseling is delivered by the volunteer peer counselors from CBOs or NGOs. Those who undergone counseling sessions reported that they were satisfied with the service.

Viral load testing

26 (65%) of the respondents had the correct knowledge of the viral load testing and aware of their status. However, 8 (20%) of patients did not know that viral load testing should be done every year, and 6 (15%) of patients reported that they underwent blood testing though their results were not discussed.

In some decentralization facilities, on-site blood testing service was not available. Some patients had a burden for the cost to visit National Health Laboratory for the blood collection.

Treatments for OIs and other health problems

The patients got prescriptions for common illnesses, but most of the health problems were referred to the hospitals. The patients had a problem with disclosure of their HIV status in other healthcare settings because they were apprehensive about being stigmatized.

CONCLUSIONS: To achieve the ART scale-up and comprehensive HIV care, the service providers should improve the counseling, viral load monitoring, and treatment for HIV related diseases in the decentralization sites. The patients demand one-site laboratory testing and one-stop services for the treatment of OIs and other diseases.

PEF1804

PROMOTION OF AN ENVIRONMENT FAVORABLE TO PEOPLE LIVING WITH HIV EXAMPLE OF ADVOCACY FOR THE REDUCTION OF STIGMA LINKED TO HIV

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BACKGROUND: Semi lou Bertine, Christian Kla; NIANG Tiefing ADINGRA Nadia, Alain SOMIAN, Dr ABO.
National Program to fight against AIDS NGOs Active Women Ivorian Network of Organizations of People Living with HIV, Coalition of Women's Organizations Living with HIV in Côte d'Ivoire, Association of Women Legal Experts of Côte d'Ivoire ITPC WA.Context.
In Cote d'Ivoire, the problem of stigmatizing people living with HIV remains a reality. combating all forms of stigma towards these populations and improving their global environment for greater respect for their rights, the network and its affiliated organizations have decided to implement an advocacy program with politicians to reduce the stigma.
DESCRIPTION: Methodology: The program developed consisted of the organization of three months of exchanges on stigma; the installation of 90 departmental monitoring and alert committees. 12 capacity-building workshops on organizational development. carrying out 220 searches for lost sight and 140 sessions on positive health dignity prevention and also to facilitate cases of stigma noted by the members of the watch and alert committee.
This approach consisted in registering PLWHA, key populations and families to benefit from health cover to improve their care.
LESSONS LEARNED: Effective involvement of PLHIV, community leaders in advocacy has enabled us to achieve the expected result.
Facilitation follow-up plans are drawn up and the establishment of a vigil watch committee at the level of each department.
Rights shops are involved with the collaboration of the Ivorian Women .Lawyers Association.
Law n ° 2014-430 OF 14 July 2014 on the prevention, protection and repression regime in the fight against HIV and AIDS adopted by the national assembly for the protection of people living with HIV / AIDS in dimension d 'ivory.
Funding for the creation of income-generating activities for women living with HIV by the first lady.
Some providers who refused to care for PLHIV have agreed to provide care without stigmatizing or discriminating against PLHIV.
CONCLUSIONS/NEXT STEPS: Expanding advocacy committees at the level of other departments in the country, and above all expanding actions towards the community, will help to end the stigma and discrimination linked to HIV by 2030.

PEF1805

"EVEN THE DEVIL WAS GIVEN AUDIENCE BY GOD": DISCOURSE ANALYSIS OF THE RHETORIC AGAINST MEN WHO HAVE SEX WITH MEN IN GHANA

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BACKGROUND: HIV prevalence among men who have sex with men (MSM) is 16 times (18.1%) that of the general male population (1.1%) in Ghana. As such, the National HIV and AIDS Strategic Plan espouses the public health and rights-based approach to mitigate HIV infection among MSMs. The media is a critical medium for information communication and a tool that drives social and behavioral change. This abstract aims to critically analyze media representation of MSM issues and its potential effects on HIV epidemic control among MSMs and the National HIV response.
METHODS: Under the USAID Strengthening the Care Continuum project, implemented by JSI Research & Training Institute, Inc., fifty (50) public and private media pronouncements and publications on MSM were observed and collated over the period December 2016 to November 2019 (37 months) for print and electronic media. Authors conducted a critical analysis of discourse statements for their constitution of power (populist rhetoric for political advantage) and ideology (religious considerations).
RESULTS: The rhetoric around MSM issues was mainly power-based, unscientific and ideologically driven, and aimed at engendering violence, social exclusion, marginalization, stigma and discrimination toward MSM. Most of the discourse emanated from high level political figures and both electronic and print media representation of MSM issues converged and was emotive, negative and misleading. Most (29/50) of the explosive rhetoric around MSM was in the first half of 2016 when there was a new government in place. Only 12 media reportage touched on health, social, reproductive rights or human right issues.
CONCLUSIONS: The negative rhetoric and media representation of MSM issues could have harmful repercussions for HIV epidemic control among MSM and the national HIV response. As a short-term measure, the Ghana AIDS Commission should intensify its sensitization efforts for the executive and legislative arms of the government as well as members of the general public. The Commission should also intensify advocacy efforts to improve the legal environment by removing the antiquated colonial punitive laws against Key Populations from the legal books. MSM-led or friendly CSOs should be strengthened and capacitated to adopt creative approaches to identify, enroll and retain MSMs living with HIV on treatment.

PEF1806

THE LACK A OF THE ACTIVISM AND JUSTICE SERVICES TO DEFEND THE HUMAN RIGHTS AND THE ELIMINATION THE DISCRIMINATION ON THE HEALTH SERVICES FOR THE PEOPLE LIVING WITH HIV

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BACKGROUND: At the begging of the HIV epidemic in Guatemala, it was necessary that the people living with HIV complaint the stock-out of ARV, this was possible for the HIV's law that ensure the humans rights of the people living with HIV including the access to ARV.

Currently in Guatemala the PrEp strategy it is not approved and implemented by the health system because it has stock-out of ARV specifically for the therapy of the people living with HIV. The culture of complaint to safeguards their human rights specifically the access of their drugs it is not put in practice by the fear to lose their antiretroviral therapy for free.

DESCRIPTION: This problem affect the target 90-90-90 specifically the second and third 90 because the people living with HIV that are affected by the stock-out are not undetectable. They spent three months without access to ARV.

Women with HIV are affected and only the lack of medication in the last quarter of 2018, the Ministry of Public Health and Social Assistance being responsible for not making the purchase of ARV on time, Guatemala is a country that in the region buys the most expensive antiretroviral drugs and there is no reserve.

Key populations demand new forms of prevention and claiming rights over sexual identity and recognition of sex work but they don't meet the needs of people living with HIV.

LESSONS LEARNED: Women's focus groups in the Petén area denounced they experienced and the fear of being discriminated in the comprehensive care unit , limited the to making a complaint with the Human rights lawyer and this limit to evidence the stock-out that are having the health system.

CONCLUSIONS/NEXT STEPS: 1. Empowerment of people living with HIV should be increased about their human rights.

2. Fostering the culture of reporting and monitoring the comprehensive care they must receive to achieve universal access.

3. Good practices should develop strategies and ensure that the Ministry of Health accepts and commits to ensuring the PrEp.

4. The development of a shopping plan with a reserve of antiretroviral drugs with a minimum of six months.

PEF1807

HIV/AIDS AND INDIGENOUS PEOPLE IN SUB-SAHARAN AFRICA: OPPORTUNITIES AND CHALLENGES

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BACKGROUND: HIV/AIDS infection is one of the most pressing challenges facing rural women in sub-Sahara Africa. Indigenous peoples in both high and low-income countries are confronted with a heavy burden of diseases including HIV/AIDS. Although much progress has been recorded in the post-industrial world, the impact of HIV/AIDS continue to hit hard on the sustainability of indigenous women in sub-Sahara Africa. Their vulnerability to this virus is as a result of systemic discrimination, racism, stigmatisation, exclusion and structural racism. The impact is severe on women who put their health at risk to attain a certain level of economic and social security.

METHODS: A qualitative method of research will be adopted, including reviewing existing literature on the study from books, journal articles and other reports on HIV/AIDS, prevention and care in sub-Saharan Africa.

RESULTS: Obtaining data on the rate of indigenous women living HIV is difficult, as very few countries have specific data for indigenous peoples. The geographical isolation of their communities shows that they have limited access to mainstream educational, health-care and public health facilities. Low levels of formal education mean that indigenous peoples may find it more difficult to obtain secure work or are frequently employed in lower paid jobs with little access to employer supported health schemes. The study found a scientific explanations of HIV infection and transmission may not be easily reconciled with traditional conceptions of diseases in indigenous communities. It is noted that a relatively small number or no specific policies are in place to address the spread and effects of HIV/AIDS on indigenous women in sub-Saharan Africa.

CONCLUSIONS: The models of HIV prevention and care that have proven successful in non-indigenous communities need significant modifications if they are to be relevant to and successful among indigenous peoples. It is also crucial to impose a specific tax on extractive companies exploiting natural resources on indigenous territories to facilitate the construction of well-equipped health centres to may assist to address HIV cases in these communities.

GENDER EQUITY AND DIVERSITY

PEF1808

PENIS-CENTRIC PRIORITIES: THE INVISIBILITY OF QUEER WOMEN AND FEMALE-BODIED TRANS-DIVERSE PEOPLE IN SEXUAL AND REPRODUCTIVE HEALTH SERVICES

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BACKGROUND: *"Bridging The Chasm"*, a SRH-R project implemented by Positive Vibes, through Amplify Change, partners with LGBTIQ and sex-work organisations in five Southern/East African countries to increase quality access to effective, appropriate sexual and reproductive health services for sexual and gender minorities; promote rights-forward approaches to health; and utilise local evidence to influence practice and improve policy engagement. Monitoring, accountability, public participation, active citizenship, democratisation of public health and good governance constitute underlying concepts and activities.

DESCRIPTION: In 2019, LGBTIQ and sex work organisations applied *"Setting The Levels (STL)"* amongst their constituencies in Lusaka, Harare, Francistown, Walvis Bay, Gulu and Mbarara. This participatory methodology for systematic community-led monitoring of health facilities supported diverse populations, communities and healthcare workers from 18 local facilities to review, reflect and dialogue around their distinct perspectives, perceptions and experiences of healthcare, and plan for measurable, accountable improvement.

LESSONS LEARNED: Of several universal themes across five countries, one starkly exposed the intersections between sexuality and gender: that the urgency of SRH-R services prioritises men who have sex with men, and heterosexual, cisgender women. These penis-centric priorities invisibilise lesbian, bisexual and other queer women who have sex with women, and female-bodied trans men, in compound ways that increase their exclusion, vulnerability and marginalisation.

Sociologically, sexuality, safety and pleasure of female-bodied persons are easily dismissed when not functions of associated cisgender, heterosexual male sexual experiences. Queer women and trans men are mysterious – exotic – to healthcare workers who have little understanding of their relationships and can offer little specific information or health education on safety, protection, prevention or risk; or commodities (eg. dental dams; finger cots). Epidemiologi-

cally, queer women and trans men are perceived to be at negligible risk of contracting or transmitting HIV, but little research exists to understand their experiences, behaviours or interactions. Trans men require access to comprehensive sexual and reproductive health, but may not present in settings that are unwelcoming, inhospitable, hostile.

CONCLUSIONS/NEXT STEPS: Effective, rights-forward, equitable policy cannot exist when *"...but not all women"* disclaimers on SRH services apply to populations deemed epidemiologically insignificant. Underserving LBQ women/trans-men is to the detriment of general and HIV-specific health and rights outcomes.

PEF1809

FLEXIBLE AND PARTICIPATING LEADERSHIP DEVELOPMENT PROGRAMS FOR IMPROVING EFFECTIVENESS IN IMPLEMENTING SUCCESSFUL STI, HIV AND TB SERVICE DELIVERY PROGRAMS AMONG TRANSGENDER COMMUNITY MEMBERS IN INDIA

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BACKGROUND: Aarambh Foundaion is a community based organization working on addressing health and human rights issues of Transgender community in northern part of India. Self funded project at Aarambh Foundation, improved its capacity building model to nurture community-leadership in community based organizations for brining improvement in STI, HIV and TB service delivery.

DESCRIPTION: Instead of a narrow focus on HIV, an all-inclusive approach for Transgender was adopted by give emphasis on gender, sexuality, TB, STIs, mental health and legal awareness through an in-house training module. There were training programs for community-ambassadors on overall health and well-being. There were topic-specific modules based on individual interests and areas of work which included outreach and counseling skills . The team members, implementing the STI, HIV and TB intervention were trained on networking, advocacy and sensitization skills.

LESSONS LEARNED: Community ambassadors commenced sessions on general health, sexual health and hormonal treatments during community workshops in the drop in center of Aarambh Foundation. Ambassadors were inspired to pursue further improved courses on addressing human rights of Transgender Community. The team members, implementing the STI, HIV and TB intervention fronted advocacy initiatives with law enforcement, Judicial members and policy makers for sensitization of their work and campaigns.

CONCLUSIONS/NEXT STEPS: Convenient and partaking capacity building modules create platforms for community-based leadership that is empowering the Transgender community members and its also important for improving effectiveness in implementing successful STI, HIV and TB service delivery among Transgender community members.

SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

PEF1810

NO RIGHTS, NO HEALTH; PEOPLE BEFORE PATHOLOGY: PUTTING THE "HUMAN" BACK IN "HIV"

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[1]*Positive Vibes Trust, Cape Town, South Africa*

BACKGROUND: *"Bridging The Chasm"*, a SRH-R project implemented by Positive Vibes, through Amplify Change, partners with LGBTIQ and sex-work organisations in five Southern/East African countries to increase quality access to effective, appropriate sexual and reproductive health services for sexual and gender minorities; promote rights-forward approaches to health; and utilise local evidence to influence practice and improve policy engagement. Monitoring, accountability, public participation, active citizenship, democratisation of public health and good governance constitute underlying concepts and activities.

DESCRIPTION: In 2019, partner organisations applied *"Setting The Levels (STL)"* amongst their constituencies in Lusaka, Harare, Francistown, Walvis Bay, Gulu and Mbarara. This participatory methodology for systematic community-led monitoring of health facilities supported diverse populations, communities and healthcare workers from eighteen facilities to review, reflect and dialogue around their distinct perspectives, perceptions and experiences of healthcare, and plan for measurable, accountable improvement.

LESSONS LEARNED: Immersion across multiple local contexts confirm a core Project belief: that the artificial separation of health systems (perceived as professional; educated; technical; clinical; providers) from community systems (perceived as informal; uneducated; beneficiaries) creates an unnecessary, problematic disconnect between human beings who – being equal under the law, and in fundamental rights and dignity – occupy a shared local system for health, comprised of complex, delicate relationships, interactions and interconnections.

Policy, programme and strategy mirror this dehumanising schism, where "SRH" health priorities are passively isolated, or actively divorced, from "SRR" rights obligations. Where health workers promote and incentivise services to *"find those ones who are hiding, and close the tap on HIV."* Where spaces and language, text and rhetoric pathologise and vilify diverse identities. Where governments court multi-million-dollar contributions in international aid to deliver priority services to populations they publicly disavow, legally disenfranchise and aggressively persecute.

CONCLUSIONS/NEXT STEPS: 2019 project evidence illustrates, compellingly, that amongst sexual and gender minorities, HIV prevention and treatment outcomes through sexual and reproductive health services cannot be effectively realised without sexual and reproductive rights. A rights-forward perspective within the African HIV response is no luxury. Restoring the "human" at the centre of HIV -- and the dignity of personal expression and intimate choice – is an essential component in achieving the end of AIDS.

PEF1811

ACCESSING SEXUAL AND REPRODUCTIVE HEALTH SERVICES FOR WOMEN LIVING WITH HIV IN MYANMAR

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BACKGROUND: Due to 24% new incidences of HIV infections among girls and women in 2015 in Myanmar, National Strategic Plans (NSP) on HIV and AIDS prioritized the accessibility and quality of prevention of mother to child transmission (PMTCT) services. However, WLHIV are still facing significant barriers in accessing sexual and reproductive health (SRH) services due to conservative norms on female sexuality.

METHODS: Myanmar Positive Women's Network (MPWN), a national network of women living with HIV (WLHIV) conducted the community led qualitative study from January to March 2018. Twenty WLHIV from Pathein, Monywa and Magwe Regions were interviewed to document their experience in accessing SRH services including Prevention of Mother to Child Transmission (PMTCT).

RESULTS: Condoms, contraceptive pills and 3-month depo injections were commonly used while Intrauterine device was less accessible because of the higher cost compared to other methods. When receiving the services for contraception, two out of twenty WLHIV did not disclose their HIV status as they thought it is not relevant.

Many interviewees reported extremely limited information of safer pregnancy including availability of antenatal services at hospitals or clinics with trained doctors. Some of them received the prejudice suggestions like 'WLHIV shouldn't have kids' from healthcare providers. The hospital staff pressured one woman to get sterilization because she was HIV positive instead of providing accurate information on PMTCT. Interviewees also reported specific discriminatory behavior from service providers including extra fees for surgery.

Since abortion is illegal in Myanmar, four interviewees undergone unsafe abortion by using harmful practices such as "stepping on the abdomen" and "putting cotton swabs in the uterus."

CONCLUSIONS: Stigma and discrimination are major barriers to accessibility of required SRH services for WLHIV. SRH realization for WLHIV should expand beyond PMTCT and include age specific sexual education, informed decisions on evidence based SRH services, and safe abortion. WLHIV should be included in all aspect of design and implementation stage of SRH policies as well as delivering the services.

PEF1812

HARMFUL ABORTION PRACTICES BY YOUNG SEXWORKERS IN ZIMBABWE

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BACKGROUND: CASDI Trust, a local Zimbabwean non-profit organization is currently implementing an SRH program in Harare and Masvingo provinces with an objective of improving access to relevant SRH information, HIV and SRH services by young people including key population groups such as young sexworkers. Research from the operational area has shown that there is an increased number of young people aged between 14 and 24 seeking post-abortion care services, and increased reported cases of baby dumping especially in Masvingo Province. However, there no evidence in official health records that indicate abortion services being a sought after service.

DESCRIPTION: The program actively engages in school and out of school young people through youth hubs in both rural and urban operational areas where HIV testing and counselling services are provided, as well as contraception services. This is done in partnership with other NGOs that offer specialized SRH services in the community. The youth hubs act as centres where young people gather, socialize and also have access to relevant SRH services. Trainings on community based advocacy are conducted CASDI Trust and key stakeholders such as policy makers actively participate in the program.

LESSONS LEARNED: The table below is a summary of the most popular abortion methods and procedures used by young people aged between 14 - 24, especially those that are actively engaged in sexwork. This data was obtained from the youth hubs:

Abortion Method	Procedure
Euphorbia Tirucalli (Rubber Euphorbia)	The hedge produces a milky substance that is believed to be strong enough to terminate the pregnancy. The fresh part of the hedge is directly inserted into the vagina until bleeding occurs.
Ricinus Communis (Castor Oil Plant)	The leaf of the plant is boiled to produce a concoction that is consumed by the patient. Some of the leaves are directly inserted into the vagina until bleeding occurs.
Coca-Cola Soft Drink and Bicarbonate of Soda	The Coca-Cola soft drink is boiled and then Bicarbonate of soda is added to produce a concoction that is believed to eliminate the pregnancy.
Crochet Hook	The crochet hook is directly inserted into the vagina and the uterus to hook out the developing foetus. Most of those who chose to use this method die from excessive bleeding.
Wire Hanger	The principle is the same as the crochet where a wire hanger is inserted into the vagina and the developing foetus is pulled out. Most of those who chose to use this method die from excessive bleeding.
Family Planning Pills Overdose	An overdose of family planning pills is done, usually 2 or 3 tablets taken per day until bleeding occurs.
Abortion Pills (mifepristone and misoprostol)	Those who can afford to purchase the abortion tablets either from outside Zimbabwe, illegal black market or backdoor dealings with health personnel from registered facilities usually do not follow recommended procedures. Tablets are administered privately in their homes, and some pregnancies will be beyond the recommended period for abortion leading to pregnancy complications or death.

[Table]

There is evidence that young people, especially young sex workers are actively aborting using harmful practices, and that there are many undocumented abortion deaths that have occurred as a result of the illegal nature of abortion in Zimbabwe. Current law in Zimbabwe views abortion as a criminal offence if not authorized by the court of law, leading to such harmful practices.

CONCLUSIONS/NEXT STEPS: CASDI Trust will continue to gather relevant information through its youth hubs, and continue to advocate for policy change on Zimbabwean abortion laws.

PEF1813

EMPOWERMENT OF MARGINALIZED WOMEN IN MYANMAR FOR EVIDENCE BASED SELF-ADVOCACY ON SEXUAL AND REPRODUCTIVE RIGHTS

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BACKGROUND: Marginalized women including women living with HIV and sex workers face significant challenges in accessing sexual and reproductive health (SRH) services, due to prejudice in traditional values, discrimination and systematic barriers. Community-based organizations (CBOs) play an instrumental role in providing necessary support these women need. However, their ability to advance their advocacy goals is limited. CBOs need support in identifying existing opportunities, enhancing their advocacy skills, and engaging in dialogues for structural reforms.

DESCRIPTION: In 2017, Asia Catalyst conducted a year-long program to strengthen documentation and evidence-based advocacy skills of CBOs. Ten community leaders from four CBOs, including Myanmar Positive Women's Network (MPWN), a national network of women living with HIV(WLHIV), and Right to Health Action Myanmar (RHAM), a sex worker group participated in this project. AC organized a series of capacity building workshops with a participatory peer-to-peer learning approach, centered on community-lived experiences, and local contexts. Subgrants were provided to conduct community led documentation and self-advocacy projects with a focus on SRH rights. AC staff held regular coaching via phone call or face-to-face meeting throughout the entire program.

LESSONS LEARNED: During the program period, MPWN and RHAM interviewed 20 WLHIV and 22 sex workers on the barriers to access to SRH services. MPWN and RHAM developed two policy briefs with policy recommendations, and used these evidence to press for change. MPWN presented the findings in the National Women Forum and was invited to consultation meetings on drafting the SRH policy in 2018-2019. MPWN successfully lobbied draft policy to prioritize issues including safe abortion, accessible and appropriate SRH information and services for marginalize women. At local level, MPWN and RHAM organized meetings with service providers to discuss the issue of discrimination in health care setting in 2018.

CONCLUSIONS/NEXT STEPS: AC believes that with the right mix of knowledge, tools and networks, CBOs can make sustainable changes to protect the rights of their communities. During the democratization in Myanmar, CBOs should seize the opportunities to enhance SRH rights through collective voices and bottom up approach. AC's program seeks to address capacity gaps of community leaders and to promote their meaningful participation pursuing advocacies.

PEF1814

STRATEGIC PARTNERSHIPS FOR OPTIMAL HIV TREATMENT ACCESS

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BACKGROUND: Despite significant progress made in the past decade to increase access in HIV care, accelerating availability of new optimal HIV treatment options is major priority for the global HIV community. WLHIV in Sub Sahara Africa have had little or no information on their ART regimens. There is need to accelerate access for patients in low- and middle-income countries to new products that are tolerable, accessible, available and easy to administer.

METHODS: Communities of WLHIV with membership from different countries in Sub Sahara Africa were constituted and included; young mothers. They were to sensitize the community the importance of adherence and the need to have an optimized HIV treatment and its benefits. Several consultations were done in various settings where they engaged with policy makers on accessibility to new optimal ARVs. Advocacy was done with scientific backing with members from all levels, starting from the Ministries of Health, development partners, policy makers to the community in their respective countries.

RESULTS: Under the Academic Model for Prevention and Treatment of HIV and the Kenyatta National Hospital, twenty thousand (20,000) women living with HIV patients who were on 3TC/NVP/TDF are now switched to 3TC/TDF/DTG, including more than five thousand (5,000) newly initiated women. Currently in 80% of facility in Sub Sahara Africa, have experienced less defaulters since many experiencing a lesser pill burden. The general health of many women on Dolutegravir based regimens have greatly improved due to rapid viral suppression.

CONCLUSIONS: Dolutegravir the standard of care drug in many developing countries poised to transform the ARV market in low- and middle-income countries. The community of women living with HIV are a vital link between the global HIV community and the community of people living with HIV. They advocated for optimal HIV treatment, they created demand for optimal products available and drove uptake towards improved quality of life of people living with HIV in low- and middle-income countries thus contributing to the global target to reduce the burden of HIV and AIDS deaths.

PEF1815

THE GAP IN DREAMS PROGRAMMING: AGYW WITH SPECIFIC CONCERNS

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BACKGROUND: Adolescent girls and young women (AGYW) aged 15-24 in sub-Saharan Africa remain disproportionately affected by HIV, where HIV prevalence among AGYW (3.4%) is more than twice the prevalence of HIV among their male peers (1.6%). AGYW with specific concerns, such as those engaged in sex work, living with disabilities, and those who are part of the LGBTQI+ community, inject drugs, or have been incarcerated, are at even higher risk of HIV and are likely to experience discrimination, violence, and barriers to accessing HIV prevention services.

DREAMS, a $800 million public-private partnership introduced by the President's Emergency Plan for AIDS Relief (PEPFAR), aims to reduce new HIV infections among AGYW by 40 percent in 15 sub-Saharan African countries.

METHODS: From 2016-2019, CHANGE conducted three fact-finding trips to assess the DREAMS programs in South Africa (2016), Kenya (2016), Uganda (2017), Eswatini (2017), and Malawi (2019). CHANGE led semi-structured interviews with U.S. Missions, DREAMS interagency teams, AGYW in DREAMS districts, and approximately 100 civil society organizations that do and do not receive DREAMS funding. Interviews were audio recorded, transcribed, and coded. Country-specific findings were published separately, but this is the first time results have been analyzed across all five countries.

RESULTS: Across countries, CHANGE found that DREAMS programming falls short in providing targeted services for AGYW with specific concerns because they are often not explicitly considered in program design. In some cases, partners reported referring beneficiaries to other programs designed to address their specific needs, such as LINKAGES, PEPFAR's primary program to reduce HIV transmission among key populations including men who have sex with men, transgender persons, sex workers, and people who inject drugs. A Malawian DREAMS partner reported referring beneficiaries to LINKAGES, but LINKAGES only targets AGYW that self-identify as sex workers, trans persons, or persons who inject drugs.

CONCLUSIONS: Across DREAMS country programs CHANGE assessed, AGYW with specific concerns fall in the cracks between the DREAMS and LINKAGES programs. Moving forward, CHANGE recommends that PEPFAR explicitly include AGYW with specific concerns in DREAMS program design and report to Congress on the impact of this work on HIV prevention efforts.

PEF1816

CHALLENGING VIOLENCE AGAINST WOMEN AND GIRLS THROUGH MEDIA INVOLVEMENT

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BACKGROUND: Over the past 25 years, significant progress has been made towards eradicating violence against women but much more remains to be done. Women's rights movements, and the implementation and evolution of the international women's human rights framework, resulted in an increased understanding that violence against women is gender-based, a form of discrimination and a violation of human rights. Today, the main challenges are the lack of full protection of women's rights as human rights, coupled with the lack of integrated laws and policies against such violence and the absence of comparative data on different forms of GBV
ICWEALaunchedthe campaign against VAWG

DESCRIPTION: On the 27/11/2019, ICWEA launched a campaign on EVAWG And held several activities that included a press conference to mark the beginning of 16 Days of Activism, with Key Speakers representing Women and Young People Living with HIV, Sex Workers & KPs
event whose road map had begun month back with campaigns running on media outlets in Uganda social media started with a peaceful foot march through the Ugandan capital Kampala. Participants and included; WYLHIV, Sex workers (all gender inclusive), Transgender Men and Women, People with disabilities, culture leaders, religious leaders, police, Government officials.
Six hashtags were created to be used on Facebook and Twitter; #ICWEAStrongTogether, #EnoughIsEnough, #EndVAWG, #PeersMakingItHappen, #Humanisingnotstigmatizing, #We'reNotDone.

LESSONS LEARNED: Problem shared is half solved, ICWEA worked with over 30 journalists, to publicize the campaign. Our hashtag was the most trending.
The involvement of different stakeholders made the event a success. Leaders of every diversity were selected to become champions of ending VAWG.
Increase on Commitment, The Dutch Ambassador "The Dutch government remains committed to ending all forms of violence against women and girls. The Embassy in Kampala will always strengthen partnerships in order to bring to an end this preventable scourge".

CONCLUSIONS/NEXT STEPS: People especially women were given an opportunity, platform, and safe space to disclose their HIV status and encounters of violence.
There is continuous follow up especially with the messages that were shared before, during and after the launch of the 16 Days of Activism.

PEF1817

IMPACTS AND OPPORTUNITIES: BUILDING ALLIANCES IN THE AGE OF GAG RULES

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BACKGROUND: The global gag rule is affecting the global fight against HIV/AIDS on an unprecedented scale by directly applying to PEPFAR-funded programs for the first time and a version of it is now in place on the U.S. domestic family planning program. The expansion has widened the scope of the harm caused by the policy, but also created opportunities to forge deeper alliances across HIV, family planning and reproductive health communities and advocates working on both U.S. domestic and foreign policy.

DESCRIPTION: This abstract will provide participants an overview of the global gag rule and its domestic counterpart; detail impacts documented and what they foreshadow if the policies remain; highlight advocacy alliances forged across diverse sectors and partners; and provide examples of innovative policymaker engagement in the effort to end these policies.
The presentation will explore lessons learned and tools from the fight against both the gag rules that could inform advocacy and resilience - and the end of both policies.

LESSONS LEARNED: Research conducted by Planned Parenthood Global through interviews with 22 frontline experts in global health and human rights programs and policy from seven countries revealed key themes, which have been reinforced by additional academic and NGO research:

- The global gag rule weakens civil society.
- The global gag rule disrupts the delivery of a range of health services.
- The global gag rule is halting national policy progress on health and human rights.

In the 3+ years following the expansion of the global gag rule, advocates across a range of sectors have leveraged these findings in innovative advocacy to increase awareness of the policy and broaden the set of stakeholders, including policymakers, with a record number of diverse organizations and policymakers calling for an end to the policy.

CONCLUSIONS/NEXT STEPS: This presentation will provide new insight into the impact of gag policies on HIV/AIDS programs and engage participants in a discussion about the successes and need for more collaboration across HIV, family planning and reproductive health programs and advocacy to end the global gag rule. The presentation will explore how to sustain these alliances after the immediate crisis of the gag rule is lifted.

CHILDREN'S RIGHTS AND HIV

PEF1818

THE NATIONAL YOUNG PEOPLE'S PLANNING FORUM (NYPPF) EXPERIENCE: DEVELOPING THE PHILIPPINE OPERATIONAL PLAN TO ADDRESS HIV/AIDS THROUGH CAPACITY BUILDING AND EMPOWERMENT OF CHILDREN AND ADOLESCENTS

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BACKGROUND:
There is a need to strengthen mechanisms to enable incorporation and consideration of inputs of children and adolescents as primary recipients of policies and plans which are being developed for them. Since the Philippine government has recently enacted its comprehensive HIV/AIDS law which is currently being complemented by a plan of action to achieve the 90-90-90 target, the Committee on Children and HIV/AIDS of the Philippine government's Council for the Welfare of Children issued a catalyzing resolution which led to the involvement of children and adolescents in the finalization of said documents.

DESCRIPTION:
The National Young People's Planning Forum was the conclusion of a series of engagements with the public, private, and youth sector to form the operational plan of the Philippine HIV Medium-Term Strategic Framework. It was conducted on December 2018 in Manila and gathered around 200 adolescents from 17 Philippine geographical regions. The program was led by *animators* who were adolescents and who were trained on both child rights and HIV tenets. During the NYPPF, the adolescents were provided a platform to prioritize strategic directions and to recommend the activities which shall be in place to implement the targets.

LESSONS LEARNED: It was amplified through the NYPPF that child and adolescent participation is feasible in HIV policy programming. The participants highlighted the need to strengthen the social service and child protection perspective in addressing HIV as it affects the youth to veer away from the *reactive* health service delivery. Furthermore, the participants emphasized the need to establish a prevention framework for YKP based on their experiences.

CONCLUSIONS/NEXT STEPS: The conduct of the NYPPF served as a good practice of child participation as it peaked on allowing children to develop frameworks for consideration by the duty bearers. Ideally, once implemented, the adolescents should acquire *ownership* on the plans that they developed thus leading to their further participation on the implementation of the plan. The results of the NYPPF will also be presented to the CWC Board as the highest policy making body of the Philippine government on children for consideration in the development of further policies and guidelines as established evidences by young people.

REPRESENTATIONS OF STIGMA: SOCIAL ATTITUDES, MEDIA AND PUBLIC DEBATE

PEF1819

PUBLIC COMMUNICATION ON TWITTER ALSO EXPRESSES A BACKLASH IN THE BRAZILIAN RESPONSE TO AIDS

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BACKGROUND: Brazilian HIV/AIDS prevention and treatment initiatives have used social media. Twitter is an important civic engagement tool and Brazilian Ministry of Health (BMH) keeps using Twitter for HIV/AIDS communication (HAC) after the extinction of the HIV/AIDS department in mid-2019. We aimed to characterize changes in Brazilian public HAC on Twitter.

METHODS: We used a mixed method approach including text mining, Bitterm Topic Modeling for Short Text and data annotation. Two major communication periods were identified: from early 2011 to mid-2019 and from mid-2019 onward. In the first, HAC was posted by the HIV/AIDS department. In the second period, HAC has been posted only by the main BMH Twitter account. We analyzed 6.419 (1st) and 3.238 (2nd) tweets. The number of topics to be modelled was specified by the highest log-likelihood criteria, yielding 42 (1st), and 37 (2nd).

RESULTS: For the first period, the annotation process indicated as meaningful topics condom use (n=14), HIV testing (n=7), pre-exposure prophylaxis (n=2), post-exposure prophylaxis (n=1) and stigma (n=1). Of these, the majority (n=17) included the words "HIV" or "AIDS". Seven topics contained behavior change words, like "use". In the second period just one topic was HIV related, characterized by the words "condom" and "sexually transmitted infections". The deactivation of the HIV/AIDS Program HAC account shows a political and institutional backlash, and changed the quantity and content of HAC by the BMH. Considering both periods, no topic indicated words pointing to vulnerable groups and scarce mentions on topics on social vulnerability such as stigma. The previous communication, unbalanced towards condom use and HIV testing, was replaced by one restricted to condom use with a general STI appeal, suggesting that new HAC might foster HIV/AIDS unawareness. Finally, our analysis indicates that most HAC aimed behavior change and to inform about HIV/AIDS themes, neglecting beliefs, attitudes, culture or broader social context.

CONCLUSIONS: These findings highlight the challenges of theory and practice in HIV/AIDS communication. Our approach can nurture future studies aiming to identify health communication changes followed by drastic shifts in sociopolitical contexts.

IMPLICATIONS AND BACKLASH TO THE GROUPING OF AND LABEL OF "KEY POPULATIONS" ON REACHING HIV RESPONSE TARGETS

PEF1820

DIFFERENTIATION IN DIFFICULT ENVIRONMENTS: OFFERING CLIENT-CENTERED OUTREACH STRATEGIES TO SUPPORT MEN WHO HAVE SEX WITH MEN TO KNOW THEIR HIV STATUS IN JAKARTA, INDONESIA

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BACKGROUND: Differentiated outreach service delivery approaches that assist men who have sex with men (MSM) to learn their HIV status are critical in programmatic contexts where key population behaviors are stigmatized or criminalized, and community- and self-based HIV testing modalities are not fully actualized. Offering a variety of iterative outreach entry points that meet the differentiated preferences of this heterogenous population can provide effective, efficient, and protective ways to reduce the impact of HIV on individuals and help national programs move toward epidemic control in complex programmatic environments.

DESCRIPTION: The LINKAGES project, supported by USAID and PEPFAR, has activated nine discrete outreach streams in Jakarta, Indonesia, to assist MSM to learn their HIV status. Four face-to-face outreach approaches capitalize on paid community-based supporters or volunteer peer mobilizers to promote HIV testing behaviors. Five online outreach strategies utilize online outreach workers, social influencers, targeted advertisements, campaign messaging, and dedicated chatbots to direct MSM and other at-risk men to an online platform in which they can self-assess their risk behaviors and make appointments for HIV testing at key-population-friendly clinics.

LESSONS LEARNED: From July 2018 to September 2019, 23,826 self-identified MSM availed testing services, with 2,956 identified as HIV positive. Average quarterly case-finding rates increased by 17% following activation of all outreach streams. These case-finding efforts identified 95% of total MSM diagnosed with HIV in Jakarta over the 14-month period.

CONCLUSIONS/NEXT STEPS: Ending the AIDS epidemic in Indonesia is unthinkable if people who are at high risk of HIV infection are not getting services in ways that meet their needs in order to stay healthy. Providing a variety of testing entry points can help to expand HIV programmatic coverage among a city's most vulnerable residents, even in disabling programmatic contexts.

EXPERIENCES AND IMPACTS OF HOMOPHOBIA AND TRANSPHOBIA

PEF1821

ENABLING POLICY DEVELOPMENT TO CREATE A FRIENDLY WORKPLACE ENVIRONMENT FOR VULNERABLE MSM AND TRANS INDIVIDUALS IN CORPORATE AND EDUCATIONAL INSTITUTIONS

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BACKGROUND: While consensual same-sex sexual acts have been decriminalized in India, there are limited laws/policies that protect discrimination of MSM and Trans communities in workplaces and educational institutions. Humsafar Studies show that 65% of Trans Individuals drop out of school due to bullying and harassment and subsequently are less motivated to engage in stable employment as they fear continued discrimination and harassment. Lack of MSM and Trans friendly workplace policies results in low self-esteem, fear, heightened exposure to bullying, harassment, poor performance at work and lack of job security. Hostile attitudes towards MSM/Trans communities also contribute to employment inequality, marginalization and socio-economic alienation for MSM/Trans at workplaces and educational institutions.

DESCRIPTION: The Humsafar Trust is a Community Based Organisation (CBO) working in 27 states of India which focuses on capacity building and sensitization of key policymakers and stakeholders. The advocacy initiative undertakes capacity building of corporates and educational institutions to have non-discriminatory policies, community support groups to address issues of violence and harassment faced by MSM and Trans individuals. Different methodologies including discussions, presentations and staging MSM/trans themed plays are used to engage corporates and educational spaces for MSM/Trans friendly policy development and innovative initiatives to create safe spaces for MSM/Trans communities.

LESSONS LEARNED: There is limited social awareness of MSM and Trans communities which often leads to stigma and discrimination of these individuals. In the absence of MSM/Trans friendly policies, violence/assault, redressal cells, individuals hesitate to report these experiences. Legal recourse is limited as well as current laws governing assault and harassment are not gender-neutral and/or do not recognize MSM and Trans individuals.

CONCLUSIONS/NEXT STEPS: Advocacy and sensitization have helped 38 corporates and educational institutions to develop all-inclusive policies and the formation of support networks to enable friendly workplace environments for MSM and Trans communities. It is important to continue advocacy efforts in these spaces that will strengthen community voices and enable them to express their sexuality and enhance their productivity. Making workplaces more inclusive, improved mental health and creation of job opportunities for Trans communities that will reduce their vulnerability to HIV and AIDS and gain more social acceptance.

PEF1822

CRIMINALIZATION OF LGBTIPHOBIC DISCRIMINATION AND VIOLENCE IN BRAZIL: A STEP TOWARDS REDUCING VULNERABILITIES

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BACKGROUND: LGBTIphobic violence and discrimination are rife in Brazil. Official statistics are incomplete, but shadow NGO monitoring points to over 300 LGBTI persons being murdered every year in Brazil for LGBTIphobic reasons. There is no specific federal legislation to protect LGBTI people.

DESCRIPTION: In 2012 and 2013, two lawsuits were filed at the Supreme Court, one requiring recognition of the National Congress' obligation to legislate to criminalize this form of discrimination and violence, and the other to recognize National Congress omission in not legislating thus far on this matter and require that LGBTIphobic violence and discrimination should be criminalized in the same way as racism already is. Our organization and other partner organizations were admitted to the proceedings as amici curiae and attended and spoke at Court hearings, provided written briefs and met with Supreme Court judges and other key stakeholders between 2012 and 2019, advocating for a ruling in favor of the two lawsuits which were judged as one single case as they referred to the same issue.

LESSONS LEARNED: The Supreme Court has eleven judges and we were able to present our case individually to the majority of them in the period prior to judgment, arguing in favor of criminalization and providing legal and other information to support our claim. On June 13th 2019 the Supreme Court completed its judgment of the case and ruled that until such time as the National Congress legislates on the matter, LGBTIphobic crimes shall be punished by the Judiciary in the same way as crimes of racism.

CONCLUSIONS/NEXT STEPS: This case showed the fundamental importance of civil society advocacy efforts in helping to redress social inequalities and vulnerabilities involving key populations affected by the HIV epidemic, providing an example to countries that still criminalize same sex relations, by criminalizing LGBTIphobic actions instead, thus reducing stigma and barriers to health services and promoting awareness and respect. Next steps include advocacy actions in the National Congress for a law that protects LGBTI people as well as local advocacy and social watchdog actions to ensure that the Supreme Court ruling is enforced throughout the country.

HUMAN RIGHTS PROGRAMMES

PEF1823

ADVOCACY FOR THE HUMAN RIGHTS OF KEY POPULATIONS, A VECTOR OF SOCIAL AND LEGAL TRANSFORMATION: A LOOK BACK ON AN AFRICAN-CARIBBEAN-FRENCH INTER-ASSOCIATIVE PARTNERSHIP

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BACKGROUND: Human rights (HR) violations of key populations (KPs) are hampering the global fight against the HIV epidemic. From 2014 to 2018, AIDES and 7 African and Caribbean associations developed a HR project of advocacy in favor of KPs' human rights, thought and carried out by local community-based organizations (CBOs), to promote social and legal transformation.

DESCRIPTION: The same method was followed in each CBO: 1) Reinforcement of advocacy capacities, with creation of one advocacy manager position per association; 2) Use of advocacy activities to raise awareness, mobilize allies and intermediary bodies; 3) Involvement of KPs to support the advocacy.

LESSONS LEARNED: 1. REVS PLUS (Burkina Faso) has transformed the national paradigm on drug policies. An International advocacy, a communication campaign and an ongoing dialogue with public authorities have led REVS PLUS to be responsible for coordinating the national drug strategy. 2. Alternatives Cameroon succeeded, by representing KPs within the Country Coordinating Mechanism of the global fund (CCM), to improve access to health for transgender people in the National Strategic Plan (NSP) on HIV. 3. Espace Confiance (Ivory Coast) produced an alternative report when the country was reviewed within the Universal Periodic Review. One of its recommendations was included: the abolition of the crime of "public indecency", used to discriminate against MSM. 4. COIN (Dominican Republic) was able, by coordinating the institutional commission on drug policy, to convince the Ministry of Health to train its caregivers in harm reduction and obtained the launch by UNODC of a study on the limits of the current legislation on drugs. 5. ANSS (Burundi) advocated towards the members of the CCM so that the PWUDs were taken into account in the NSP.

CONCLUSIONS/NEXT STEPS: Despite the project having ended, involved CBOs followed-up, each according to their own realities. This experience shows that advocacy in favor of KP's human rights contributes to empower KP, to mobilize their allies and to improve public policies, even in repressive contexts, and thus improve their legal environment. Funding for HR advocacy must therefore continue to be a major focus in the global fight against HIV.

LEGAL ADVOCACY TOOLS AND STRATEGIES

PEF1824

PROMOTING AN ENABLING ENVIRONMENT FOR AN EFFECTIVE HIV RESPONSE AMONG KEY POPULATIONS THROUGH COMMUNITY-BASED LEGAL AID SERVICES AND LEGAL LITERACY IN MYANMAR

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BACKGROUND: Although the protection of human rights is one of the guiding principles of Myanmar National Strategic Plan on HIV, repressive laws and policies fuel stigma and discrimination against key populations (KP) hampering their access to HIV services

DESCRIPTION: A community-based legal aid program has been established by the Sex Worker Network in Myanmar (SWiM) to promote access to justice and legal literacy for KP while ensuring continuity of ART during the trial period, in Yangon. Between July 2018 and September 2019, SWIM received several cases through its hotline, analyzed them with the support of UNAIDS and selected the ten most vulnerable -4 relating to sex workers (SW), 4 to people who use drugs (PWUD) and 2 to people who have sex with men (MSM). Two lawyers provided legal aid services to these KP who were unjustly arrested throughout the trial period. In addition, trainings on Human Rights and legal literacy were conducted by Lawyers for 106 KP in three regions.

LESSONS LEARNED: Three out of the ten cases (2 MSM and 1 PWUD) were cleared of all allegations made against them while 3 PWUD were sentenced to five years of imprisonment and 4 SW to one year of imprisonment. In the latter case, SW were convinced by police to confess that they were SW which is subject to a penalty of up to one year in prison. As SW are often the sole breadwinner of the family, they may opt for the confession rather than spending time preparing for trial. Doing so, they however take more risk to be arrested and face potentially longer prison sentences as they are registered as SW in police record. This lesson was included in the basic human rights and legal literacy training to help SW carefully consider their options before making a decision

CONCLUSIONS/NEXT STEPS: Lessons learned from this program have been used in advocacy with relevant stakeholders to endorse the new draft law that decriminalizes sex workers. Such community-based legal aid services and legal literacy programs need to be scaled- up to foster an enabling environment for KP- a prerequisite for fast-tracking the HIV response in Myanmar

PEF1825

POLICE ADVOCACY FOR MSM AND TGH COMMUNITY: SENSITIZING THE LEGAL ENFORCEMENT AGENCIES ABOUT THE ISSUES AND RIGHTS OF LGBTQ COMMUNITY THROUGH ADVOCACY

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BACKGROUND: In 2001, for the first time we came across the instance of police officials obstructing outreach work conducted by Targeted Intervention staff of The Humsafar Trust, who were creating awareness among MSM/TGH about HIV & STI and use of condoms. To address this issue we started advocacy with law enforcement agencies on dispelling myths and misunderstandings around HIV/STIs and condom usage. This further included conversation son social discrimination, crisis(extortion, bullying and blackmailing) faced by MSM/TGH, discrimination in education and workplaces against the LGBTQ community on account of their sexuality and gender expression and adverse legal environment caused due to Section 377, that until 2018 criminalized consensual homosexual sex.

DESCRIPTION: We started advocacy in co-ordination with Mumbai District AIDS Control Society. On 110 outreach sites, we analyzed the areas and marked the nearby police stations for conducting awareness programmes. We visited each police station and discussed the issues faced by the community. We informed the police about HIV/AIDS and STI, rights and issues faced by MSM and TGH community pertaining to health and crisis. For this sensitization we used IEC materials, penis models and Condoms provided under government program. Till date we have reached out to over 5000 police at total 110 sites and raised awareness about the issues and discrimination faced by the MSM and TGH community.

LESSONS LEARNED: We have learnt that it is possible to work with the police and develop them as an ally in HIV/AIDS Targeted Intervention program. At present the police on these sites co-ordinates with us on crisis cases faced by the MSM and TGH community and helps through the legal procedures. An improved rapport with the police department has made the process of getting permission from police for other LGBTQ rights based events much easier over the years.

CONCLUSIONS/NEXT STEPS: These efforts helped us in making HIV/AIDS intervention program on the ground fear free. It also enabled mainstreaming issues of MSM and TGH. Our future goal is to effectively reach more such people in police, army and politicians and to engage in a healthy discussion through such sensitization drives for effective outcomes.

PEF1826

ARTICULATING TRANSNATIONAL MOBILIZATION AND NATIONAL LAWMAKING: LESSONS FROM THE ADVOCACY FOR THE WORLD HEALTH ASSEMBLY TRANSPARENCY RESOLUTION IN FRANCE

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BACKGROUND: The transparency resolution for health products proposed by Italy during the 2019 World Health Assembly (WHA) generated considerable opposition from some high-income countries. In the context of opaque price-setting negotiations and strong intellectual property rights, securing the adoption of the resolution was particularly challenging for civil society and required targeted advocacy among governments along with organizing citizen mobilization worldwide.

In France, using these techniques enabled organizations to push the government towards more transparency and improved access to HIV/AIDS therapeutic innovations.

DESCRIPTION: In line with WHA and French parliamentary agendas, advocacy strategies were deployed from February to December 2019. Along with other organizations, Doctors of the World, Global Health Advocates and AIDES' information and advocacy campaigns first targeted the Ministry of Health, which did not release any official

position. Therefore, lobbying was shifted towards parliamentarians, informing them on the resolution and submitting oral questions to the government.
This lobbying campaign was backed by international alliances, grassroots mobilization (online demonstrations), and direct questioning of the government in social networks and the press. Pressure was put on French decision-makers, ultimately leading to a clear positioning of France in favor of the resolution.
Following this resolution, during the drafting of the 2020 Social Security Financing Bill for September, civil society led a new campaign to make sure the government's commitments were followed by actions. In December, the parliament adopted with a large cross-partisan majority a key amendment stating pharmaceutical firms will have to publish the amount of public subsidies received for the development of treatments.
LESSONS LEARNED: Multiscale advocacy and campaigns compelled France to take a symbolic public stand in favor of the transparency resolution on the day of the vote. By redeploying similar strategies nationally, civil society led decision-makers to adopt legally-binding transparency measures.
CONCLUSIONS/NEXT STEPS: This campaign created a cross-partisan consensus in favor of more transparency in price-setting negotiations. Unfortunately, the measure adopted by the parliament was censored by the constitutional council for procedural reasons. Next step will thus be to advocate for a re-adoption of the measure, the drafting of new transparency propositions, and towards an effective enactment of the transparency resolution by regulatory authorities.

PEF1827

OPPOSITION AGAINST THE PATENT COVERING TISAGENLECLEUCEL, LESSONS FROM HIV TO ADDRESS MONOPOLY ABUSES IN CANCER

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BACKGROUND: With the introduction of antiretroviral (ARV) treatment against HIV in the 1990s, it became clear that exorbitant prices of medicines permitted by patents and associated monopolies - were limiting access to life-saving treatment in low- and middle income countries. Advocacy and legal measures by governments and civil society against these monopolies led to the possibility of generic production ARV which was followed by a sharp reduction in prices. In the 2010's, similar difficulties appeared even in the world's richest countries with hepatitis C treatment at prices that forced health systems to organize rationing.
Today, new cancer treatments are marketed at exorbitant prices. CAR-T therapies cost up to $475,000 per patient (€280.000 Euro in Europe). These prices present a major challenge for access to cancer therapies as well as the sustainability of health systems. To defend the right to health, Medecins du Monde and Public Eye built on advocacy tools originally developed in the fight against AIDS and hepatitis, including patent oppositions.
DESCRIPTION: Patents are granted based on three criteria: novelty, inventive step and industrial application. A patent opposition is a legal procedure for challenging the validity of a granted patent. After the proceeding, the patent may be maintained, amended or revoked. When revoked, the legal effects associated with the patent are suspended, including monopoly rights. Patent oppositions therefore make it possible to act against unmerited monopolies.
In July 2019, both NGOs filed an opposition at the European Patent Office (EPO) against a patent covering Tisagenlecleucel, a cell therapy against cancer, arguing that it lacks an inventive step.
LESSONS LEARNED: November 2019, Novartis and the University of Pennsylvania requested revocation of the opposed patent.
Other patents are in force so that it is still not possible to produce cheaper biosimilar versions. However, the revocation demonstrates monopoly abuses on new cancer treatments. By weakening intellectual property, this opposition makes it easier for government to negotiate fairer prices.
CONCLUSIONS/NEXT STEPS: This initiative demonstrates the benefit of using advocacy strategies developed for HIV in the cancer fight. The input will discuss convergences and differences in political strategies in access to affordable medicines around HIV and cancer.

PEF1828

ATTB/HIV – ADVOCAY TB/HIV TREATMENT BRAZIL

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BACKGROUND: Although there are recommendations for preventive treatment of tuberculosis in children exposed to TB and people living with HIV / AIDS, there is no short-term preventive treatment policy in the country (01 dose per week for 12 weeks)
DESCRIPTION: The project, in partnership with the TAG (Treatment Action Group), developed advocacy actions with HIV / AIDS social organizations and the national parliamentary committee against tuberculosis to promote the discussion of including 3HP preventive treatment (rifapentin and isoniazid) for children. exposed to TB and people living with HIV / AIDS. Meetings were held between government, civil society and parliamentarians. A strategy of opposition to 3HP's intellectual property registration in the country was also established.
LESSONS LEARNED: Most social and parliamentary organizations were unaware of the possibility of short-term treatment with 3HP (Rifapentina and Isoniazida), advocacy actions were carried out to contribute to the construction of a public policy for access to preventive treatment of short-term TB. 3HP for people living with HIV / AIDS. The National Commission of Parliamentarians against TB has set an agenda for public hearings on the theme for 2020 with the participation of civil society, researchers, government representatives and parliamentarians.
CONCLUSIONS/NEXT STEPS: Promote strategic action in the Federal Parliament in March 2020 to raise awareness among parliamentarians of the importance of access to preventive short-term tuberculosis (3HP) treatment for people living with HIV / AIDS and children exposed to TB bacilli. Focus the theme on all national HIV / AIDS events with the objective and clarify the importance of access to 3HP for people living with HIV / AIDS, promote the construction of an information network on TB preventive treatment for people living with HIV / AIDS. AIDS

PEF1829

"NOTHING ABOUT US WITHOUT US": LEGAL ACTIONS AGAINST THE PENALIZATION OF CLIENTS BY SEX WORKERS AND COMMUNITY-BASED ORGANIZATIONS IN FRANCE

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BACKGROUND: In France, if sex work is legal, the conditions under which this activity is carried out are illegal. Furthermore the penalization of clients was established by the law in April 2016. This legal framework contravenes the objectives of public health and access to rights: it increases vulnerabilities and violence against sex workers (SW), has a negative impact on SW's health and rights as well as it makes more difficult for them to negotiate safe-sex practices. To challenge this harmful legal framework, community-based organizations decided to engage in legal actions.
DESCRIPTION: Legal advocacy took place in two stages:
1) the referral to the French Constitutional Council (CC) by thirty sex workers and supported by 22 non-governmental organizations (NGO) in order to invalidate the penalization of clients under the Prostitution Law. On February 1, 2019, the CC issued its decision. While it recognized that sex work could be carried out freely, it relied on the principle of human dignity to defend the penalization of clients.
2) Following this decision, 254 sex workers working in France decided to bring their case to the European Court of Human Rights.
LESSONS LEARNED: The CC issued a rather negative decision and the legal outcome of the referral to the ECHR is uncertain, but these legal actions also have positive repercussions: mainstreaming of SW's political demands in the media outlets, public awareness of the failures of the law, strengthening alliances. The referral to the ECHR represents an opportunity to create new alliances, expand the social and geographic basis of criticism of repressive laws and strengthen advocacy at European level. This is a strong issue because France and Sweden make abolitionism an axis of their European diplomacy.
CONCLUSIONS/NEXT STEPS: Legal actions by sex workers remind us that public policies relating to sex work cannot be developed without them: by engaging into legal actions, they mobilize their communities and bring back the persons most affected by these laws, the sex workers themselves, at the center of the debate, thus exposing the concrete and harsh consequences of decisions issued without taking into account their health and human rights.

PEF1830

LOOPED IN: A UNIQUE ONLINE TOOL TO EMPOWER AND ENABLE SELF-ADVOCACY FOR PEOPLE LIVING WITH HIV IN THE UK

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BACKGROUND: Around 103,800 people live with HIV in the UK. For most, HIV is a manageable long-term condition. However, HIV stigma contributes to suboptimal experiences – in 2017, 14% reported discrimination in health services that year. People living with HIV are powerful human rights advocates in all settings, but this can lead to 'educator's fatigue'.
DESCRIPTION: Looped in is an interactive online tool allowing people living with HIV to curate information for target recipients in a variety of formats. The information is written by NAT (National AIDS Trust), the UK's HIV policy & campaigns charity. We harnessed NAT's unique expertise in HIV to create individualised, shareable information pages about people's rights on treatment, privacy and employment. The tool aims to empower people living with HIV to realise their rights by aiding interpersonal communication.
NAT designed Looped in through collaboration with a digital partner, and extensive participatory engagements across the UK. This included a design sprint, an initial interview study, a focus group to evaluate prototypes and use scenarios, sustained conversations with potential users about content, and a community launch event. We applied a participatory approach to all worksteams. Since launch we have collected and analysed website data and sought community input to better inform developments and applications of the tool.
LESSONS LEARNED: Qualitative inquiry suggests Looped in has provided a unique and meaningful service to people living with HIV in the UK. One user and support service manager in the south of England said, "Absolutely love, love, love this website [...] Gonna use it as a tool for newbies or ... anyone who hits that part of their rollercoaster ride which may be just all too much". Looped in maintains hundreds of unique users in the UK within a specialised audience, with work ongoing to extend the tool's visibility in clinical, community and online settings.
CONCLUSIONS/NEXT STEPS: Those living with HIV often take on educational roles within medical, professional, and informal settings. Resources such as Looped in present a way in which third sector organisations can support patient self-advocacy, and empower marginalised groups to assert their rights with accurate and trustworthy information.

STIGMA TOWARDS KEY POPULATIONS

PEF1831

KEY POPULATION PRIDE - DIVERSITY AND INCLUSIVITY. #WEAREKPRIDE

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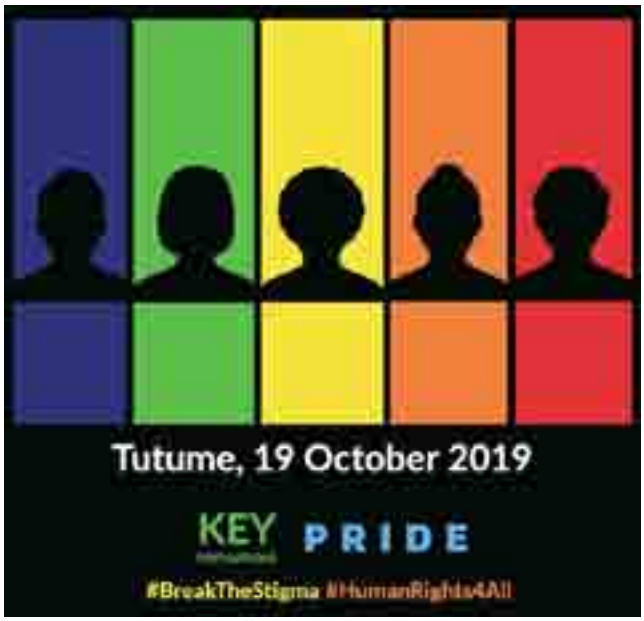
BACKGROUND: The campaign was carried out in one of the most rural areas in Botswana. The campaign came at a time when the area needed education around issues of key populations, their human rights and moreover to have a large scale event to show the importance of diversity in the are and how we can all come together and celebrate our differences. The campaign was targeting 200 KPs in the community. The objectives was to contribute to the reduction of stigma, discrimination, harmful gender norms and cultural norms that make key populations vulnerable. The most important objective was have an activity that played a bigger role on diversity and inclusivity of different key populations that came together to create a safe space.
DESCRIPTION: We redefined the word 'pride' not being your typical parade event that requires sexual/gender orientation disclosure, but to be a campaign that promotes inclusivity and diversity via games

and talks surrounding issues affecting all key populations. The discussions were around stigma and discrimination, human rights and we used games as communication breakers. We made use of the colours that represented different key populations. We invited different stakeholders in the area to bring their services and celebrate with us people who holds certain positions in the area.



LESSONS LEARNED: In a rural area where issues around sexuality, gender roles, sexual practises are not talked about; the campaign came at a right time to sensitise the community that we can coexist together and create a safe space for everyone in the community. It gave the community a chance to have conversations around key populations and be able to learn about their rights as well.

CONCLUSIONS/NEXT STEPS: Campaign that is targeting diversity and inclusivity works so much better as other key populations can be able to appreciate and learn about the rest of the community members.

PEF1832

STIGMATIZING ATTITUDES TOWARDS KEY POPULATIONS (KP) BY MOBILIZERS IN THE CONTEXT OF PREP: A COMPARATIVE ANALYSIS FROM A CROSS-SECTIONAL SURVEY IN KENYA

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BACKGROUND: Stigma towards KP is common and has the potential to impede uptake and persistence on PrEP. Community health volunteers (CHVs) and peer educators (PEs) often champion awareness and demand creation for preventive interventions targeting their own communities and have been identified as stewards of PrEP scale-up within KP networks. However, little is known if and to what extent stigma by these mobilization cadres might affect the scale-up of PrEP among KP. This study examined the intersection of mobilizer cadre and stigmatizing attitudes towards KP within the context of Jilinde, a PrEP scale-up project in 10 counties of Kenya.

METHODS: Data were collected from PEs and CHVs through a cross-sectional survey. Stigmatizing beliefs, intentions and behavior towards KP were assessed using a 14-item Likert scale with five answer options, strongly agree, agree, neither agree or disagree, disagree and strongly disagree. The extremes of the scale were collapsed resulting to a score between 1-3 and a maximum score of 42 points. Composite scores for each participant were computed and factor analysis employed to generate latent variables grouped onto an ordinal scale; positive, neutral and negative attitudes based on their distribution. Ordered logistic regression analysis was conducted comparing stigma scores between PEs and CHVs controlling for multiple predictor variables.

RESULTS: Overall, 589 participants (292 CHVs and 297 PEs) completed the survey resulting in a response rate of 97.8%. Over half (52.1%) of participants were older than 35 years, majority were female (73.9%), never married (44.9%), and most (77.8%) had attained post-secondary education. On the ordered scale, 41.3%, 25.9%, and 33.6% held positive, neutral and negative attitudes respectively. Negative attitudes were universal in both cadres but PEs reported lower odds [OR 0.281(0.174-0.456)]. When controlled for the mobilization cadre, significant ($p<0.05$) higher odds of positive attitudes toward KP were associated with: age younger than 35 years; and, medium and high asset index scores.

CONCLUSIONS: Stigma is perpetuated by mobilizers, irrespective of their cadre, and has the potential to impede uptake and persistent use of PrEP among KP. The rapid scale-up of biomedical interventions demands concomitant implementation of stigma-reduction interventions targeting mobilizers to optimize intervention outcomes for HIV prevention.

PEF1833

STIGMA AND INTERVENTION STRATEGIES FOR ADDRESSING TRANSPHOBIA IN SCHOOLS: RECOMMENDATIONS FROM A QUALITATIVE STUDY IN SÃO PAULO, BRAZIL

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BACKGROUND: Transgender people are one of the most vulnerable groups facing discrimination and aggression within the school environment. This includes gender identity disclosure threats, verbal insults and physical and sexual violence. Among the consequences are lower school performance, higher dropout rates, and poorer physical and mental health outcomes. In Brazil, school bullying is among the most noteworthy reasons why transgender students are unable to complete Basic Education, which means 12 years of education. The aim of this study is to analyze experiences of discrimination among transgender people during their school years, as well as outline a set of recommended interventions to address transphobia in the school environment.

METHODS: We analyzed 27 in-depth interviews (five transmen and 22 transwomen) of participants of the Muriel Project in six municipalities of the state of São Paulo, Brazil. The Muriel Project (2014-2016) was a cross-sectional study of the transgender population with the general objective of characterizing vulnerabilities and health demands. Discrimination reports during the school period were analyzed according to the Social- Ecological Model of Transgender Stigma & Stigma Interventions (SEM). This model classifies the types of stigma and interventions into structural (institutional policies and practices), interpersonal (direct forms of stigma) or individual (individual's feelings).

RESULTS: Structural, interpersonal and individual stigma were found in the reports of the participants during the school period. 24 out of the 27 participants reported having experienced verbal, physical or indirect bullying (including being locked in the bathroom with a bomb and forced sexual behavior). We outlined structural, interpersonal and individual interventions to address transphobia in schools, such as an institutional school policy against discrimination and bullying, the use of preferred names and pronouns, training on gender identity issues, commissions responsible for reports of student harassment, Gender and Sexuality Alliance (GSA) clubs, and counseling services.

CONCLUSIONS: A combination of the three intervention types (structural, interpersonal and individual) is required to address transphobia in schools. Increased structural interventions may lessen the need for interpersonal and individual interventions. At the same time, less structural and interpersonal stigma may mean fewer individual interventions for transgender students to meet their basic learning needs.

PEF1834

RESEARCHING AND REPORTING HIV RELATED RIGHTS VIOLATIONS PERPETRATED AGAINST SEX WORKERS: THE UNIVERSAL PERIODIC REVIEW

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BACKGROUND: Sex workers in the United States have very limited mechanisms to affect HIV/AIDS policy in the country and are not included in national strategic planning. The Universal Periodic Review (UPR) is a United Nations session to hold member countries responsible for their human rights records. The US is being reviewed in 2020 for the first time in five years. The author is a key member of a team that researched and submitted a national shadow report to the United Nations about the human rights abuses sex workers face especially in regards to HIV/AIDS, stigma, criminalization and rights violations.

DESCRIPTION: The US is held up to global scrutiny in the UN system every five years via the UPR. This process allows civil society organizations to inform global States Parties directly about key human rights issues. In 2019, five civil society organizations led by sex workers designed a research protocol to gather data about human rights violations.

LESSONS LEARNED: We found that: the U.S. government has failed its obligations to protect the rights of sex workers living with HIV by enforcing heightened criminalization, detention, and barriers to health and social services; A highly problematic concern for the right to health, including the right to privacy regarding personal health information, is genetic sequencing and identifying clusters of HIV; and that sex worker led organizations and sex worker rights coalitions play a vital role in civil society in the U.S. providing services including in regards to HIV and defending human rights but that sex workers' right to assemble has been severely compromised by recent federal legal enactments and U.S. policies that heighten criminalization during public gatherings.

CONCLUSIONS/NEXT STEPS: Due to current hostile federal approaches to sex workers (including relatively recent legislation name FOSTA/SESTA preventing online speech for health and safety), transgender people, immigrants (including a crisis at the border), and challenges to science based HIV/AIDS approaches, research prioritized these areas in searching to document rights violations. A comprehensive report has been completed with findings and in 2020 sex workers will travel to Geneva, Switzerland to speak to member countries about the criminalization of our communities.

PEF1835

ADDRESSING STIGMA AND DISCRIMINATION TOWARDS KEY POPULATIONS THROUGH EMPOWERING LAW ENFORCERS AND MEMBERS OF KEY POPULATIONS: EXPERIENCE FROM RWANDA

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BACKGROUND: The risk of HIV acquisition in 2017 globally was estimated to be higher among men who key populations as compared to general populations. In Rwanda the prevalence of HIV among adults aged 15- 49 is approximately 3% and among MSM is estimated to be 4% and 45.8% among FSWs. Although homosexuality is not criminalized in Rwanda, KPs face extensive stigmatization and systematic discrimination. This in turn leads to poor health seeking behaviors and a reluctance to disclose their status and affect services tailored to this population.

DESCRIPTION: Multiple activities have been carried out around human rights to address stigma and discrimination towards key populations in Rwanda. This includes the workshop on human rights targeting law enforcers namely police, local leaders, lawyers and journalist and healthcare providers. Community Dialogues which brought together law enforcers, healthcare providers, media, etc and key populations members were held to discuss the strategies to end stigma and discrimination. Empowering key populations' members with law and policy awareness to advocate for their rights. Radio talks (live and recorded voices from members of key populations) were aired and most influential activists have been invited to talk and address barriers of access to health among key populations.

LESSONS LEARNED: Sensitizing local leaders and security agents has been impactful to human rights issues affecting KPs. Different parties are now working with key populations to jointly address issues. Empowering key populations members have been also productive because now they can help their peers claiming their rights before local leadership and security agents. Number of key populations reaching to services have increased due to a strong partnership between health facilities trained and key populations and fighting stigma among society. From 2017 live radio talks were performed almost every month in local radio to address issues affecting key populations including stigma and discrimination.

CONCLUSIONS/NEXT STEPS: Empowering law enforcement and members of key populations around human rights is a vital response to end discrimination and stigma towards key populations. Countries which have similarities of Rwanda, they can learn from such progress made in Rwanda to tackle human rights issues affecting key populations to accessing health services.

DISCRIMINATION TOWARDS KEY POPULATIONS

PEF1836

THE JOURNEY OF TRANS RIGHTS VIOLATION TO PROTECTION IN INDIA-EXISTING GAPS AND VULNERABILITIES OF THE COMMUNITY TOWARDS HIV/AIDS

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BACKGROUND: In 2014, the Supreme Court of India gave NALSA judgment which recognized Transgender persons as "Third gender" and gave the right to self-identification. It directed the Union of India to develop roadmap to uplift the marginalized Transgender communities. In 2016 UOI introduced "Transgender Persons (Protection of Rights) Bill" Transgender person which was widely opposed by communities across India on account of problematic clauses. Among transpersons, Transwomen continue to be vulnerable to HIV and marginalized due to rights violations.

DESCRIPTION: The clauses of "screening committee" to certify the gender of a Transgender person and "Family&Residence" that renders gender non-conforming children susceptible to violence from biological families are against fundamental rights stated in Articles 19&21 of Indian Constitution.

Penalties for sexual violence on transgender persons should be equivalent to existing penalties for sexual violence on women. Penalties for physical, verbal, emotional and economic abuse should be similarly commensurate with the punishments under existing laws. Specific atrocities that transgender and intersex people face must be defined and strictly penalized. **Due to a lack of social support and rights violations, young transpersons are vulnerable to HIV due to abuse and sex work.**

Free access to gender-affirming medical procedures, full insurance coverage, choice of m/f/separate wards for trans people in hospitals is needed. Currently, due to the absence of SRS SOP, Transpersons do not have access to proper medical care; experience long term damage to their health.

LESSONS LEARNED: Our ground experience reveals provisions of this bill are discriminatory, renders Trans women vulnerable to social, economic discrimination along with making them vulnerable to HIV/AIDS; unless rights are attained, the vulnerability cannot be reduced. Better collectivization of marginalized communities to approach courts against human rights violations; the national and state governments need to work with the community to develop conducive laws&policies.

CONCLUSIONS/NEXT STEPS: Various High Courts have passed judgments against the screening committee & granted marriage rights to Transgender people. At present community collectives are gearing up to challenge the act in courts. At a structural level, National & State Trans Rights Commissions vesting appropriate powers and comprising majority transgender members and representations from other identities will be effective in tackle atrocities & grievances.

PEF1837

COMBATTING STIGMA AND DISCRIMINATION TOWARDS PEOPLE WITH HIV THROUGH STRATEGIC LITIGATION

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BACKGROUND: The HIV/AIDS Legal Centre (HALC) recognizes that despite rapid developments in HIV testing, treatment and prevention, people with HIV continue to face stigma and discrimination. Australia's *Disability Discrimination Act (Commonwealth) 1992* contains provision to prevent discrimination against people with HIV; there is also similar state legislation. HALC utilizes these laws to engage in strategic litigation, including against government bodies, private employers, medical/dental and personal services providers, educational institutions and insurers. The goal of the litigation is to achieve a desirable outcome for the individual with HIV and to affect systemic change.

DESCRIPTION: People with HIV contact HALC seeking assistance in discrimination proceedings. Proceedings are commenced in the appropriate jurisdiction and then progressed through the courts as necessary. Remedies sought include compensation for economic and non-economic loss, amendments to policies or procedures, a commitment to education and training around issues affecting people with HIV and, if relevant, the person's return to employment or the provision of the service originally requested.

LESSONS LEARNED: HALC has successfully represented clients in hundreds of cases, including of note cases involving: the removal of a discriminatory policy preventing health care workers with HIV from performing exposure prone procedures; the removal of a discriminatory policy preventing the post mortem reconstruction of a person with HIV following autopsy; lifting of restrictions on people with HIV working in the Defence Force; and refusal of certain insurance to people with HIV.

Case studies reveal that perpetrators of discrimination directed at people with HIV often felt justified in their actions and attempted to rely upon other legislation such a WHS, public health and, in the case of insurers and the defence force, provisions under the *Disability Discrimination Act* which allow discrimination in certain circumstances.

CONCLUSIONS/NEXT STEPS: The type and volume of ongoing complaints received demonstrates that ignorance around HIV remains prevalent in the Australian community. It is clear that ongoing legal representation in discrimination proceedings for people with HIV is necessary to restore dignity and respect to individuals who have been wronged and also to effect systemic change so that people with HIV can participate in the community on an equal basis with others.

PEF1838

POLICE VIOLENCE AGAINST TRANSGENDER WOMEN IN RIO DE JANEIRO, BRAZIL AND ITS ASSOCIATED FACTORS: THE EVAS STUDY

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BACKGROUND: Police violence (PV) has been increasing in Brazil in the last years, especially in the Rio de Janeiro State, which is responsible for a quarter of cases in the country. PV mostly occurs in low-income areas and is associated with racism. It is a type of community violence which minorities are vulnerable to. Brazil is the leading country in mortality rates among transgender women (transwomen) worldwide. We aimed to evaluate the observed PV against transwomen and its associated factors in Rio de Janeiro, Brazil.
METHODS: This was a cross-sectional study conducted in 2019, which enrolled 108 transwomen aged 18+ years in Rio de Janeiro, Brazil. Trained interviewers applied an adapted socio-health-demographic survey based on the Juvipol questionnaire. Data analysis used logistic adjustment with a 5% significance level for having seen PV in the last 12 months at least once.
RESULTS: The prevalence of observed PV was 24.07% (95%CI16.99-32.93%). Seeing PV had a positive association with having been victim of racism more than once in the lifetime (AOR=6.85, 95%CI 2.22–21.10, p=0.001), with transphobia more than once in the lifetime (AOR=3.41, 95%CI 1.03–11.28, p=0.044), and with having more than high school education (AOR=4.76, 95%CI 1.03–21.87, p=0.045). Participants that reported a high passability were less likely to have seen PV (AOR=0.21, 95%CI 0.05–0.86, p=0.034).
CONCLUSIONS: The social context and discrimination are significantly associated with seeing PV. A high passability seems to have a protective association with the exposure to observe PV in the community. Clashes in the favelas affects the daily lives of millions of workers. As police is little prepared and prejudges transwomen as dangerous, sex workers or involved with drugs, those factors combined may ultimately contribute to higher violence against trans population.

PEF1839

VIOLENCE IN PUBLIC SPACES AGAINST TRANSGENDER WOMEN IN RIO DE JANEIRO, BRAZIL: AESTHETICS, RACE AND PASSABILITY

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BACKGROUND: Brazil has the highest homicide rate among transgender women (transwomen) worldwide. The intersection between HIV, race and passability is a potential trigger of violence due to stigma. We aimed to evaluate violence in public spaces against transgender women and its associated factors.
METHODS: This is a cross-sectional study that enrolled 108 transwomen aged 18+ years in Rio de Janeiro, Brazil, in 2019. All participants answered an adapted questionnaire on socio-health-demographic data and based on the Juvipol survey. We analyzed data using ordinal logistic regression adjustment with a 5% significance level for having been a victim of both open and closed public space violence.
RESULTS: Median age was 36.5 years (SD=10.46), and median monthly income was US$256.88 (IQR=271.20) . The frequency of violence in open public spaces was 34.0% never, 8.7% once, 30.1% occasionally, 27.2% very frequently and in closed public spaces was 34.0% never, 9.7% once, 30.1% occasionally, 26.2% very frequently. White participants and those with very high passability reported significantly less violence in open public spaces (respectively, AOR=0.31, 95%CI:0.11–0.87, p=0.025 and AOR=0.06, 95%CI:0.01–0.28, p<0.001). Violence in open public spaces was positively associated with very frequent discrimination due to physical characteristics (AOR=5.59, 95%CI:1.65–18.97, p=0.006) and very frequent aggression from strangers (AOR= 11.21, 95%CI:2.28–54.99, p=0.003). Violence in closed spaces was associated with occasional discrimination due to physical characteristics (AOR=3.83, 95%CI:1.39–10.52, p=0.009) and very frequent aggression from strangers (AOR= 12.45, 95%CI:2.59–59.91, p=0.002).
CONCLUSIONS: Violence has an association with aggression from strangers and discrimination due to physical characteristics. This violence specifically in public open spaces is also associated with low passability and non-white race/color, highlighting the need of taking into account racial and gender issues for more effective protection in open public spaces.

PUNITIVE LAWS AND ENFORCEMENT PRACTICES (INCLUDING CRIMINALIZATION OF HIV AND CRIMINALIZATION OF KEY POPULATIONS)

PEF1840

WAR ON DRUGS: OPPORTUNITIES IN ACCESSING TO HARM REDUCTION SERVICES FOR PEOPLE WHO USE DRUGS IN MOMBASA COUNTY

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BACKGROUND: The “war on drugs” has contributed to the poor health outcomes amongst the people who use drugs (PWUDs) and increased human rights violations. Law enforcement agency have created opportunities for corruption, generating money from the PWUDs thus contributing to high criminal activities. Negative publicity by the media fraternity contributed to increased stigma and discrimination.
DESCRIPTION: Reach out Centre Trust in partnership with Open Society Initiative for Eastern Africa, conducted a three days Justice Actors conference that brought 70 Judicial officers, Trainings and sensitization meetings for 300 senior police officers, 40 media personnel’s, 300 community members and 80 county police on human rights and Harm Reduction. RCT planned 2 exchange visits for 6senior police officers to KASH organization to learn on best practices on Harm reduction. Also engaged media personality Awards on health rights reporting for PWUDs and 5500 PWUDs were empowered on human rights through legal aid cafés. In addition, RCT also conducted routine weekly police visits.
By September 2019, there was a decline in human rights violations from 800 incidences in 2017 to 350 incidences in 2018, 50 incidences in 2019. 44.57% of 3500 drug cases were given alternative sentences

at the Mombasa County Law Courts.1200PWUDs arrested on petty offences were released unconditionally at different police cells. Minimum directives by the county commissioner on arrests and raids have been noticed. Presidential directives on drug war has targeted only drug barons.

LESSONS LEARNED: The meetings, conference and trainings provided a better understanding of harm reduction among the law enforcement agencies, the judiciary and the community thereby changing their mindsets and attitudes toward the PWUDs hence providing enabling environments for access to harm reduction interventions e.g. Methadone and rehabilitation programs. Law enforcers acknowledged the rights of PWUDs hence raids conducted don't infringe their rights. Involvement of community promotes access to harm reduction services. Media involvement has promoted uptake of harm reduction services and reduction of stigma and discrimination.

CONCLUSIONS/NEXT STEPS: Policies and laws should be reviewed to foster promotion and improving health outcomes. Training curriculum on Harm reduction should be incorporated within their police training centers. Judiciary needs more sensitization on harm reduction.

PEF1841

FIGHT AGAINST VIRUS OR HUMAN BEING? CASE STUDY ON HUMAN RIGHTS VIOLATION REGARDING HIV CRIMINALIZATION IN TAIWAN

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BACKGROUND: Taiwan ranks top amongst the most progressive Asian countries, including being the first to pass marriage equality in Asia. Yet, stigma and discrimination of certain sub-populations, specifically people living with HIV (PLHIV) continue to prevail, as reflected in the *Article 21* of HIV special law which overly criminalizes HIV non-disclosure, exposure and transmission.

METHODS: Using qualitative and quantitative approaches, Persons with HIV/AIDS Rights Advocacy Association (PRAA) of Taiwan makes a case on how the current criminal justice system in Taiwan adapt the narrative of "HIV as a weapon" to prevent PLHIV from asserting their rights.

RESULTS: *Article 21* states that individuals with knowledge of their HIV-positive status, by concealing the fact, engage in unsafe sex with others or share injection syringes, diluted fluids, and thus infect others, shall be sentenced for 5 to 12 years. Data showed over 30 cases were identified from 2012 to 2019, the majority of prosecutions were associated with sexual activities. However, unsafe sex was often defined exclusively with use of condom, and the court rarely recognized scientific advancements in antiretroviral therapy and suppressed viral load. Cases included: prosecution from ex-partner whom knew defendant's HIV status before their relationship; state prosecution without plaintiff by turning 14 HIV-positive witnesses into defendants; 13-year incarceration despite medical expert's testimony on the unlikelihood of HIV transmission. Those who haven't been prosecuted continued to face both physical and emotional health threats, such as a woman threaten by her admirer to disclose her status if she turns him down. Bias and prejudice, worsen by difficulties in proving self-disclosure or condom use commonly resulted in convictions.

CONCLUSIONS: *Article 21* and out-of-date judicial interpretation of HIV transmission risks gravely deprive the rights of PLHIV and further perpetuates stigma against PLHIV and affected communities through special criminal law on HIV. There's a strong case to be made for abolishing *Article 21* under the Constitution of Taiwan and the International Bill of Human Rights. Training and support on HIV advancements shall be given to all members of judicial and criminal law system to further inform any application of criminal law in cases related to HIV.

PEF1842

ADVOCACY AMONG LAW ENFORCEMENT AGENTS IN MOROCCO IMPROVES PEOPLE WHO USE DRUGS' RIGHTS

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BACKGROUND: Morocco is known to be the most important producer and exporter of cannabis worldwide yet one of the fewest countries implementing Harm Reduction (HR) programs in the MENA region. Nevertheless, national law punishes the use of psychoactive substances and one quarter of inmates are incarcerated for their use, which makes the People Who Use Drugs (PUD) more vulnerable. Association de Lutte Contre le Sida (ALCS), a major regional NGO, in collaboration with the National Council of Human Rights of Morocco, has conducted many advocacy activities at different levels in favor of a human rights approach.

DESCRIPTION: Besides meetings, letters, press releases, memorandums; two seminars were held bringing up the topics of the alternative and progressive sentences and raising awareness on laws to protect the right health of key populations, targeting decision-makers, Jurists, Members of Parliament, local elected Representatives and CSOs defending human rights.

All the activities organized in the north of the country (where the use of drugs population is concentrated) were with the presence and support of regional council Tangier-Tetuan-Al Huceima (TTA).

LESSONS LEARNED: The notable outputs are as followed:

- No incarceration for only consuming drugs (informal agreement); the number of the incarcerated cultivators has decreased.
- The PUD can finally dispose of their administrative papers.
- The opioid substitution therapy has been introduced in prison.
- Prevention of overdoses : the antidote is affordable.
- The National Direction of Police has released a circular to facilitate the activities of our field workers.
- The regional council of TTA has voted for launching a study on the cannabis medical and cosmetic opportunities.
- The recommendation of the review for the integration of the repeal of two prohibitionist laws in the penal code being discussed in parliament (2019-2020)

CONCLUSIONS/NEXT STEPS: Despite of the current oppressive legal environment, our advocacy based on the human rights approach, has been strengthening and improving the access to prevention and healthcare services for PUD.

PEF1843

THE EFFECT OF POLICE ENFORCEMENT PRACTICES ON SEX WORKERS' EXPERIENCES OF VIOLENCE: FINDINGS FROM A COHORT STUDY IN LONDON, UK

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BACKGROUND: Globally, criminalisation of sex work and violence against sex workers, particularly sexual violence, is linked to increased risk of HIV infection. Using data from a prospective observational study, we examine violence against sex workers from clients and other perpetrators and their associations with police enforcement practices over time.

METHODS: Between May 2018-September 2019, we used time-location and convenience sampling to enrol sex workers (≥18 years) working in any sector (e.g. street, flats, saunas) in east-London into a two-wave open cohort with six-month follow-up. Bivariate logistic regression with generalised estimating equations was used to estimate the association between any recent police enforcement (any arrest, client-arrest, displacement from workplace, caution, item-confiscation, referral to services, or immigration detention in previous six months) and 1) recent physical and/or sexual violence from clients and 2) any recent emotional, physical, sexual violence from others (e.g. strangers, residents) occurring in the previous six months, adjusting for duration in sex work. All analyses are stratified by workplace-sector (street or indoor) and are restricted to women (including transwomen).

RESULTS: We include 197 sex workers in the analysis (median age 34 years), 50% completed a follow-up questionnaire (median 196 days after baseline). At baseline 97% were cisgender(cis)-women, 46% self-reported street-based sex work and 54% worked indoors in the previous 6 months. Living circumstances were particularly precarious for street sex-workers: 65% were homeless in the previous month (7% indoor sex-workers) and 74% used crack or heroin daily/nearly daily (3% indoor sex-workers). 87% of street sex-workers had experienced any recent police enforcement compared to 9% indoor sex workers. Recent physical/sexual violence from clients was extremely high (street:71%,indoor:35%) as well as any violence from others (street:65%,indoor:16%); only 13% reported violence to police. Adjusted analyses show that recent police enforcement was associated with increased physical/sexual violence from clients (OR_{street}3.7, 95%CI:1.3,10.2,p=0.01; $OR_{indoors}$3.4, 95%CI:1.1,10.6,p=0.04) and with any violence from others among street sex-workers (OR_{street}4.9, 95%CI:1.5,16.3;p=0.009).

CONCLUSIONS: In this diverse sample, enforcement and violence is highest against street sex workers who are the most marginalised, reinforcing existing inequalities. Across sectors, police enforcement is linked to increased risk of violence from clients and other perpetrators that is rarely reported.

PEF1844

THE RELATIONSHIP BETWEEN MIGRATION AND PREVALENT HIV INFECTION AMONG FEMALE SEX WORKERS ACROSS 10 SUB-SAHARAN AFRICAN COUNTRIES

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BACKGROUND: Globally HIV incidence is slowing, however HIV epidemics among sex workers are stable or increasing in many settings. Despite expanded access to antiretroviral therapy, sex workers across sub-Saharan Africa continue to have suboptimal HIV prevention and treatment outcomes. Studies have primarily focused on individual-level biological and behavioral risks for HIV among sex workers with limited examination of higher-level structural determinants. Migration can be driven by the legal and social environment, as well as through limited economic stability. Migration may increase vulnerability to HIV risk behaviors and other health outcomes.

METHODS: Respondent driven sampling was used to recruit 7529 female sex workers over the period of 2011-2018 across 10 countries: Burkina Faso, Cameroon, Côte d'Ivoire, Gambia, Guinea-Bissau, Lesotho, Senegal, eSwatini, South Africa, and Togo. Interviewer-administered socio-behavioral questionnaires and biological testing for HIV were conducted. Individual-level data were pooled across countries. Multivariable logistic regression models were used to measure the association migration and HIV.

RESULTS: Sex workers with a history of migration was highest in settings where sex work is criminalized (32.8%;1341/4087) compared to setting where selling sex is not legally specified(16.5%;208/1262) and where sex work is partially legalized(12.7%;242/1904). Migration was association with an increased odds of HIV (aOR:3.85; 95%CI:1.69,8.68; p-value=0.001) after adjusting for age, education, marital status, years in sex work, and clustering by site and country.

CONCLUSIONS: These data suggest increased vulnerability to HIV among sex workers with a history of migration. Structural determinants of HIV may drive migration as well as limit access to services and support across settings. Migration may also limit social capital and stability, and therefore increase vulnerability to HIV risks among sex workers. Support for the health and human rights of sex workers is needed in order to effectively address the HIV epidemic and limit new HIV infections.

CHALLENGING CRIMINALIZATION OF SEXUALITY, GENDER IDENTITY AND BODILY AUTONOMY AS DRIVERS OF HIV PROGRAMME EXCLUSION

PEF1845

BORN THIS WAY, PUNISHED FOR IT: CHALLENGING THE CRIMINALIZATION OF TRANSGENDER PERSONS AT THE EXPENSE OF THE HIV PANDEMIC

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BACKGROUND: The criminalization of transgender persons in Zimbabwe has resulted in the neglect of this key population group thereby increasing the high risk to HIV as well as reducing our efforts in implementing effective HIV programming nationwide. Sex work has become the number 1 profession for over 90% transgenders in Zimbabwe due to social and economic exclusion. Undocumented cases of sexual assault towards transgender persons being another contributing HIV risk factor.

DESCRIPTION: The program is meant to provide an effective system that documents Transgender cases of stigma, discrimination and criminalization. 15 transgender persons nationwide were trained on how to administer a podcast, record audio diaries narrating lived in experiences of stigma, discrimination and criminalization when accessing HIV treatment or prevention as well as when being exposed to high risk of HIV in sexual assault cases and even during sex work. The 15 transgender members were also trained on doing interviews, dialogues and jingles which focus on a particular topic affecting the transgender community in Zimbabwe, topics on mental health, being transgender in Zimbabwe and What exposes one into sex work where discussed. As well as experiences in society, corrective rape and discrimination from family, educators, employers and even health care providers. Purple royale podcast is available at www.anchor.fm/purple-royale.

LESSONS LEARNED: From the purple royale podcast project, the key lesson learnt is that there is power in sharing your story and lived in realities. 90% of transgender persons are afraid to come out and share their experiences with stigma and discrimination for fear of further assault and anniliation. This has result in a lot of undocumented case studies which if recorded would help in providing effective HIV programming and policy reform for vulnerable communities, transgender persons included.

CONCLUSIONS/NEXT STEPS: The purple royale podcast has shown to be a useful in documenting and bringing to light the challenges the transgender community in Zimbabwe faces each day, putting us at high risk of HIV. It is a first hand evidence based approach to programming which can be used in advocacy, policy reform and sensitization. To scale up, the podcast needs sustainable funding and strategic partnerships for continuous improvement

INVESTING IN REGIONAL HIV PROGRAMMES AND REGIONAL KEY POPULATION MOVEMENTS

PEF1846

LEVERAGING REGIONAL SPACES TO ALSO EFFECT POSITIVE CHANGE AT THE NATIONAL LEVEL

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BACKGROUND: Following the work of the Global Commission on HIV and the Law in 2013, UNDP has supported work on removing legal barriers to accessing HIV services in sub-Saharan Africa. Covering over 20 countries, this work includes regular convenings at the regional level of judges, lawyers, key populations and law enforcement personnel, as well as in-country work implemented through regional and local partners.

DESCRIPTION: We conducted an evaluation of the impacts of regional activity at the country level through a review of project documents and key informant interviews including civil society representatives, judges, lawyers, government officials, and UNDP staff.

LESSONS LEARNED: Regional-level work allows for peer-to-peer collaboration and support in ways that can foster change far beyond what can occur within countries alone. UNDP provides technical and financial support, with activities tailored differently depending on the type of stakeholder – e.g. training for lawyers is run by legal NGOs while, in their forum, judges themselves determine priority topics for discussion. Spillover effects are also important. For example, in 2014, the Africa Key Population Experts Group, comprising representatives of diverse populations, produced a Model Framework on HIV Prevention, Treatment and Care, which served as a key resource for the Regional Economic Communities' development of regional strategies such as the Minimum Standards for the Protection of Key Populations in the Southern African Development Community (SADC) Region, recently endorsed by the SADC Parliamentary Forum. Shifts in political power challenge the effectiveness of regional activities and ultimately their ability to foster positive change across and within countries. Arriving at consensus can be challenging if political agendas do not align. Understanding the potential impacts of regional networks in these instances further highlights the potential value of this work.

CONCLUSIONS/NEXT STEPS: Creating regional "safe spaces" provides people the opportunity for more open discussion and engagement on difficult topics than would be possible in national-level spaces. The sense of solidarity and the opportunities for participants to share experiences and learn from one another appear to have a catalytic effect on in-country work. Continued support and evaluation of regional-level activities, alongside national-level work, is an important avenue for supporting positive change in HIV-related legal environments.

ETHICAL ASPECTS AND STANDARDS IN RESEARCH (INCLUDING CLINICAL TRIALS)

PEF1847

INDIVIDUAL ASSENT SHOULD BE SUFFICIENT FOR PARTICIPATION IN PREP RESEARCH BY 15 TO 17 YEAR OLD MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN – A BRAZILIAN EXPERIENCE

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BACKGROUND: PrEP demonstration studies conducted with vulnerable adolescents face ethical and legal constraints. We describe challenges concerning waiving informed consent (IC) in the review of the PrEP1519 study by ethics review committees (ERCs) and judicial institutions in Brazil.

DESCRIPTION: PrEP 1519 is a demonstration study to evaluate the effectiveness of PrEP among adolescent men who have sex with men (MSM) and transgender women (TGW) aged 15-19 years in three cities: São Paulo, Belo Horizonte, and Salvador. Fearing that, for adolescents under 18 years old, parental IC might threaten confidentiality regarding sexual orientation and/or gender identity thereby creating a risk of discrimination or violence, we requested a waiver of IC from the participating universities' ERCs. This was based on considerations of adolescents' discernment and autonomy to make informed decisions to prevent HIV infection and current policy that allows unaccompanied adolescents aged 13 or over to access post-exposure prophylaxis in public health clinics.

LESSONS LEARNED: Despite the ERCs being in favor of a waiver of parental IC and being permitted by existing regulations to provide one, they would not make this decision without a court order. The ERCs' decisions paid attention to the fundamental ethical principles of respect and non-maleficence, but, by transferring the accountability of waiving IC to judiciary institutions, did not fully address beneficence and justice. The Public Prosecutor's Office applied for a court order from the Juvenile Court for blanket parental consent for all individuals under 18 in the study, based on adolescents' fundamental rights to health and autonomy. The Court's decision in São Paulo was fully favorable. The other Courts allowed a waiver only to adolescents deemed at risk of violence/discrimination, requiring a justification on a case-by-case basis in Belo Horizonte.

CONCLUSIONS/NEXT STEPS: In the current global backlash against sexual and reproductive rights, it is critical that ERCs are sufficiently autonomous and empowered to fulfill their mandate of protecting human subjects in research while advancing scientific knowledge. Recourse to judicial action should not be required. Research depends on ERCs to help ensure the generation of evidence of public health effectiveness that also guarantees the respect, protection and fulfilment of participants' rights.

PEF1848

UPDATING ETHICS GUIDANCE FOR INTERNATIONAL HIV PREVENTION RESEARCH: RESPONDING TO SCIENTIFIC DEVELOPMENTS, SHIFTING NORMS AND THE CONTEXT OF THE EPIDEMIC

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BACKGROUND: The HIV Prevention Trials Network (HPTN), which has conducted extensive international HIV prevention research for over 20 years, developed an Ethics Guidance Document (EGD) to serve as a resource for relevant stakeholders. First issued in 2003 and revised in 2009, the EGD is an important source document regarding the ethical issues in HIV prevention research globally. Nevertheless, since the last version was issued there has been substantial progress in HIV prevention science (e.g., the efficacy of oral pre-exposure prophylaxis and treatment as prevention), revisions of major international ethics documents (e.g., Declaration of Helsinki, Council for International Organisations of Medical Sciences guidelines), advances in ethics scholarship, and important federal policy changes. Accordingly, the HPTN undertook a comprehensive review and revision of the EGD.

DESCRIPTION: The HPTN's Ethics Working Group, which includes members with expertise in the ethics of HIV-related research, critically reviewed the EGD in light of emerging HIV prevention science, ethics guidance, ethics scholarship and new policies and regulations. A draft version was circulated among HPTN scientists, support staff and community representatives and revised. A subsequent draft was revised after review by international stakeholders with expertise in ethics, HIV prevention research and community engagement.

LESSONS LEARNED: The final version of the EGD includes updated guidance across the continuum of research:

1) High-quality scientific and ethical research;
2) Research objectives and priorities;
3) Community engagement;
4) Local capacity and partnerships;
5) Study design;
6) Consent, assent, permission and re-consent;
7) Addressing vulnerabilities;
8) Ethical review of research;
9) Standard of prevention;
10) Standards of care and treatment;
11) Independent data and safety monitoring;
12) Disseminating research results;
13) Sustaining capacity-strengthening and infrastructure;
14) Continuing care for research participants; and
15) Post-trial access to effective interventions.

These guidance points delineate specific ethical obligations and aspirations for different stakeholders (researchers, sponsors, study teams, community representatives) that are sensitive to the current context of HIV prevention research.

CONCLUSIONS/NEXT STEPS: The new EGD is positioned to help ensure that HIV prevention research is ethically sound, despite the inherent challenges faced. Next steps will include wide dissemination, implementation during research and continued critical review as needed.

PEF1849

SEXUAL VIOLENCE AND HIV RISK: ETHICAL PRACTICES FOR ENGAGING SURVIVORS OF SEXUAL TRAUMA IN HIV RESEARCH

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BACKGROUND: Survivors of sexual trauma face increased susceptibility to HIV due to behavioral and biological mechanisms, though the biological mechanisms remain understudied. Engagement of survivors of sexual trauma in research on HIV is imperative to increase understanding of these mechanisms. However, involvement in such research may cause re-traumatization or distress to survivors. The THRIVE Study seeks to engage female survivors of sexual violence in HIV research during the acute period post-violence, through research designed to minimize adverse participatory effects.

DESCRIPTION: The THRIVE Study is a prospective case-control study of women ages 14-45 who have experienced recent vaginal trauma or consensual vaginal penetration. Women participate in three study visits over three months, where they complete a survey and biological sample collection, including HIV testing. Survey data includes sexual behavior and trauma history, HIV risk behaviors, and HIV prevention behaviors. Study activities are constructed to minimize distress to participants while fulfilling obligations for transparency and appropriate service referrals, including discussions about HIV risk and prevention.

LESSONS LEARNED: Ethical engagement of survivors of sexual trauma in research necessitates the careful implementation of trauma-informed practices. In the context of sexual trauma and HIV, these include:

1) choice regarding information conveyed to study participants and method of conveyance, including HIV test results, and maintaining and reminding survivors of options regarding participation and non-participation in any part of the study;

2) transparency about study topics, goals, and outcome measures, particularly as they relate to HIV status, risk factors, and protective behaviors;

3) sensitivity to the timing of trauma in relation to topics discussed, including acknowledgement of the lifelong impacts of trauma, by delaying sensitive questions (e.g., use of post-exposure prophylaxis after potential exposure when a survivor is outside of eligibility window) to the end of surveys, limiting them to follow-up visits, or preparing survivors prior to sensitive topics; and 4) provision of support, guidance, and referrals relating to risk and prevention of HIV and other health outcomes.

CONCLUSIONS/NEXT STEPS: In order to facilitate engagement of survivors of sexual trauma in research on HIV, researchers must strive to meet the unique, ethical needs of survivors through trauma-informed practices.

PEF1850

ADOLESCENTS AND YOUNG ADULTS IN KENYA DEMONSTRATE GOOD COMPREHENSION OF RISKS AND BENEFITS OF PARTICIPATING IN HIV RESEARCH

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BACKGROUND: Participation of adolescents and young adults (AYA) in research is critical to ensure health interventions are tailored to population needs. In Western Kenya, where research consent is commonly restricted to those 18 and older, a high proportion of AYA ages 10-17 attend HIV clinics without caregivers, posing challenges to recruitment. To support waiver of parental permission it is important that adolescents have sufficient understanding of research to provide valid consent. We assessed and compared AYA and primary caregiver understanding of key information provided during the consent process.

METHODS: The DiSC cohort includes AYA (ages 10-24) and primary caregivers of AYA attending HIV care at nine facilities Western Kenya. During recruitment, study staff read the consent/assent form aloud and summarized each section. Individual comprehension was assessed by asking four questions on key elements of the study: purpose, procedures, benefits, and risks. Responses were electronically marked either “understands” or “does not understand” using a pre-specified rubric (1-point per question). For each inadequate answer, staff re-read relevant sections and re-assessed comprehension prior to enrollment. Linear regression was conducted to investigate the relationship between initial comprehension scores and participant age group.

RESULTS: Among 1264 AYA, 27.3% were 10-14, 29.0% were 15-17, and 43.7% were 18-24 years old; among 164 caregivers median age was 40 (IQR=35-47). Among AYA and caregivers who engaged in the informed consent or assent process, 451 AYA (35.7%) and 34 caregivers (20.7%) missed at least one question on the first attempt ($p<0.001$). Compared with caregivers, who had an average score of 3.76 out of 4, 10-14 year olds had a significantly lower comprehension score (score=3.11, difference=0.65, $p<0.001$). Both 15-17 year olds (score=3.62, difference=0.15, $p=.01$) and 18-24 year olds (score=3.65, difference=0.11, $p=.03$) had marginally lower comprehension scores than caregivers.

CONCLUSIONS: In this study, adolescents 15-17 years old had similar comprehension of research procedures, risks, and benefits as young adults and caregivers. For low risk research with AYA ages 15-17, these data provide reassurance that waiving parental permission requirements will not compromise the ethical need to ensure understanding of research prior to enrollment, and may allow this population greater access to research benefits.

POLICIES REGARDING HIV SERVICES AND PROGRAMMES

PEF1851

ACCEPTANCE OF BIOMETRICS INTEGRATION IN HIV PROGRAMMING AMONG KEY POPULATION IN NIGERIA

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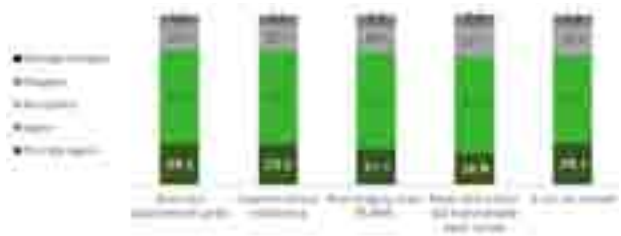
BACKGROUND: The use of biometrics enhances the quality of health care delivery and patient monitoring. Although biometrics can enhance the accuracy of HIV surveillance, it is also associated with the risk of stigma and concerns about use of data for punitive measures. There are no public policies on the use of biometrics for health purposes in Nigeria. This study is to determine the awareness and acceptance of Biometrics Information System by key populations in Nigeria.

METHODS: Cross-sectional study with the use of closed ended and anonymous questionnaire to generate quantitative data from 555 key populations (177 female sex workers; 178 men who have sex with men; 153 persons who inject drug; 23 transgenders; 24 inmates) who were currently accessing HIV comprehensive care and treatment in Heartland Alliance One Stop Shops in three states in Nigeria. Respondent gender proportion (Male 55.3%; Female 44.5% and Genderqueer 0.2%). Prior to the study there was an ethical approval from the Federal Ministry of Health and Data analysis was done using SPSS v 25.

RESULTS: Majority (79.1%) of the respondents attained secondary school level and their awareness rate of biometrics is very high (82%). Also, 100% of respondents who were aware of biometrics had used biometrics for data capturing in the past, and 83.8% were willing to use biometrics to capture their healthcare data. Willingness is the only significant factor to high acceptance rate pvalue (0.00), chi-square 185.499 with 95% confidence interval.



[Figure 1: Perception of respondents to integration of biometrics into HIV programming.]

CONCLUSIONS: Biometric data capturing was acceptable by the majority of key populations. For program purposes, it may be important to design an alternative form of data capturing for the significant few who may not be willing to use biometrics for the capture of their health information.

PEF1852

GREATER INVOLVEMENT OF PLHIV IN ART SERVICE DELIVERY: ROLE OF MODELS OF HOPE IN ART SERVICE DELIVERY - THE ASHANTI AND BRONG AHAFO EXPERIENCE

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BACKGROUND: The important role that Models of Hope (MOH), who are trained PLHIV involved in the provision of ART services, at ART center cannot be overemphasized. It is however clear from information gathered at some facilities visited that the MOH do not get the required recognition and remuneration as their services are deemed supplementary and voluntary as such only receive stipends from running projects. When the project ends, the stipends ends. This abstract seeks to bring to the fore the critical and lifesaving functions played by MOH in the overall delivery of ART services.

DESCRIPTION: The Brong Ahafo and Ashanti Social Accountability Monitoring Committees, which is part of Community System Strengthening (CSS) project under the Global Fund NFM, in September and October 2016 undertook monitoring visits to 12 and 11 ART facilities in their respective Regions. An interview guide was developed for both the MOH and Health staff at the ART facilities visited to elicit information on the quality of service delivery and to ascertain the role of MOH in the facilities. A meeting of all MOH was held and members were put into groups of 6 for focus group discussion.

LESSONS LEARNED: MOH in all facilities do home visits and provide home based care for bedridden clients. They collect and deliver drugs to clients. They assist with retrieval of client folders, disclosure, adherence counselling, checking and recording of client vitals. They also trace lost to follow up clients and bring them back into care. They therefore play a key role in the continuum of care for PLHIV. Nurses, doctors and data officers of the 23 facilities acknowledged that service delivery will be difficult without the services of the MOH.

CONCLUSIONS/NEXT STEPS: The services of MOH at ART centers is significant for the provision of quality health care for PLHIV which will ultimately improve the life expectancy of PLHIV and reduce new infections. The involvement of PLHIV in the provision of ART services cannot therefore be relegated to the periphery with no remuneration. A formal arrangement should be put in place to deploy MOH to all ART Centres and mainstream their remuneration.

PEF1853

ADDRESSING BARRIERS TO HIV CARE THROUGH COMMUNITY ENGAGEMENT AND RAPID SERVICE IMPROVEMENT: LESSONS FROM VIETNAM'S FIRST COMMUNITY ADVISORY BOARD

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BACKGROUND: As Vietnam makes progress toward the global 90-90-90 goal, meaningful engagement with people living with HIV (PLHIV) and members of key populations (KP) is critical. By bridging the gap between patients and providers, the health system will be better equipped to understand and address barriers to care, improve access and retention. In 2019, the Binh Duong Provincial HIV/AIDS Center (PAC), and the Binh Duong Department of Health established Vietnam's first Community Advisory Board (CAB). The objective of the CAB is to create a forum where PLHIV and members of KP can actively participate in efforts to address healthcare quality, reduce stigma and discrimination, and improve community health outcomes.

DESCRIPTION: The CAB was launched in April 2019 comprising 12 PLHIV representatives working across four public HIV outpatient clinics (OPCs) in the province. The CAB's responsibilities are to 1) collect and review patient feedback, 2) communicate findings to healthcare facilities and PAC, 3) collaborate with OPCs to develop strategies to improve service quality, 4) communicate health initiatives and resources to PLHIV and KP in the community.

LESSONS LEARNED: Between April-September 2019, CAB members collected 312 patient feedbacks and regularly met with health care staff. Two salient themes emerged: Structural barriers to care (e.g. hours of operation, long wait times) and confidentiality lapses in OPC waiting rooms. With support of the CAB, the OPCs implemented:

1) expanded hours of operation, and

2) full time pharmacy staff, resulting in a reduction in medication pick-up time from 60 to 17 minutes, and

3) the use of ID codes rather than names to increase privacy in the waiting rooms.

These changes were quickly reported back to the community via the CAB

CONCLUSIONS/NEXT STEPS: The early outcomes of the Binh Duong CAB led to better communication between health staff and patients and rapid improvements to clinic services. Future efforts will include expansion of the model to additional provinces and increased use of the CABs to provide community education on services such as PrEP, HIV and viral load testing, and raising awareness of Undetectable=Untransmittable.

PEF1854

ARE RISK REDUCTION POLICIES MEETING THE NEEDS OF HIV-POSITIVE MEN WHO HAVE SEX WITH MEN IN THE PHILIPPINES?

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BACKGROUND: For decades, the Philippines had few documented cases of HIV, including during the global HIV crisis. Currently, however, the Philippines is currently undergoing one of the fastest growing HIV epidemics in the world, with the vast majority of cases concentrated among men who have sex with men (MSM). Because the country had few documented cases of HIV until recent times, few structures and interventions were in place prior to the current epidemic that can be utilized to address the rise of HIV among key populations including MSM. Given this, this research examined the needs that HIV-positive MSM still need after existing interventions, which mostly focus on provision of free or low-cost medications, health services, and condoms.

METHODS: We present findings from interviews with 21 HIV-positive MSM Manila, Philippines regarding their perceptions of success of existing policies and programs targeting them and their perceived needs for other policies and programs.

RESULTS: While existing interventions were noted as helpful, HIV-positive MSM noted a variety of needs that were currently going unaddressed by policy. These included how to navigate disclosure of HIV status without being put at risk, how to negotiate the use of condoms with sexual partners, and how to disclose to family and friends. Respondents discussed various ways in which these unaddressed needs directly impacted the effectiveness of existing efforts like provision of condoms and free or low-cost health services. Delivery of information and educational components to youth in schools or other settings as well as social media were identified as particularly desired pathways to deliver needed information. Because these needs were largely unaddressed by existing government efforts to address HIV, community-based organizations have stepped in to address some of these needs. These findings are compared to existing efforts to identify ways to improve the HIV response.

CONCLUSIONS: These findings emphasize the need for behavioral interventions like education and support for MSM with HIV to ensure that biomedical components like provision of free condoms and free or low-cost health services are leveraged to produce maximum impacts on MSM with HIV, with implications for the Philippines and similar settings.

PEF1855

LESSONS LEARNED IN 9 YEARS OF EXTERNAL QUALITY ASSESSMENT FOR HIV, SYPHILIS AND HEPATITIS C RAPID DIAGNOSTIC TESTS IN BRAZIL

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BACKGROUND: Between 2011 and 2019, the Ministry of Health of Brazil (MoH) provided approximately 148 million rapid diagnostic tests (RDT) and implemented the National Program of External Quality Assessment for RDT (EQA-RDT) to monitor the quality of the RDT for HIV, Syphilis and Hepatitis C (since 2018), performed mainly in primary healthcare units. EQA-RDT encompasses theoretical and practical rounds.

DESCRIPTION: In practical rounds, healthcare professionals receive a panel with four dried tube specimens with unknown reactivity and test the samples as in a real daily routine. In theoretical rounds, they answer an online survey with ten questions about RDT procedures and guidelines. The participants submit results/answers through an online platform. A certificate of approval is issued in the event of 70% accuracy/hits. Professionals with non-satisfactory performance receive a report suggesting possible causes of failure and issues to be avoided. In theoretical rounds, participants receive the right answers commented to all questions.

LESSONS LEARNED: MoH financial support and program management in the 20 rounds to date have ensured the sustainability of the EQA-RDT along those 9 years. To reduce costs and prevent losses, since round 17, the delivery of some panels was decentralized to regional reference service to redistribute for local services, leading to 25% of savings in shipping costs in the last round. Also, in 2015, MoH developed a free of charge distance-learning course about EQA-RDT aimed at nurses and nursing technicians – the majority of the professionals who perform RDT – which often have little knowledge of quality control procedures. By December 2019, more than 17,000 people had been certified. In the last practical round, there were 2,195 participants and over 90% approval, achieving a high level of RDT quality. Sending feedback on theoretical rounds turned out to be an important learning tool for clarifying questions and preventing future errors.

CONCLUSIONS/NEXT STEPS: An EQA-RDT program with an educative system allows the MoH to direct policies for quality improvement, prioritizing retraining of professionals that had non-satisfactory performance. Constant improvements in the program have enabled better adherence, prevented losses, and substantial savings. This experience could be useful to other countries as to improve the quality of testing services.

PEF1856

INSTITUTIONALIZE KEY POPULATION LAY PROVIDERS IN THAILAND TO SUPPORT ENDING AIDS: FROM PILOT TO POLICY AND PRACTICE

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BACKGROUND: Key population-led health services (KPLHS) has been identified as a critical strategy for ending AIDS in Thailand. Services provision by key population (KP) lay providers did not have legal sanction without project-based guardianship. We summarized the steps taken to secure legal endorsement of KP lay providers in KPLHS in Thailand.

DESCRIPTION:

- In 2015, KPLHS model designed by men who have sex with men (MSM) and transgender women (TGW) communities was established in 4 HIV-strategic provinces under USAID LINKAGES Thailand Project.
- In 2017, "ENGAGE", the technical support and advocacy platform supported by USAID Community Partnership Project, established capacity building and certification system for KP lay providers to perform HIV/STI testing and dispense pre-/post-exposure prophylaxis (PrEP/PEP).
- In 2018, 55% of HIV testing and 55% of PrEP provisions among MSM and TGW in Thailand were conducted by KP lay providers. Large uptake of HIV testing and PrEP among KPs through KPLHS, in comparison to uptake at conventional services, have been vital in ENGAGE's advocacy for the policy shift to legalize KP lay providers.
- Prof. Emeritus Praphan Phanuphak, Director of the Thai Red Cross AIDS Research Centre, was recruited as a "policy influencer" to have both formal and informal dialogues with the Minister of Public Health, the Director General of the Department of Disease Control and other key high level of policy makers to address the concerns of the professional medical councils.
- In 2019, A ministerial regulation sanctioning KP lay providers' roles was signed by the Minister of Public Health on June 6, 2019 and promulgated in the Ministry's gazette in September 2019.

LESSONS LEARNED:

- National-level impact of the KPLHS, as well as formal capacity building and certification systems, were critical to the legal endorsement of KP lay providers.
- The "policy influencer" was instrumental in leading advocacy efforts to success within 1 year. Continuous engagement with key stakeholders and professional medical councils reduced the resistance to policy change.

CONCLUSIONS/NEXT STEPS: With KPLHS capacity building, certification and legalization formally established in Thailand by ENGAGE, domestic financing directly to KP-led organizations is being piloted. This will lend support to the scale-up and sustainability of KPLHS.

PEF1857

HARM REDUCTION AND LAW ENFORCEMENT IN THE COUNTRY OF GEORGIA

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BACKGROUND: Georgia belongs to the list of countries with high injecting drug use prevalence (2.24%). Drug consumption is criminalized and people who use drugs are marginalized and stigmatized in the country. Start of HIV and HCV epidemic is mostly affiliated to drug injection practice. Under strong civil society pressure Government had to act and National HCV elimination program took a start from 2015. Strict drug law environment represented a significant obstacles for PWID to receive needed services.

DESCRIPTION: Georgian harm reduction network-GHRN delivers comprehensive harm reduction package to 30,000 PWIDs annually. From 2008 GHRN takes the leading role in drug policy change in the country. To support implementation of harm reduction and HCV elimination programs in 2015 GHRN initiated high level dialogue with law enforcement representatives.

LESSONS LEARNED: As a result of high level dialogue there was created an internal decree notifying all police departments not to hamper working of harm reduction programs, namely not to chase outreach workers, mobile ambulatories, program clients, not to make control raids in harm reduction service sites. The situation has changed for the better, the number of PWIDs at harm reduction sites and HIV/HCV testing increased 2 times. HCV elimination program was used as effective subject to initiate collaboration between harm reduction and Police. In 2017 GHRN with the support of EHRN implemented a drug policy study visit in Prague with participation on law enforcement agencies and ministry of health. in 2019 Ministry of justice had approached CHRN to initiate memorandum of collaboration to ensure effective linkages to harm reduction sites among ex-prisoners arrested due to drug related crime/drug consumption.

CONCLUSIONS/NEXT STEPS: Despite of existing punitive drug policy in the country NSP program continues its effective work. Government's good will to eliminate HCV in the country revealed to be a trigger to initiate high level dialogue among policy and decision makers. Collaboration with Ministry of Justice will support to reach hidden PWID population and increase harm reduction program coverage to support their better accessibility to vitally important health and social services. Further advocacy to change drug policy in the country should be continued in future.

PEF1858

BUILDING RESILIENT SYSTEMS IN THE FIGHT AGAINST HIV IN SOUTH AFRICA BY POSITIONING SOCIAL SERVICE PRACTITIONERS IN THE NATIONAL HIV TESTING SERVICES GUIDELINE

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BACKGROUND: Despite having the world's largest antiretroviral treatment programme, South Africa still faces persistent challenges: among others, approximately 13.1% of its population is living with HIV, with children and young women particularly vulnerable. An unintended effect of the robust antiretroviral treatment programmes was the increased perception, especially among social service practitioners (SSPs), that HIV was exclusively a medical problem. Compounding the issue was the absence of HIV intervention guidelines for SSPs, which contributed to a scattered social service response for orphans, vulnerable children, adolescents and youth (OVCAY). Taken together, this has resulted in a weak system, unable to cope with South Africa's persistent HIV challenge. In response, the Department of Social Development (DSD) developed and implemented HIV Testing Services guideline for SSPs to provide a roadmap for a multidisciplinary and integrated response to HIV testing, treatment and adherence, which succeeded in building a more resilient social service system able to adapt to the needs of those affected by HIV.

DESCRIPTION: The goal of the HTS guideline is to sustain a system enabling psychosocially well-adjusted children, adolescents and youth who know their HIV status, enjoy good health and are resilient. It guides and structures SSP interventions to carry out the mandate of the DSD to improve access to HIV testing, treatment and adherence support for OVCAY within a legal framework, guided by SSPs respective professional values and principles.

LESSONS LEARNED: Positioning SSPs in the HIV space required national guidelines detailing their involvement throughout the social service value chain. Disengagement from HIV interventions created knowledge gap amongst SSPs ranging from basic HIV and AIDS knowledge to how to support families through disclosure and adherence processes, creating service gaps for unmet psychosocial needs that perpetuated the HIV epidemic.

CONCLUSIONS/NEXT STEPS: Achieving HTS goal and meeting the United National 90-90-90 targets in South Africa, requires consistent, well-coordinated intervention by skilled health practitioners and SSPs. A strong and integrated guideline provides the necessary framework to enable SSPs to contribute to the fight against HIV, especially in a political and legal environment in which SSPs were never considered to be part of what was perceived as an exclusively medical challenge.

PEF1859

UKRAINE HIV PREVENTION SHADOW REPORT 2019. 10-POINTS PLAN VS REALITY

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BACKGROUND: Ukraine has the second largest HIV epidemic in EECA region. The last year has seen encouraging progress for HIV prevention in Ukraine, but a lot remains to be done. The gradual transition from donor to domestic funding is securing the sustainability of the HIV response. The adoption of social contracting mechanisms is expanding the role of civil society organisations in the provision of stigma-free services to marginalised people. However, significant barriers remain in the legal environment. Sex work and drug use are still criminal offences, and the government has not announced concrete plans to address this. Civil society is also worried that the country does not have a clear plan to address capacity gaps and weak accountability systems.

DESCRIPTION: In 2017, governments, civil society, UN agencies and donors launched the Global HIV Prevention coalition to accelerate progress towards the global target to reduce new HIV infections.

The Coalition endorsed the HIV Prevention 2020 Road Map which acknowledges common barriers to progress including lack of political leadership; enabling laws and policies; and funding for the implementation of combination prevention programmes. The Road Map commits countries to a 10-point plan. This shadow report sets out a civil society's perspective on how Ukraine performed in 2019.

LESSONS LEARNED: The report prepared with support of PITCH partnership as a desk review and community experts assessment from 8 national CSOs

CONCLUSIONS/NEXT STEPS: 1. Conduct an in-depth assessment to undertsand the prevention needs of adolescents and young people in all their diversity, and especially adolescents who use drugs. This should include carrying out accurate size estimation studies.

2. Identify capacity gaps and implement technical assistance plans quickly, to enable the scale up of combination prevention programmes for all key populations. This should include provision of OST and other services for people in prisons.

3 Create a more enabling environment for marginalised people. This should include implementing programmes that decrease stigma and discrimination, amending laws that criminalise vulnerable people and promoting policies and interventions that protect their human rights.

4 Continue working to increase the accountability of the national HIV prevention response by involving communities in monitoring and evaluation processes.

PEF1860

EVALUATING IMPLEMENTATION PRACTICES IN THE ADOLESCENT TRIALS NETWORK FOR HIV/AIDS INTERVENTIONS (ATN) WITH THE EPIS MODEL: THE ROLE OF POLICY WITHIN PROGRAM IMPLEMENTATION

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BACKGROUND: Implementation science encourages the use of models such as the Exploration, Preparation, Implementation, Sustainment (EPIS) model, to characterize the contextual factors that impact the uptake of evidence-based practices (EBPs). For example, in the ATN, the Scale It Up (SIU) program, utilizes EPIS to assess EBP implementation at U.S. sites across. Though EPIS stresses policy at all levels, as critical to implementation, traditional study designs and strategies sometimes omit the influence of policy and may fail to consider the need for policy change as necessary for the sustainment EBPs.

DESCRIPTION: We thus initiated a policy and advocacy working (PAW) group, of researchers, key stakeholders and youth advocates within the ATN. PAW utilizes an implementation science framework to translate youth communities' HIV concerns into potential policy/advocacy solutions, applies mixed methods to determine the most impactful options for policy change, engages policy actors relevant to the proposed policy/advocacy solution, disseminates policy products that are in alignment with the proposed policy solution, and evaluates the enacted solutions as part of a set of implementation strategies.

LESSONS LEARNED: Studies within the ATN, highlight inconsistencies in federal, state and local funding as perennial concerns for care and treatment sites. They characterize policies and legal statutes that impede the ability to reach and engage with sexual and gender minority and at-risk youths. Thirdly, they denote workforce trends and stability, particularly when it comes to paraprofessionals (e.g., community health workers and navigators), as a concern. Our work within PAW is critical to the development of guidelines and agenda-setting processes that can inform programs within the ATN broadly, to better delineate them in the context of EBP implementation and sustainment.

CONCLUSIONS/NEXT STEPS: Findings from PAW and the ATN, identify several social and political factors that affect implementation and sustainment of EBPs focused on reducing risk and promoting resilience among young people. The PAW will evaluate the following policy/advocacy areas for developing new implementation strategies:

1) mandatory workforce development training for developmentally sensitive, stigma-reducing and evidence-based youth HIV-related services;

2) reimbursement for paraprofessionals; and,

3) comprehensive sexuality education sensitive to the needs of at-risk youth.

PEF1861

ENSURING ACCESS TO HIV CARE AND PREVENTION FOR PEOPLE IN IMMIGRATION DETENTION IN THE UK

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BACKGROUND: People held in detention in the UK are entitled to receive the same standard of healthcare that is available in the community, including access to HIV treatment, care and prevention. In addition, Home Office policy on 'Adults at Risk' has specific ramifications for people living with HIV. However, it is known through HIV organisations and clinicians that these standards are not upheld with people regularly not receiving their medication, missing appointments and sometimes being deported without safe access to treatment.

Various developments in HIV treatment guidelines and Home Office policy on treatment of 'vulnerable' adults, meant that previously existing guidance for people held in immigration detention who are living with HIV was out-of-date.

DESCRIPTION: NAT (National AIDS Trust) collaborated with the British HIV Association (BHIVA) to update guidance. The aim was to ensure that healthcare and operational staff in Immigration Removal Centres (IRCs) and Short-term Holding Facilities (STHFs) and staff in HIV clinics local to detention facilities were well-informed regarding new and existing policies and how best to implement them via specific practices and protocols. The guidance also includes a checklist of responsibilities for those working in IRCs, STHFs and HIV clinics.

LESSONS LEARNED: Producing this guidance required collaborating with a range of stakeholders with very different objectives and sometimes directly contradictory positions (NAT opposes the detention of migrants in principle). Early and persistent engagement, along with appeal to formal policy was vital for creating a document that was acceptable for all and therefore likely to be implemented.

Healthcare staff in IRCs need to be able to work within the wider

healthcare system and with those managing IRCs. Formally cementing relationships with HIV clinics, e.g. through protocols, can provide invaluable support.

CONCLUSIONS/NEXT STEPS: The guidance has been disseminated to Immigration Enforcement officials, who have adopted it for training purposes. It has also provided an impetus for HIV clinicians to reach out to IRCs in their area. Unfortunately, there are still cases of poor treatment, but this guidance has been used by legal teams to challenge this, and we continue to liaise with policy officials with the aim of eliminating these instances.

PEF1862

COMMUNITY INVOLVEMENT IN SHAPING A 21ST CENTURY NGO

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BACKGROUND: HIV Scotland is a Non-Governmental Organisation based in Edinburgh, Scotland. It is an independent policy, advocacy and campaigning organisation that has been at the forefront of Scotland's HIV response since 1994. In 2017, the Scottish Government significantly cut the funding that supported the work of the organisation, and there was a need to reconnect with the wider HIV sector, diversify funding and cement it's future with a unique contribution to the sector.

DESCRIPTION: It is important to engage with partners, people living with and affected by HIV and funders to ensure the organisation continued to add value to Scotland's response to HIV. HIV Scotland organised a roadshow of events that were open to people living with HIV, PrEP users, people at risk of HIV, healthcare professionals, NGOs, and policy makers. The purpose of the consultation events and a subsequent online survey was to reconnect with communities affected by HIV and the wider sector, whilst creating a new strategic vision.

LESSONS LEARNED: 118 individuals from across Scotland have responded to HIV Scotland's Online Strategic Plan Consultation and approximately 94 people have attended 5 road shows across Scotland.

People living with HIV said they wanted an organisation that increased public awareness, challenges stigma and discrimination, and provides training for people who are in direct contact with HIV about U=U and general HIV knowledge. NGO's wanted a unified and collaborative response to the challenges of HIV in Scotland, opportunities to bring the sector together to develop concrete strategies and campaigns, and an extended, national campaign to build public awareness of HIV and U=U.

Strengths were identified as advocacy, influence & knowledge. 65% of respondents said informative was a word that best described the organisation. 4% of respondents said that the organisation wasn't needed anymore.

CONCLUSIONS/NEXT STEPS: A large majority of respondents supported expanding the organisations focus, beyond HIV and beyond Scotland. In March 2019, the organisation published #ZEROHIV - the plan for Scotland to reach zero new HIV transmissions. The next steps are to consider how it can play a part on the global stage to contribute to getting to zero.

PEF1863

HOW POLICY AFFECTS PRACTICE: POLICY BARRIERS TO PROVISION OF HIV BIOMEDICAL PREVENTION SERVICES IN SUB-SAHARAN AFRICA

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BACKGROUND: Policies governing HIV prevention product access are critical guardrails that influence the uptake of biomedical HIV prevention options such as oral pre-exposure prophylaxis (PrEP). Policies determine who can access a product, where they access it, and from whom. If not addressed, policy barriers can also limit access to next generation products. Improving the enabling environment for biomedical HIV prevention products can increase their reach and impact.

METHODS: AVAC conducted a desk review of the HIV prevention policy landscape in 8 countries in sub-Saharan Africa. This analysis includes training requirements for provision of PrEP and contraceptives, clinical guidelines, National Strategic Plans for HIV and Sexual and Reproductive Health, and implementation strategies. National policies on age of consent and the criminality of same-sex relationships were also examined. In-depth interviews were conducted with 12 stakeholders from the 8 countries.

RESULTS: Of the 8 countries examined, three countries specified a minimum age of 15 years old to consent to PrEP use; the remaining countries did not clearly indicate age of consent. Contraceptive policies are more flexible, with 7 of 8 countries specifying contraceptives should be made available to any woman of reproductive age, and 1 country with a minimum age of 12 years. Overall, 7 out of 8 countries criminalize same-sex relationships. Finally, 3 countries require that ART and PrEP certified doctors, clinical officers, and nurses prescribe and counsel on PrEP, while 3 require training on PrEP only.

CONCLUSIONS: Policies related to age of consent for PrEP are often not aligned with age of consent policies for sexual intercourse, HIV testing services (HTS) & contraceptives. Aligning age of consent policies for family planning & PrEP may facilitate increased access and integrated service delivery. Implementing task-shifting can increase access to PrEP and facilitate implementation of community-led services for key populations, which reduce stigma, improve service quality and adherence. Removing these barriers can improve the impact of oral PrEP and accelerate introduction of future ARV-based prevention products as they become available.

PEF1864

HOW WELL DEFINED ARE NATIONAL PACKAGES OF HIV SERVICES FOR KEY POPULATIONS? AN ASSESSMENT OF 5 ASIAN COUNTRIES

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BACKGROUND: While the World Health Organization has outlined the comprehensive package of services which should be available for key populations (KPs) --men who have sex with men (MSM), people who inject drugs (PWID), sex workers (SW), transgender people (TG), and prisoners)--these populations rarely have access to the full range of recommended services. We reviewed the existing package

of HIV services for KPs in 6 countries implementing Sustainability of HIV Services for Key Populations in Asia (SKPA). a 3-year Global Fund MCG program led by the Australian Federation of AIDS Organizations (AFAO).

METHODS: Between August 2019-January 2020, we conducted reviews of the National Package of HIV-services for KPs in Mongolia, Lao-PDR, Bhutan, Sri Lanka, and Philippines. Information was extracted through document reviews, KII, FGDS, facility observations, and stakeholder consultations. Interview guides were developed to gather inputs on KP service needs and preferences. A checklist was developed to assess the quality and accessibility of HIV service facilities for KPs.

RESULTS: HIV-service packages for KPs are often not clearly defined. No standards exist for community-led HIV interventions or on how community-services should cooperate and interlink with the government-led health system. Interventions for KPS tend to focus on MSM and female SW and focus mainly on HIV-prevention education, condom provision and promoting HIV-testing services. Little information was found about the situation of PWID, TG, and prisoners. Community-led HIV case-management was either absent or not functioning well, with some notable exceptions (Philippines). Structural interventions and activities to overcome barriers to service uptake (e.g., S&D, social exclusion, criminalization, etc.) – were lacking or did not exist.

CONCLUSIONS: Before HIV-services for KPs can be scaled up, a defined package of HIV-services must be agreed upon. Clearly defined standards for implementation should be developed in which the roles and procedures of community-led HIV-services and government-led services are stipulated. PrEP/PEP should be added to the HIV-service package for KPs and HIV-testing services should be made more diversified by including community-based, lay-person-initiated HIV-testing, and HIV self-testing. S&D and other barriers to accessing services for KPs should be addressed through trainings and sensitizations of healthcare workers and strengthening of mechanisms for KP legal support and protection.

POLICIES ADDRESSING SOCIAL AND ECONOMIC DETERMINANTS OF VULNERABILITY

PEF1865

THE ANTI-GAY LAW: ITS IMPACT AND CONSEQUENCES ON HUMAN IMMUNODEFICIENCY VIRUS PREVENTION IN NIGERIA. A QUALITATIVE STUDY OF MSM COMMUNITY ON HUMANITARIAN PROTECTION IN UNITED KINGDOM

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BACKGROUND: The Nigerian Same Sex Marriages Prohibition Act (SSMPA) (2013) criminalises same-sex relationships or unions and any open support for such unions or groups. Vu et al (2013) suggests that due to the criminalisation of the Lesbian, gay, bisexual and transgender (LGBT) community in Nigeria, a large population of those affected are reluctant to attend sexual health clinics due to stigmatization, discrimination and homophobic comments from people which potentially increase their vulnerability to HIV/Aids. However, there seems to be limited non-ecological data or prospective data which has assessed the impact of the SSMPA (2013) against the MSM with regards to possible health outcomes (Schwartz et al, 2015).

METHODS: This is a qualitative study and eight (8) participants were interviewed from both House of Rainbow Church UK and the United Kingdom Lesbians and Gays Immigration group (UKLGIG). Data was also analysed using Interpretative Phenomenological Analysis (IPA) to explore findings.

RESULTS: The common sub themes that emerged during interviews includes; Far Reaching Consequences, Religion, Culture and Morals, Societal Expectations, Healthcare Systems and Mental Health Crisis. This was subsequently grouped in three (3) main key themes which includes: Ethical Reflections, Psychological Reflections and Social Systems Reflections. These three themes were analysed in line with the findings of this research study.

CONCLUSIONS: Evidence from this research highlights inequalities in Public health policies in Nigeria. The need for a more holistic approach was clearly elaborated. The need to educate Nigerians on how genetics determines an individual's sexual preference was discussed bearing in mind that Nigeria is a multicultural society with deeply rooted moral and religious values.

PEF1866

HOUSING STATUS AND HIV VIRAL LOAD SUPPRESSION AMONG ALAMEDA COUNTY RYAN WHITE CLIENTS

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BACKGROUND: California's housing crisis is a challenge to HIV public health. In Alameda County (AC), homelessness increased 43% since 2017. Five percent of homeless individuals reported HIV as a health condition, yet HIV prevalence in AC is only 0.4%. Low-income people living with HIV (PLWH) in AC can receive HIV-related services through the Federal Ryan White HIV/AIDS Program (RWHAP). We evaluated the relationship between housing status and viral load suppression (VLS) among AC RWHAP clients.

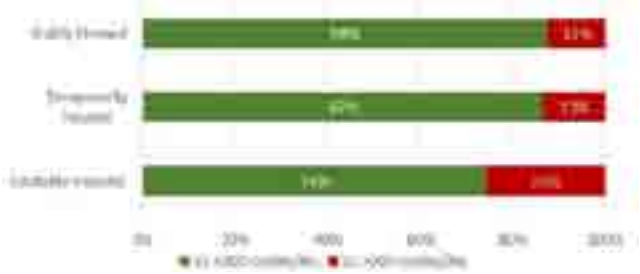
METHODS: Data on housing status, service category and viral load was extracted from the RWHAP AIDS Regional Information Evaluation System (ARIES) for 2018. VLS (≤200 copies/mL) was compared for clients stably (SH), temporarily (TH) and unstably (UH) housed, as reported by service providers. A X^2 test was performed to evaluate association between VLS and housing status.

RESULTS: In 2018, 964 AC RWHAP clients had housing information reported in ARIES. VLS was reported in 85% of SH, 82% of TH, and 71% of UH clients (X^2=5.22, p=0.74, figure 1).

[Figure 1. Viral suppression rate and housing status for RWHAP clients in Alameda county. N=964 X^2= 5.22, p=0.74]

Among medical case management (MCM) clients, 86% of SH, 87% of TH and 73% of UH clients achieved VS (X^2=6.125; p=0.045). Overall VLS was 85.2% for outpatient ambulatory (OA) clients, but the numbers of TH and UH clients were too small to test for significance.

CONCLUSIONS: There is suggestive evidence of a dose-dependent relationship between VLS and housing status. MCM clients were more likely than OA clients to be unstably housed. Association between VLS and housing for clients receiving MCM was significant (Figure 2).



[Figure 2. Viral load suppression rate and housing for RWHAP MCM clients in Alameda county. N=510 X^2= 6.125, p=0.045]

MCM is designed for those facing engagement in care challenges, despite this, disparate VLS outcomes remain for UH clients. There is a benefit to receiving services through the RWHAP network. RWHAP providers take a client-centered approach.

By incorporating homeless outreach and street-level services, this approach can be expanded to better serve a highly vulnerable population.

PEF1867

CHALLENGES IN ENDORSING TRANSGENDER RIGHTS BILL AS LAW IN INDIA

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BACKGROUND: Supreme court of India have passed a judgement in year 2014, endorsing self- confirmation of gender identity. Further, Transgender person bill was passed by Indian parliament and endorsed as a law.

DESCRIPTION: The Transgender person bill passed by the Indian parliament has numerous provisions for Transgender community. Provision includes skills development and employment; social security and healthcare; legal and financial aid; prevention of abuse, violence or exploitation; and social inclusion. Many CBOs led by Transgender community and Transgender activists felt that the said bill violates the rights of Transgender community.

The Humsafar Trust, through its initiatives had organized national-level consultations with Transgender led CBOs and Transgender activists to discuss the provisions in the bill. From this consultation meeting, recommendations from the participants were gathered and submitted to the Honorable Ministry of Social Justice and Empowerment for rewriting the bill.

LESSONS LEARNED: Involving CBOs led by Transgender community and Transgender activists in making decision is key to ensure community-sensitive and effective policies. Using public action and civil society consultations, the campaign pressed the Indian government to recall key provisions in the bill and also to enact it as a law at the earliest.

CONCLUSIONS/NEXT STEPS: Within the Transgender community there are differences in opinions about retaining certain provisions. Further community and stakeholder consultations may help in achieving a consensus and result and ensure in effective implementation of the said bill

PEF1868

YIELDING RESULTS THROUGH HIV SENSITIVE SOCIAL PROTECTION IN SUDAN

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BACKGROUND: In Sudan, out of the 6000 members of the Sudanese living with HIV Care Association (SPCA) who are on treatment, only 27% have access to Social Health Insurance (SHI), 99% are below the national poverty line (USD 1.45 per day) and 75% of them are unemployed. While the country has structured Social Protection System, cash transfers and Social health Insurance (SHI). UNDP aimed to influence the social protection systems in the country to be more inclusive of PLHIV and address the factors that hinder their access to these publicly available social protection services.

DESCRIPTION: During 2018, In partnership with SPCA, UNDP designed and implemented a tailored quantitative and qualitative research that provided the full socioeconomic profile of PLHIV and mapped the social protection systems and schemes in the country. A national validation and advocacy workshop was conducted in the presence of Ministers of Health and Social Welfare, where the findings of the study and the preliminary recommendations were presented. As immediate reaction, the minister of social welfare pledged to cover all of PLHIV who are on ART treatment with Social Health Insurance and other services. A joint committee developed some guidelines and SOPs to address the bottlenecks that hinders PLHIV access to SHI and other services and SPCA started enrolling their members. By the end of 2019, around 4000 were already enrolled and received their SHI cards.

LESSONS LEARNED: With targeted advocacy and evidence-informed policy work, the PLHIV access to SHI and other Social protection services increased from 27% to 75%. It is important to carefully analyze and leverage the potential resources and services that are outside the health sector for better health equality and HIV results. Overall, policy work is slow to demonstrate results, but these results are more sustainable.

CONCLUSIONS/NEXT STEPS: Given this important break through, the efforts will continue first to sustain this initiative through developing an HIV Sensitive Social Protection Strategy within the Ministry of Social Welfare, including some key steps for inclusion of PLHIV and key populations in the broader national social protection and social policy strategic framework which is being developed.

PEF1869

SÃO PAULO PREPARED IN ALL REGIONS FOR MORE VULNERABLE AND PRIORITIZED POPULATIONS AGAINST HIV EPIDEMICS IN BRAZIL

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BACKGROUND: HIV/AIDS virus infection in the city of São Paulo, follows the national tendency, marked by the segments which are more exposed to HIV /AIDS virus such as homosexuals and other men who have sex with other men, transgender people, sex workers, and people who use drugs, which involves great complexity related to social exclusion and various violations of rights.
DESCRIPTION: Through the previously conducted research, it was found that PrEP was accessed, mostly, by non Public Health System (also known as SUS) dependent white gay men with a high level of education. Thus, the Municipal Program of STD/Aids decided to first implement in services, from the Municipal Network Specialized in STIs/AIDS, further away from the city center and, in a pioneering way, also in Testing and Counseling Centers. There was training of the teams and relocation of medical professionals to expand the supply. Dissemination on social networks, production of promotion material, provision of said materials to prevention agents and partnership with social spaces of listed populations.
LESSONS LEARNED: Until December 2019, out of the 26 specialized services, 24 had already offered this prophylaxis, with more than 4000 people registered in PrEP use, 41% of which are black. More than 200 preventive agents have a good knowledge on how to approach the more exposed population and are increasingly promoting prophylaxis. The network of partners, such as saunas, bars, nightclubs and sex parties, is aware of the new prevention strategy and has disseminated our materials and even produced their own with the technical assistance of the Municipal Program.
CONCLUSIONS/NEXT STEPS: To maintain and to transversally expand PrEP's access to the most vulnerable populations and priority (black, young and etc.), it is necessary to expand dissemination in extramural activities in sociability and entertainment environments. Peer education work is also critical to increase knowledge about combined prevention and promote rapprochement with health services.

PEF1870

SEX-POSITIVITY IN PUBLIC HEALTH STRATEGIES AND MEDICAL CONSULTING

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BACKGROUND: The International Federation of Medical Students Association (IFMSA) has been advocating towards Sexual and Reproductive Health and Rights, voicing the opinion of 1.3 million medical students from 128 countries. IFMSA acknowledges the urgency of the global HIV and AIDS pandemic and need for a multi-sectoral response to improve healthcare access and outcomes of people living with HIV. IFMSA aims to equip medical students with the skills to advocate for reducing and challenging discrimination related to HIV and AIDS in healthcare and education settings.
DESCRIPTION: We first formulated a gender and regionally-represented Working Group to develop a Policy Document on HIV and AIDS response with calls on key stakeholders as governments, NGOs, healthcare providers, educational institutions and students, supported by the necessary literature. IFMSA then designed a capacity-building workshop, HIV Education and Advocacy Training (H.E.A.T), in Lithuania to discuss the concept of sex-positivity, targeting medical and non-medical students. Sex-positivity is a broader concept used in different areas of sexuality education. For the social determinants of HIV, the concept is very relevant for increasing access to prevention and testing and reduce stigma. The workshop was conducted again in Montreal and empowered participants from different countries to fight the discrimination related to HIV and AIDS.
LESSONS LEARNED: The policy document was adopted by our 136 member organizations to represent the stance of our federation and to be utilized on a global, national and local level. A policy brief is currently being developed for our attendance to the Commission on Status of Women (CSW64).
The H.E.A.T workshop was developed to consist of:
- Risk-based vs sex-positive approach -explanation of concepts and approach in medical schools.
- Benefits of sex-positive approach in prevention, counseling and sexuality education - brainstorm the ideas of the positive impact of sex-positive approach in HIV related education;
- Take-home messages and feedback.
CONCLUSIONS/NEXT STEPS: We plan to expand the conduction of H.E.A.T workshop to regional and local execution to deepen the understanding of medical students of the sociocultural issues relating to HIV and AIDS. We are now preparing for the next H.E.A.T workshops in Peru and France. We will also ensure the continuous evaluation of each workshop conducted.

PEF1871

LEGAL AND POLICY REVIEW ON LGBTIQ PEOPLE'S ACCESS TO HIV, HEALTH AND SOCIAL PROTECTION SERVICES IN CAMBODIA

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BACKGROUND: LGBTIQI people are not explicitly protected by the Cambodian Law and no defined sanctions for those who commit abuse against them. Limited Legal and social systems for protecting LGBTIQI people could prevent them from accessing HIV, health and social protection as needed. The Legal and Policy Review was conducted at aiming to identify legal and policy barriers hindering LGBTIQ people from accessing HIV, health and social protection services.
DESCRIPTION: The assessment consisted of two parts including desk review of Cambodian laws and policies and key Informant Interviews with LGBTIQ people, government Officials of relevant ministries, relevant CSOs and UN agencies, and service providers. In total, 10 national laws and 11 policies were reviewed and 84 people were interviewed, including 59 LGBT people. The analysis from desk review of Cambodian law and policy confirmed the no explicit/direct discriminatory provision in Cambodian law/policy towards LGBT people, a notable barrier is Art. 19 of HIV law not intentionally targeted LGBT people, and the current legal system does not include any legislation that proactively supports transgender people's right

to be legally recognized according to their self-defined gender. The key findings from field interview were confirmed very limited knowledge on social protection by LGBTIQ people, limited understanding about SOGIE amongst health service providers, previous experience of discrimination prevents them to access to health service, and mental health care due to stigma and experience of social exclusion, isolation or discrimination is serious concern.

LESSONS LEARNED: The key barriers associated to law and policy have been identified that prevent LGBTIQ people from accessing HIV, health, and social protection services. The barriers include limited dissemination of information about social protection framework, lack of LGBTIQ friendly-services at health facilities, and limited professional skills and understanding of SOGIE by health service providers.

CONCLUSIONS/NEXT STEPS: Based on analysis of the identified barriers, the policy brief was developed which is the advocate tool with government institutions and key stakeholders through dissemination workshop and policy dialogue. The specific recommendations were identified to inform the national interventions on HIV and health services , social protection: law and policy reform, and research and campaign focused on HIV and SOGIE.

POLICIES ADDRESSING HIV IN THE WORKPLACE AND/OR EDUCATIONAL INSTITUTIONS

PEF1872

TEACHERS' PERCEPTION AND ATTITUDE TOWARDS SCHOOL-BASED SEXUALITY AND HIV/AIDS PREVENTION EDUCATION IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

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BACKGROUND: Despite the introduction of the Family Life and Health Education (HIV Prevention Education) Programme in secondary schools since 2003, studies have found that the percentage of young women and young men in Nigeria who have comprehensive knowledge about HIV/AIDS is still abysmally low at 24% and 34% respectively. This study assessed the perception, attitude, and preparedness of secondary school teachers who are the major stakeholder of Nigeria's school-based sexuality and HIV prevention education program in secondary schools.

METHODS: A descriptive cross-sectional design using a stratified random sampling method was employed to select participating schools. A total of 373 secondary school teachers from twenty schools in Ibadan North Local Government Area participated by completing a self-administered questionnaire. The data were analyzed using descriptive and inferential statistics. Ethical approval was obtained from relevant authorities.

RESULTS: More than half, 54% of the teachers indicated that sexuality education is best taught by parents and 55% of them believed the home is the best place to teach on human sexuality/HIV/AIDS. Only 35.4% of the 373 respondents suggested that HIV prevention education should be introduced to primary school students (usually less than 10 years). Also, 69.7% of the respondents reported to have no formal training on sexuality education and almost one out of every four (23%) had difficulties in teaching about Sexual Coercion and Abuse. This study found that gender and previous training on sexuality education were statistically significant factors that were associated with their perception. Furthermore, the female gender was a statistically significant factor that was associated with a better attitude of teachers towards sexuality education (p=0.019), while a higher educational degree (p=0.010) was associated with better comfort level. Challenges that affected teachers' delivery of HIV prevention education included inadequate training, inadequate teaching materials, inadequate support from school and parents.

CONCLUSIONS: Overall, findings from this study provide evidence that teachers have a poor perception of their roles, a somewhat good comfort level and a better attitude towards the school-based HIV prevention education program. This study re-emphasizes that pre- and in-service training programs for teachers' are needed to develop their competence, confidence, and commitment to teaching on HIV/AIDS.

PEF1873

ENSURING AN EQUITABLE AND JUSTICE WORKFORCE FOR WORKERS OF COLOR LIVING WITH HIV

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BACKGROUND: The Federal Plan to End the HIV Epidemic (EHE) in America provides many new opportunities and challenges in response to the epidemic. As one of its goals, the EHE seeks to prepare a modern HIV workforce that is needed to reach the nearly 500,000 persons out of HIV care and the 1M persons that are eligible for PrEP. This policy and human rights discussion are vital to ensure that people living with HIV are participating meaningfully within the HIV workforce.

DESCRIPTION: Peers - people living with HIV - can be found in nearly every position within the HIV field. The purpose of this session is to focus on those positions which are heavily occupied by peers such as frontline staff, outreach workers, case managers, prevention educators, patient navigators, peer leaders, and program managers working in HIV prevention and care. This vital policy discussion centers around efforts to ensure that peers working in client-centered positions are appropriately trained and supported to be hired, retained, and elevated. One initiative is the creation of a Leadership Twinning Net as one demonstration of a commitment to ensure meaningful involvement of peers across the workforce.

LESSONS LEARNED: The US HIV community has taken several steps to pave the way for a workforce. These steps re-affirm, support, and value the skills, lived experiences, and contributions people living with HIV bring to the HIV workforce. For example, a) the issuance of a stigma-free language guide, b) the inclusion of "lived experiences" as a representation of academic achievement or work experience when determining eligibility for job positions, c) funding support for professional development, and opportunities for organizations to transform to trauma-informed, healing justice organizations.

CONCLUSIONS/NEXT STEPS: EHE requires extensive workforce development initiatives to achieve its goals and objectives. Therefore, it is essential to discuss the roles peers are playing and will play in this rapidly shifting and transforming social and political environment. A thoughtful discussion with global leaders interested in workforce development will have future implications for lessons learned, best

practices, and innovative initiatives for developing a responsive workforce as reflected in the inclusion of peers in meaningful, sustainable, and living-wage positions.

POLICIES RELATED TO TREATMENT ACCESS (INCLUDING INTELLECTUAL PROPERTY POLICY)

PEF1874

RAPID ARV STOCKOUT ASSESSMENT PREVENTED MAJOR HEALTH AND POLITICAL CRISIS IN THE DOMINICAN REPUBLIC

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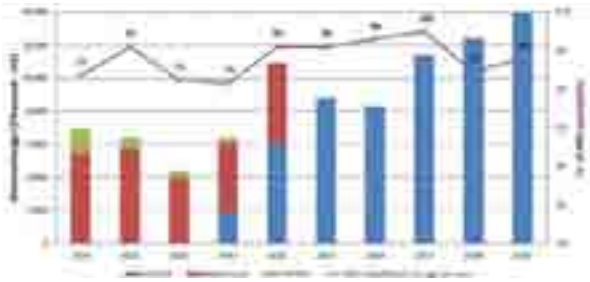
BACKGROUND: Due to the implementation of an efficient pharmaceutical supply system (known as SUGEMI), the selection of efficient international providers and the allocation of the government budget, the Dominican Republic (DR) had not to experience stock-outs of antiretrovirals (ARV) from early 2014 until October 2018 (Figure 1). In November 2018 persons living with HIV initiated a mass media campaign to denounce stock-outs of important ARVs. The SUGEMI information system confirmed the situation.



[Figure 1. Allocated budget for ARV and HIV supplies 2010 to 2019
Source: "Valdez, C; Barillas E. (2018) Update of SIAPS Project funding by USAID. Programación de VIH del Sistema Unico de Gestión de Medicamentos e Insumos (SUGEMI)".]

DESCRIPTION: USAID and ONUSIDA commissioned GIS to carry out a rapid assessment to identify the origin of the stock-outs. The study methodology included analysis of the SUGEMI database, review of the requisition and dispatch formularies and interviews with key informants at different levels of the logistic chain. Three ARVs were out of stock in all the supply chain due to lengthy exchanges during the procurement process among the Ministry of Health (MoH), Ministry of Finance, the procurement agency, and other public players. Other ARVs were out of stock in health facilities due to the lack of adherence to requisition and dispatch standards procedures

LESSONS LEARNED: The results were presented to the Minister of Health, who ordered -though a Ministerial Decree- the direct procurement of ARVs by the MoH, saving at least 8 months in the procurement process. Based on the study results, the cooperating agencies and the MoH have committed resources to strengthen the adherence to the SUGEMI standards operative procedures, monitoring annual procurement, designed of a standard form for people with HIV can alert and inform about potentials stock-outs to the authorities at facility level. As of April 2019, the stock-out crisis was over

CONCLUSIONS/NEXT STEPS: Timely rapid assessment results based on evidence can contribute to key decision-makers to avoid major public health problems, the political crisis and identify interventions to increase access to ARVs and prevent future stock-outs

PEF1875

MORE FOR LESS: SHOULD INTELLECTUAL PROPERTY RELATED INTERVENTIONS BE FUNDED BY THE GLOBAL FUND?

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BACKGROUND: Middle-Income Countries (MICs) are home to the majority of HIV-positive people and highest burden of TB/HIV coinfection, yet they are often excluded from mechanisms enabling access to generic medicines and facing funding cuts from multilateral organizations including the Global Fund. Recognizing such trends are impacting MICs sustainable access to life-saving medicines, ITPC has conducted analyses to determine whether interventions aiming to remove intellectual property (IP) barriers for access to affordable generics were within the scope of the GFATM and how to encourage funding for such interventions in MICs.

DESCRIPTION: ITPC conducted a desk review to assess whether IP and access to affordable medicines related interventions were within the Global Fund scope. ITPC also conducted research among civil society and communities in 15 middle-income countries from latin America, Africa, Eastern Europe and Central Asia and Southeast Asia to determine their main challenges in accessing funding for IP related interventions. Finally, discussions with GFATM Secretariat and Board members on policies and attitudes towards IP and access to medicines were held.

LESSONS LEARNED: The analysis concluded IP and access to affordable medicines was within the GFATM's scope and mentioned in no less than 10 policy documents issued between 2015 and 2019. Yet the interviews with communities from MICs evidenced that IP related interventions were seldom funded by the Global Fund and facing a general defunding trend. Finally, discussions with GFATM stakeholders highlighted reluctance from the institution regarding support to IP related interventions despite it being part of its scope.

CONCLUSIONS/NEXT STEPS: The analysis conducted showed the need for interventions to tackle IP barriers to be encouraged in the next GFATM funding cycle, particularly in MICs facing access to medicines challenges in a way to ensure sustainability. The reasons for such interventions being seldom funded vary from non-inclusion from countries to deprioritization or pressures for removal from the GFATM. To overcome these obstacles, ITPC is conducting advocacy work at national level for countries to be informed on the possibility for IP to be funded by the GFATM and empowered to include IP interventions in grants, and for the GFATM to support and fund IP related activities in country grants.

PEF1876

ENSURING HIV TREATMENT SUSTAINABILITY AND PROCUREMENTS OF SOCIAL CARE SERVICES FROM REALLOCATED STATE FUNDS THROUGH OPTIMIZATION OF TREATMENT REGIMENS: EXPERIENCE OF SCALING UP OF GENERIC DOLUTEGRAVIR ACCESS IN UKRAINE

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BACKGROUND: Ukraine has remained country with the second-largest HIV burden in Eastern Europe and Central Asia (as of 2019, 244000 people living with HIV/AIDS (PLWHA)). Considering scale of the epidemics and international obligations to complete transition from donor to state HIV-programme funding by 2020 Ukraine was forced to review its state policy on treatment regimen towards effective but cost-affordable medicines. Since 2016 the World Health Organization (WHO) recommended dolutegravir (DTG) as the alternative first-line treatment. Until 2016, DTG was under patent protection in Ukraine.

DESCRIPTION: In 2016 All Ukrainian Network of People Living with HIV elaborated and supported Ministry of Health of Ukraine (MoH) in piloting advocacy strategy on extension of HIV treatment coverage through advocating access to generic DTG to the Ukrainian market. Key components of the 2016-2019 advocacy strategy include:

(1) Negotiations with originator manufacturer and Medicine Patent Pool on voluntary license on DTG within 2014-2016;

(2) Advocacy on DTG inclusion to the state medicine procurement list in 2017;

(3) Negotiations with MoH officials on registration of generic DTG in 2017;

(4) Advocacy on DTG procurement policy as the main HIV first-line treatment within 2017-2019 by introducing calculations on progressive annual basis;

(5) Advocacy on adoption of latest WHO HIV treatment guidelines with updated recommendations stating DTG as the main first-line and second-line treatment in 2018-2019.

LESSONS LEARNED: Project shows that in case of limited state budget resources sustainability of HIV programmes may be achieved through the generic substitution. It secures universal HIV treatment coverage and simultaneously enables coverage of social care services needs from the reallocated state funds. Collaboration between state officials and community advocators is critical for achieving state policy amendments in best patients interests.

CONCLUSIONS/NEXT STEPS: Budget funds saved as a result of optimized treatment regimens secure safe transition to the state funding of HIV programmes ensuring HIV treatment sustainability. In 2019 reallocated from the savings 4,5 million USD were used to cover procurements of social care services for PLWHA solely from the state funds for the first time. In 2020 amount is expected to scale up to 8,5 million USD due to the continuation of treatment regimens optimization.

POLICY ANALYSIS AND INDICATORS OF POLICY EFFECTIVENESS

PEF1877

ANALYSIS OF HIV-RELATED LAWS AND POLICIES IN 23 COUNTRIES IN LATIN AMERICA AND THE CARIBBEAN: "MIRA QUE TE MIRO"

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BACKGROUND: In 2013, all countries in Latin America and the Caribbean (LAC) signed the Montevideo Consensus, the strongest UN document on sexual and reproductive health and rights (SRHR), which included a robust commitment on HIV prevention and care. In order to analyze the progress on the implementation of those commitments, 8 regional civil society networks, developed a tool to score the level of implementation of laws and policies related to 13 SRHR-related topics, including HIV and aids. The tool is called "Mira Que Te Miro" and is based on an online digital platform.

METHODS: A desk review was carried out during 2017 from 23 countries in LAC in order to identify laws, policies, budget and legal barriers on HIV according to the tool that was developed based on the recommendations from WHO, UNAIDS and other multilateral institutions. The second phase was made of interviews and expert consultations were organized in order to validate the results from the desk review. A standardized score was assigned to the answers and quality of laws and policies in all countries.

RESULTS: Among the 13 SRHR-related issues analyzed, "HIV and aids" was at the top of the list as the issue with the highest score, 76/100 in comparison with other such as SRH (71/100) or Sexuality education (47/100). Four countries have a score of more than 90%, meaning that they have a very high degree of legislation and policies that reach international standards: Cuba, Paraguay, Jamaica and Brazil. Some aspects that all countries achieved are: Having a national strategy for HIV prevention and treatment and having a strategy for prevention of vertical transmission. The weakest aspects were: having laws that criminalize HIV transmission and not having mechanisms to create formal complaints of discrimination.

CONCLUSIONS: All countries in LAC have laws and regulations regarding HIV, but not all of them are up to the highest standards that multilateral organizations recommend. Laws and policies related to human rights were the weakest ones and therefore, there is a need to improve them in order to ensure that people living with HIV and key populations are protected against discrimination and violence.

PEF1878

ENDING THE EPIDEMIC STRATEGIES IN DIFFERENT REGIONS OF THE UNITED STATES: PROGRESS AND DEEPER CHALLENGES AT THE LAUNCH OF THE UNITED STATES ENDING THE HIV EPIDEMIC (USEHE) INITIATIVE

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BACKGROUND: New York State/New York City (NYS/NYC) and California/Alameda County/San Francisco/Los Angeles (CA/AC/SF/LA) have each launched regional strategies to end their HIV epidemics (RS2EHE). Although the process and timelines of these RS2EHE differ, progress toward their respective RS2EHE goals is being achieved. Persistent and deep equity-related issues continue to require evaluation and re-calibration of RS2EHE goals and programs to bring the HIV epidemic into better, more equitable, and lasting control.

DESCRIPTION: NYS/NYC and CA/AC/SF/LA are achieving many of their RS2EHE goals with their respective key indicators demonstrating significant improvement as well as persistent disparities.

- NYS/NYC and CA/AC/SF/LA have all prioritized implementation of Pre-Exposure Prophylaxis, decreasing the number of people living with HIV unaware of their status, retention in care/ viral suppression, and addressing stigma as core approaches in their RS2EHE.
- Both groups of jurisdictions have experienced significant decreases in new HIV diagnoses and estimated incident infections--rates remain highest in Black, Latinx, and transgender people.
- Overall viral suppression and time from diagnosis to viral suppression continue to improve in these jurisdictions; these improvements continue to vary by race, age, gender identity, and HIV risk factor.
- Progress on some indicators are more pronounced in urban settings than in in other parts of CA and NY.

LESSONS LEARNED: RS2EHE have greatly accelerated control of the HIV epidemic in two of the most populous states in the US. However, important racial/ethnic, HIV risk factor, gender, and age disparities persist and may be further heightened by other social determinants of health as overall RS2EHE goals are being achieved. Programs and other strategies that address disparities among Black and Latinx people, transgender people, people who inject drugs, youth, and older adults must be consistently evaluated using an equity lens and re-calibrated to achieve regional and USEHE goals without creating deeper disparity.

CONCLUSIONS/NEXT STEPS: HIV will not easily disappear from NYS/NYC or CA/AC/SF/LA, even with RS2EHE or the USEHE initiative. Lessons learned from RS2EHE are critical for success and demonstrate the need to innovate to more completely address equity as we bring HIV into better control across jurisdictions.

PEF1879

IMPACT OF THE HIV UNIVERSAL TEST AND TREAT STRATEGY ON ANTIRETROVIRAL TREATMENT UPTAKE AND RETENTION IN THREE CAMEROON HIV CLINICS

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BACKGROUND: Success of the human immunodeficiency virus (HIV) test-and-treat (T&T) strategy requires high antiretroviral (ART) uptake and retention. However, low ART uptake and retention continue to be reported in ART programs. This study assessed ART uptake and retention outcomes of the HIV T&T strategy in three HIV clinics in Cameroon.

METHODS: A retrospective chart review was done for 423 patients who initiated HIV care within a period of three months prior to the implementation of the HIV T&T strategy, and for another 423 patients who initiated HIV care within a three-month period following the HIV T&T strategy implementation. For each group, sociodemographic, ART uptake and retention data were collected. Chi square and Student T tests were used to test for differences proportions and means between the two groups at $p<0.05$ and 95% confidence interval.

RESULTS: The mean ages (years) in the pre-T&T and the T&T groups were 39.73 and 39.72, and the proportion of female were 65.85% and 65.08% respectively. ART uptake proportion was higher amongst those enrolled under the T&T strategy (98.08% vs 95.39%, p=0.02). A greater proportion of the patients in the T&T group initiated ART within 2 weeks following HIV diagnosis (55.84% vs 48.17%, p=0.03). However, ART retention at 24th month was lower in the T&T group (78.83% vs. 85.79%, p=0.01).

CONCLUSIONS: The findings suggest that the T&T strategy is associated with higher ART uptake, earlier ART initiation, and lower ART retention. This underscores a need for strategies to improve ART retention under the HIV T&T guidelines.

PEF1880

PROTECTING LIFE IN GLOBAL HEALTH ASSISTANCE IMPACT ON PEPFAR'S DREAMS PARTNERSHIP

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BACKGROUND: Protecting Life in Global Health Assistance (PLGHA) is a U.S. policy that prohibits foreign non-governmental organizations that receive global health assistance from using their own, non-U.S. funds to advocate for the liberalization of abortion laws or provide abortion services, counseling or referrals, except in cases of rape, incest, and life endangerment of the pregnant woman.
DREAMS is a successful PEPFAR public-private partnership with the goal of reducing new HIV infections among AGYW. Since the policy applies to all U.S. global health assistance, including PEPFAR, PLGHA has the potential to harm the success of DREAMS by derailing health systems, referral networks, and advocacy structures.

METHODS: From 2017 to 2019, CHANGE conducted fact-finding trips on the DREAMS Partnership that included documenting the impact of PLGHA. Using semi-structured interviews and focus groups,

CHANGE met with over 100 organizations across Eswatini, Malawi, Mozambique, Uganda, and Zimbabwe including civil society organizations, U.S. government, politicians, religious leaders, and AGYW in DREAMS districts. Interviews were audio recorded, transcribed, and coded. This presentation is the first time results have been analyzed across all five countries.

RESULTS: Protecting Life in Global Health Assistance has resulted in clinic closures, loss of community health workers, and has impeded critical partnerships, advocacy efforts, coalition structures, and referral networks among organizations that provide HIV and AIDS testing, counseling, and treatment.

In Mozambique, a sub-prime partner discontinued a DREAMS initiative as a result of the policy, laying off almost 90 percent of their community health workers. In Malawi, a DREAMS partner was unable to comply with the policy, resulting in a gap in services for AGYW. In Zimbabwe, a DREAMS sub-prime partner stopped all of their DREAMS programming, leaving young women without access to SRHR information and left out of economic and enrichment activities.

CONCLUSIONS: This is the first documentation of the impact of PLGHA on the DREAMS Partnership across multiple countries. The research supports the growing body of evidence on the negative impact of the policy across health systems and health outcomes.

MONITORING AND EVALUATION OF POLICIES AND THEIR IMPACT ON PEOPLE LIVING WITH HIV AND KEY POPULATIONS

PEF1881

MEDICAID EXPANSION IMPACTS ON HEALTH INSURANCE CHURN AMONG WOMEN LIVING WITH OR AT RISK FOR HIV IN THE UNITED STATES

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BACKGROUND: In the US, eligibility for Medicaid (health insurance for low-income people) varies by state. People can lose or gain Medicaid ("churn") as their finances change – a phenomenon affecting access to healthcare. Only some states have expanded Medicaid eligibility under the Affordable Care Act. We compared rates of insurance churn among women with and without HIV by adoption of Medicaid expansion in their states of residence.

METHODS: Data were analyzed from the Women's Interagency HIV Study (WIHS), where participants at 10 US sites self-reported insurance and residential address at semiannual visits. Geocoded addresses were merged to state-specific Medicaid expansion timing to create, for each woman-visit, a binary time-varying indicator of residence inside/outside a locale where Medicaid expansion had been adopted. Including visits at age <65 from 4/2008-3/2019, we used age-adjusted rate ratios (RRs) from Poisson regression to compare churn by Medicaid expansion and HIV status.

RESULTS: 3341 women (65% Black) contributed 43329 visits at median age 48, 70% by women with HIV, 27% under Medicaid expansion, and 48% with household income <$12000/year.

Women with [without] HIV reported no coverage and Medicaid, respectively, at 14% [19%] and 61% [51%] of visits.

Women in [not in] Medicaid expansion states reported no coverage and Medicaid, respectively, at 4% [20%] and 69% [53%] of visits.

Women with HIV had a lower rate of coverage loss (RR: 0.81, 95% CI: 0.70-0.95).

Medicaid expansion was associated with lower coverage loss (RR: 0.62, 95% CI: 0.53-0.72) and greater coverage gain (RR: 2.32, 95% CI: 2.02-2.67), with no differences by HIV status. Figure 1 depicts details of churn.

[Figure 1. Medicaid expansion impacts on health insurance churn in the WIHS]

CONCLUSIONS: Women in Medicaid expansion states had substantially better rates of coverage loss and gain. Medicaid expansion throughout the US should be expected to stabilize insurance for women with or at risk for HIV and improve downstream health outcomes.

PEF1882

IMPACT OF LEGAL PROTECTIONS ON SCALE-UP OF PREVENTION SERVICES FOR KEY POPULATIONS

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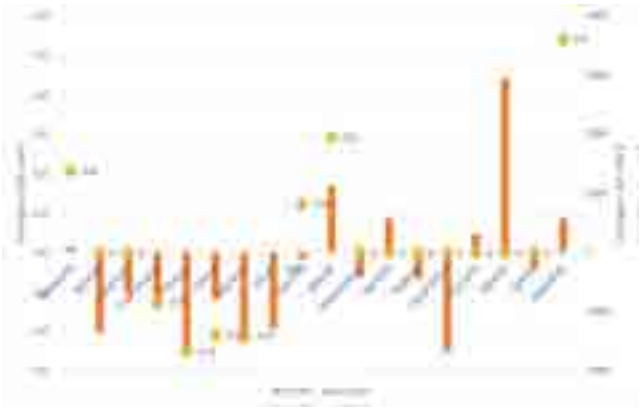
BACKGROUND: According to UNAIDS 2018 data, more than half of new global HIV infections are among KP and their sexual partners. The President's Emergency Plan for AIDS Relief (PEPFAR) continues investing in policy change that enables access and scale-up of tailored KP services.

DESCRIPTION: We analyze trends in KP prevention services from 2017 to 2019 across select countries. The Sustainability Index Dashboard (SID) is a tool developed by PEPFAR and UNAIDS and implemented by partner countries every two years to measure progress towards sustainable HIV/AIDS response. The SID measures changes in legal protections for men who have sex with men (MSM), Transgender people (TG), Female sex workers (FSW), and People who inject drugs (PWID). KP prevention services are measured using a PEPFAR indicator KP_PREV, which is defined as the number of KP reached with individual and/or small group-level HIV prevention interventions designed for target population.

LESSONS LEARNED: A decrease in SID score for KP legal protection from 2017 to 2019 is accompanied by a decline in KP_PREV. Similarly, countries that show a positive trend in the SID score show an increase in KP_PREV. Countries that did not show a change since 2017 also showed a decline in KP_PREV (chart below).



[Figure]

CONCLUSIONS/NEXT STEPS: The global distribution of new HIV infections in 2018 crossed a threshold where the majority of global new infections were among KP and their sexual partners. The UNAIDS fast-track strategy calls for a human-rights based approach and removal of punitive laws, policies, and practices that hinder effective program implementation.

This abstract shows an increase in the number of KP reached through tailored services when barriers are removed and there is an improvement in the legal and enabling environment for KP. In line with the UNAIDS strategy, PEPFAR continues to work towards removing these barriers and creating an enabling environment to scale-up KP services.

PEF1883

FROM "POPULATION GROUP" TO "BEHAVIOURAL RISK FACTORS": COMMUNITY RESPONSE SHIFTS PUBLIC HEALTH STRATEGIES FOR SEX WORKERS IN STBBI PREVENTION POLICIES IN CANADA

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BACKGROUND: February 1, 2019 issue of the Lancet, K. Amico and Linda-Gail Bekker suggest that key population targeting for sex workers could actually contribute to stigma detrimental to successful PrEP roll-out:

"Targeted approaches carry potential unintended consequences. Programs that offer PrEP primarily to sex workers, for example, drive and create stigmas; PrEP becomes associated with being appropriate only for sex workers and sex workers seem to need this intervention more than others."

DESCRIPTION: PrEP in the context of sex work was the subject of a #SWPrEP national consultation in Canada in 2016 held at Dalla Lana School of Public Health. Sex workers and frontline staff from 23 organizations across Canada unanimously expressed concern that, "As stigma about sex work is high among health care providers, asking for PrEP because you fall into a 'target population' is highly problematic."

LESSONS LEARNED: Government health promotion agencies design HIV prevention resources and policies for sex workers based on global key population statistics that purport that sex workers are disproportionately affected by HIV. This risks undermining the capacity of community HIV service providers to design effective responses for important, specific local contexts and could lead to adverse outcomes.

"At a brothel, sex workers may be required to take PrEP as a condition of their working there, and then these brothels may use adherence to PrEP as an advertising ploy. If everyone takes PrEP in a workplace, sex workers may have less leverage with clients that they use condoms."

CONCLUSIONS/NEXT STEPS: Community follow-up from the #SWPrEP national consultation throughout 2017 and 2018 resulted in the removal of "commercial sex" as a risk factor in Canada's national PrEP prescriptIon guidelines, as well as from from provincial PrEP guidelines in British Columbia. In January 2019, correspondence with Triple-X Workers' Solidarity Association of BC, resulted in Public Health Agency of Canada updating Canadian Guidelines on STBBI: the section on sex workers was removed: "The revised guidelines focus on the diagnosis, treatment and follow-up of STBBI based on behavioural risk factors and not population groups."

Sex workers' sexual health—including STBBI prevention—would be best achieved through occupational health and safety programs.

PEF1884

INSURANCE COVERAGE AND VIRAL SUPPRESSION AMONG PEOPLE WITH HIV IN THE UNITED STATES, 2015-2017

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BACKGROUND: Health insurance coverage and access to care improve health outcomes, including viral suppression, for people with HIV in the United States. Prior research has demonstrated that the implementation of the Affordable Care Act (ACA) in 2014 increased coverage among people with HIV and that certain forms of coverage are positively correlated with sustained viral suppression. This study will update prior analysis to provide the latest nationally representative data in this area.

METHODS: Analysis will be based on data from the Medical Monitoring Project (MMP), a Centers for Disease Control and Prevention surveillance system producing nationally representative estimates of behavioral and clinical characteristics of adults with HIV in the U.S. Data for 2017, the most recent year available, will be analyzed as will trends since 2015. Where possible, data will be disaggregated by sex and race/ethnicity. Rao-Scott chi-square tests and prevalence ratios with predicted marginal means will be used for statistical comparisons.

RESULTS: Previously published analyses have shown that the ACA increased coverage for people with HIV and that their coverage patterns differ significantly from the general population. In 2015, Medicaid represented the largest source of coverage for people with HIV (40%), followed by private insurance (34%), and Medicare or other sources (15%), compared to 13%, 71%, 3%, respectively among the population overall. Due to the ACA, the share of uninsured people with HIV fell to 11%, on par with the general population. Almost half of people with HIV relied on the Ryan White HIV/AIDS Program. Sustained viral suppression was significantly higher among those with private insurance, Medicare, and Ryan White compared to the uninsured. Using the most up to date data available (through at least 2017) we will present our latest findings at the conference for the first time.

CONCLUSIONS: The findings from this study will provide the latest nationally representative data on insurance coverage of people with HIV in the U.S., as well as the relationship between coverage and vi-

ral suppression. Such data are critical for monitoring and assessing changes in the U.S. health financing landscape, and their impact on the coverage and health of those with HIV.

PEF1885

QUANTIFYING PEPFAR'S ROLE FOR WOMEN AND GIRLS: ANALYSIS OF MONITORING, EVALUATION, AND REPORTING INDICATOR DATA, 2016-2019

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BACKGROUND: PEPFAR plays an important role in addressing HIV among women and girls, recently estimating that it will spend nearly $2 billion on such efforts. However, to date, program data have not been fully analyzed in this area. Quantifying the number and share of women and girls served by PEPFAR is a key component to better understanding the extent of its reach.

METHODS: Analysis of PEPFAR's Monitoring, Evaluation, and Reporting Indicator (MERS) database was conducted to identify the number of people, age 15+, by year (2016 to 2019) for four indicators: receiving testing and counseling services, newly testing positive, newly enrolled on antiretroviral therapy (ART) and currently on ART. Data were analyzed by sex (those with unknown age and unknown sex were excluded). Only data from the 25 countries required to submit country operational plans in FY 2019 (which account for the bulk of PEPFAR resources) were included.

RESULTS: Overall, the number of women served in these 25 countries increased across all indicators and women represent the majority of those reached. For example, the number of women receiving testing and counseling services rose from 10.5 million in 2016 to 12.2 million in 2019, and their share of all those receiving such services increased (62% to 65%). The number of women on ART also rose, from 7 million in 2016 to 9.7 million in 2019, though their share of the total was similar in each period (66% and 67%). While the number of women newly testing positive and newly enrolled on ART increased, their shares of the total decreased. There was some variation by country. For example, the share of women on ART ranged from a low of 30% in Viet Nam to a high of 72% in Cote d'Ivoire in 2019. The number of women served across these indicators rose in most but not all countries over the period.

CONCLUSIONS: The majority of those served by PEPFAR are women and girls, and a growing number have been reached over time. This analysis provides more granular data across four program indicators to better understand PEPFAR's role in reaching women and girls globally.

PEF1886

THE GLOBAL FUND HUMAN RIGHTS M&E REVOLUTION: DEMONSTRATING IMPACT OF COMPREHENSIVE HUMAN RIGHTS PROGRAMS

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BACKGROUND: The Global Fund strategy 2017-2022 brought about commitment to scale up programs that remove human rights barriers to accessing HIV, TB and malaria services as part of its Strategic Objective on promoting and protecting human rights and gender equality. To support scale up to comprehensive levels and achieve better health for key populations and people affected, GF launched its Breaking Down Barriers initiative in 20 countries. The initiative entails significant additional catalytic funding; baseline assessments to document existing human rights-related barriers and those affected, programs to address them, gaps and costs; multistakeholder processes to develop plans for a comprehensive response to such barriers; technical assistance including for implementation; and mid-term and end-term assessments to document impact of scale-up.

DESCRIPTION: The human rights investment in BDB countries increased sevenfold and constitutes over 78 million. To demonstrate results of these investments, improve evidence base on what works to reduce barriers and increase access, and internal processes to track human rights performance of grants, GF with the help of a Working Group on Monitoring and Evaluating Programmes to Remove Human Rights Barriers:

(a) has developed a conceptual framework and methods for baseline and mid-term assessments;

(b) developed a GF Approach to human rights M&E;

(c) included human rights outcome indicators in its core indicators list and supported their use in grants performance frameworks;

(d) used local funding agents to verify programmatic and M&E compliance.

LESSONS LEARNED: The BDB initiative demonstrated that human rights barriers are widespread and affect access to services; and that effective programs to remove them are based on national strategic vision and commitment, are properly resourced and adequately monitored and evaluated to steer implementation, document results and lessons learnt. Internal and grant-oriented M&E processes are important elements of accountability of a funding mechanism as the GF.

CONCLUSIONS/NEXT STEPS: Human rights catalytic funding will also be available to the BDB countries in the new cycle, contributing to implementation of national plans for comprehensive evidence-informed responses. The GF approach to human rights M&E will extrapolate the lessons learnt from the BDB initiative to the overall GF portfolio, reaching the last mile and maximizing returns on investments.

PEF1887

HIV TREAT ALL POLICY IMPACT IN BOTSWANA, KENYA, LESOTHO AND RWANDA

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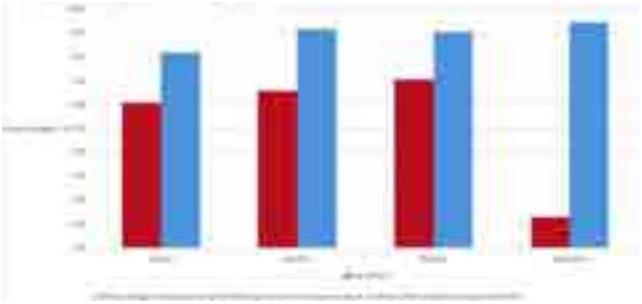
BACKGROUND: In September 2015, the World Health Organization recommended HIV anti-retroviral therapy (ART) for all HIV-positive persons. As of July 2019, 93% of low- and middle-income countries had adopted a Treat All policy. We sought to examine the quantitative relationship between Treat All policy adoption and changes in uptake of HIV testing and ART initiation in countries supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR).

METHODS: The analysis included four PEPFAR-supported countries that were implementing and evaluating their respective Treat All policies in 2016 (Botswana, Kenya, Lesotho, and Rwanda). Using routinely collected, PEPFAR program and policy data from 2015 to 2017 and statistical software, we analyzed the effect of national HIV

Treat All policies on HIV testing and treatment services. External and internal factors considered in the descriptive analysis included: PEPFAR expenditures on testing and treatment services, national investment, existence of national policies authorizing task sharing for HIV testing and ART, and policy implementation and dissemination strategies.

RESULTS: On average, the number of positive tests increased by eight percent and estimated linkage of those newly diagnosed to treatment initiation increased by 35 percent in the one year after government adoption of a Treat All policy, compared to the year before policy adoption. Considered as a whole, the four countries' estimated linkage increased from 54% in the year pre-policy adoption to 89% in the one-year post-policy adoption. Changes varied by country (see chart).



[Figure. Estimated linkage increased by 35% on average in one year after policy adoption, compared to the year prior.]

CONCLUSIONS: There was an observable increase in estimated linkage after adoption of Treat All policies in these four countries. Further analyses will utilize country-specific data to understand additional contextual factors and more precisely articulate the observable impact of Treat All policies in PEPFAR-supported countries.

POLICIES THAT ENABLE INCREASED DEMAND, UPTAKE AND RETENTION OF KEY POPULATIONS FOR HIV SERVICES AND PROGRAMMES

PEF1888

EXPECTATIONS MISMATCH BETWEEN STAKEHOLDERS OF ASSISTED PARTNER NOTIFICATION PROGRAM IN INDONESIA: A QUALITATIVE STUDY

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BACKGROUND: In 2016 WHO released a recommendation on assisted partner notification (aPN) services which recommended for assisted referrals. Beginning in 2018 Indonesia began PN pilot projects in 6 demonstration sites across the nation. Our research aims to explore experiences and expectation of partner notifications among different stakeholders.

METHODS: We conducted a formative study in three demonstration cities: Jakarta, Semarang, and Denpasar. Data were collected using focus group discussions and online survey. Respondents participated in the FGDs consist of 24 healthcare providers 16 people from PLHIV communities and 14 people of the general population. Information gathered includes expected idealized version of aPN initial mode of contact and messages protocol as well as concerns regarding implementation of aPN. There were 76 respondents who participated in the online survey. Qualitative data were analyzed using thematic analysis while quantitative data from online survey were analyzed descriptively.

RESULTS: Different stakeholder groups have different concerns and ideal protocol regarding aPN. Providers and PLHIVs both prefer an initial contact through short messages or phone call with initial message that elicit visit to clinic/hospital while concealing information of potential HIV exposure. Providers prefer this protocol as it protect them from backlash and partners' negative reaction. PLHIVs prefer it due to protection of confidentiality. General population (i.e. potential partners) prefer initial contact by home visit with messages that directly disclose HIV exposure and elicit HIV test. This preference is confirmed from online survey data where 43% respondents prefer home-visit as initial mode of contact, and 70% prefer messages that disclose HIV exposure, directly or indirectly. They are concerned with potential of apathy should the notification fail to disclose potential HIV exposure. Other concerns from providers include additional workload how aPN would affect their personal life. PLHIV other concerns was confidentiality and worried that aPN implementation would inadvertently compromise their HIV status to unwanted parties.

CONCLUSIONS: There is discrepancy of expectation on ideal aPN protocol between providers, PLHIVs, and general population. It mainly stems from different concerns regarding its outcome and risks. Development of aPN protocol should be able to pacify all these concerns to maximize compliance from all stakeholders.

PEF1889

LESSONS LEARNED FROM THE STRATEGIC AGENDA FOR KEY POPULATIONS: EXPERIENCES FROM BRAZIL

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BACKGROUND: HIV epidemic in Brazil is concentrated in key populations (KPs) – men who have sex with men, transgender people, drug users, people deprived of liberty, and female sex workers. Despite the existence of laws and policies that address KPs specific needs, there is evidence of widespread discriminatory attitudes and practices towards these populations, addended to stigma and discrimination, which remain as thick barriers to accessing services and care related to HIV. In 2018, the Ministry of Health of Brazil (MoH) designed an intervention called "Strategic Agenda to Expand Comprehensive Access and Care for Key Populations in HIV, Viral Hepatitis, and Other STIs" as part of a broader initiative known as "Zero Discrimination" launched by UNAIDS, contributing to the goal of "ending AIDS by 2030".

DESCRIPTION: The MoH developed guidelines and worked along with other Ministries, UN organizations, and civil society in order to develop seven lines for strategic actions that are urgent to overcome the current challenges related to KPs:

1) Health education,
2) Comprehensive care,
3) Health Communication,
4) Stigma and discrimination,

5) Social participation,
6) Management and governance, and,
7) Strategic Information.
The MoH provides technical assistance to monitoring and sensitization to other partners, such as local AIDS Programs in Brazil.
LESSONS LEARNED: The Strategic Agenda for Key Population enabled the MoH to establish strategic partnerships to implement a set of actions, which we believe are urgent to overcome current challenges for a better response to HIV, Viral Hepatitis, and other STIs. It also enabled the expansion of comprehensive access and care for KPs, paving the way for approaches in relation to stigma, discrimination, and its vulnerabilities.
CONCLUSIONS/NEXT STEPS: Key Populations' Strategic Agenda has supported the MoH to engage key partners in creating sustainable and long-term efforts aimed at the promotion of access and comprehensive care towards KPs. The Agenda has also increased KPs access in public health policies in order to promoting equitable access in health services.

PEF1890

HOW WE ACHIEVED A STATEWIDE COORDINATED PUBLIC HEALTH RESPONSE TO ENDING THE HIV EPIDEMIC

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BACKGROUND: An individual's health care needs are complex and involve a myriad of medical to social issues (i.e., housing). These social issues that affect an individual's life and impact communities can no longer be treated in isolation from one another, as they have a huge influence on how effective care and treatment interventions will be. Therefore, a comprehensive coordinated approach to health care involving collaboration with clinical and social service providers, the public and private sectors, community leaders and groups, and different levels of government must be developed. In 2014, New York State (NYS) met this challenge.
DESCRIPTION: In 2014, NYS made HIV/AIDS history by announcing the Ending the Epidemic (ETE) Initiative, the first jurisdictional effort of its kind in the United States. ETE's key benchmark of lowering annual HIV infections to 750 by the end of 2020, would be accomplished by identifying persons with HIV, linking and retaining persons diagnosed with HIV in health care, and facilitating access to Pre-Exposure Prophylaxis (PrEP) for high risk persons to keep them HIV negative.
LESSONS LEARNED: ETE was the impetus for establishing a statewide coordinated public health response that resulted in the implementation of evidence-based strategies and programs that addressed the social and structural barriers, ensured equitable access to care and treatment, and improved engagement and retention in care and treatment for people with HIV. As a result of these efforts, NYS has achieved historic reductions in new HIV infections and diagnoses. From 2014-2018, new HIV diagnoses in NYS were reduced by 28%, in contrast to a 16% reduction from 2010-2014. The post-ETE progress was 1.6x's that of the pre-ETE progress; and an analysis of the data revealed that the decrease in new HIV diagnoses was observable across nearly every demographic group, including sex, age, race/ethnicity, and transmission risk.
CONCLUSIONS/NEXT STEPS: While NYS is on its way to ending the epidemic, we continue to see health care disparities related to race and gender and must escalate our health equity initiatives to reverse these trends. Providing culturally appropriate non-judgmental education, health care, and treatment facilitates removal of barriers (i.e., stigma) resulting in better health outcomes.

INTEGRATION OF HIV WITH OTHER HEALTH SERVICES (INCLUDING CO-INFECTIONS AND NCDS)

PEF1891

DESIGNING HEALTH CARE POLICY AND CARE SYSTEMS TO REACH AND RETAIN THOSE WITH SEVERE MENTAL ILLNESS IN HIV PREVENTION AND CARE EFFORTS: INSIGHTS FROM FIVE US STATES

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BACKGROUND: People with severe mental illness (SMI) are up to ten times more likely to have HIV infection than the general US population. Despite this increased prevalence, robust efforts to engage this population in routine HIV testing, timely linkage to and on-going engagement in care, and treatment adherence have been uneven. We sought to identify solutions at the health care delivery system level, as well as policies at the state and local level, that might affect HIV-related health outcomes for this key population and inform "Ending the HIV Epidemic" efforts.
METHODS: Using a case study design, we recruited key stakeholders in California, Illinois, Louisiana, New York and Texas to participate in semi-structured interviews which were recorded and transcribed. Informants included state and county-level public administrators in HIV and/or behavioral health; HIV and behavioral health clinic administrators, medical providers and case managers; service providers at non-profit agencies serving those with SMI and/or HIV; and academics. Interview topics included: HIV testing policies and systems, HIV linkage and treatment policies and organization of SMI and HIV health care systems, recent care integration efforts, and electronic data sharing. Transcripts were coded for broad themes, and segments were further reduced for key content.
RESULTS: Between September 2018 and December 2019, we conducted 27 key stakeholder interviews. Key factors leading to improvements in HIV-related outcomes for those with SMI include: state and local efforts to integrate physical and mental health services, funding requirements for behavioral health agencies to perform HIV testing, efforts to offer routine HIV screening in emergency departments and drug treatment facilities, linkage to care programs for those re-entering communities post-incarceration, shared electronic health records, and charismatic leaders at the state or local level. Fragmented and decentralized physical and behavioral health care systems, policies that limited data sharing, stigma, and a lack of collegial working relationships between behavioral health and infectious disease leaders were perceived barriers to improved HIV outcomes for those with SMI.

CONCLUSIONS: Case studies in five high HIV prevalence states yield important insights into health care delivery systems and policies that improve HIV-related health outcomes for those with SMI.

FOREGROUNDING ACCOUNTABILITY WITHIN THE HIV RESPONSE

PEF1892

DEVELOPMENT OF YOUTH-LED HIV/AIDS COUNTRY SCORECARD FOR NIGERIA

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BACKGROUND: The scorecard developed tracks and document laws, policies, plans, commitments and the implementation of the National HIV strategy for AYP, ascertain the nature and extent to which youth organizations/associations/networks are involved in the scale-up of the HIV response, and engage youth organizations/associations/networks in the process as a strategy to strengthen youth-led social accountability to end the AIDS epidemic in Nigeria.

DESCRIPTION: We identified and selected youth leaders representing youth-led and focus organizations/associations/networks (15-20 young men and women) that are actively advocating/working for improvements on youth's HIV/SRHR to participate in the development of the Scorecard (Efforts were made to ensure the participation of youth from Key Populations as defined by UNAIDS and representatives of organizations based outside Abuja who will work virtually);
: A mixed-method approach was employed for this study using an Uproot Report Card (Questionnaire) developed by PACT to extract information on Laws and policies, leadership, beneficiaries, participation and partnership as it relates to ending the HIV/AIDS epidemic by 2030. Data collected, collated was analyzed by the #uproot report card and HIV/SRH Youth-led organizations, MDA, and UNAIDS in a workshop.

LESSONS LEARNED:

- LAWS AND POLICIES -2.8%
- PARTICIPATION 50%
- PARTNERSHIP 40%
- BENEFICIARIES -9.4%
- LEADERSHIP 10%

If the result is below 50%, it is indicative that youth organizations/networks that are representative of AYP most affected by the epidemic in the country, who completed this report card, perceive that their country is off-track to ensuring an enabling environment, including protective laws and policies, not supported, not building or strengthening partnerships, not benefitting and are not are not taking up leadership roles in decision-making spaces. to guarantee AYPs access to HIV and SRHR.

CONCLUSIONS/NEXT STEPS:

- Major investments, technical support and political commitment by all stakeholders is needed to critically assess this gaps and are not posing obstacles to young people's access to HIV/SRHR and Youth organizations, should monitor closely the quality and level of AYPs engagement in different decision-making spaces.

PEF1893

TRANSNATIONAL ACTIVISM FOR AN EFFECTIVE, COMPREHENSIVE HIV RESPONSE: LESSONS FROM THE COALITION TO MOBILIZE POWER ACTIVISM, STRATEGY, SOLIDARITY (COMPASS) AFRICA

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BACKGROUND: HIV/AIDS advocacy and activism have transformed the epidemic in countries, communities and globally. Resources for advocacy and activism are shrinking at the moment that they are required; approaches to advocacy funding reflect donor perceptions of optimal strategic and/or the exigencies of grant making. It's critical to understand the types of activist architecture (in terms of coalitions, funding and strategic planning) that effectively redistribute power and ensure accountability at community, national and global levels.

DESCRIPTION: The Coalition to Build Activism Power Strategy and Solidarity (COMPASS) Africa was launched in November 2017 to unite civil society coalitions in Malawi, Tanzania and Zimbabwe with advocacy partners from the region and global North in a coalition committed to bold "business unusual" activism and action. The coalition began work with a set of "campaigns" with predefined "wins" in thematic areas core to a comprehensive response. After two years, the coalition looked back at progress against pre-specified goals and unanticipated progress in thematic areas.

LESSONS LEARNED: Of the 14 campaigns defined at the outset, we recorded wins in 29 percent of the campaigns and partial wins in an additional 50 percent. Looking at "wins" in focal areas that were not pre-defined in the campaigns, half of the work resulted in tangible shifts in policy, program design or investment and against the specific campaigns as defined by partners.
We assert that the difference reflects the degree to which successful advocacy and activism redirects efforts and seizes opportunities as they arise. The consistent challenges in domestic resource mobilization and the consistent successes in the "differentiated service delivery" space across the two analyses reinforce the degree to which there are significant challenges for the former, and significant donor-driven prioritization for the latter. Partners' own experiences of these patterns is already informing new strategies and COMPASS-wide work.

CONCLUSIONS/NEXT STEPS: The COMPASS approach has demonstrated impact by:

- Linking diverse groups with well-differentiated roles into a coalition focused on activism at headquarters and country levels.
- Funding strategic approaches, not static outcomes, within a framework focused on impact, not deliverables.
- Focusing on audacious activism with sharply-defined targets, bold tactics and robust use of data and evidence.

PEF1894

LESS TALKING ABOUT US AND MORE HEARING FROM US: WHY SO FEW WOMEN / TRANS PEOPLE LIVING WITH HIV AS SPEAKERS, ORAL ABSTRACT CO/AUTHORS, AND ABSTRACT PRESENTERS AT AIDS 2018?

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BACKGROUND: Women living with HIV are key to research, programme development and implementation. Yet at AIDS2016 only 2% of women abstract presenters self-identified as living with HIV. No trans abstract presenters self-identified as living with HIV.
Did AIDS2018 provide more meaningful opportunities for women living with HIV - as invited speakers, abstract presenters, or co/authors of oral abstracts?
METHODS: Analysis of:

- IAS data on women and transgender people living with HIV as invited speakers and abstract presenters at AIDS2018, compared to AIDS2016 data.
- AIDS2018 Abstract Book for oral abstracts relevant to women living with HIV, and authored or co-authored by organisations of people living with HIV and/or key populations.

RESULTS: IAS data shows fewer opportunities at AIDS2018 than AIDS2016 for women living with HIV to present our work.

- Women presenters of abstracts self-identifying as living with HIV dropped from 2% of women presenters in 2016 to 1.8% in 2018. Among invited women speakers, 11% self-identified as living with HIV in 2016, falling to 9% in 2018.
- Trans abstract presenters went from 14 people (1% of all presenters) in 2016 to 20 people (0.7% of all presenters) in 2018. 2 trans presenters self-identified as living with HIV in 2018 (compared to 0 in 2016). Invited transgender speakers fell from 8 in 2016 to 4 in 2018, none self-identifying as living with HIV.

AIDS2018 Abstract Book:

- Only 2 oral abstracts (2/225 = 0.9%) co/authored by organisations of people living with HIV and/or key populations and focused specifically on women living with HIV, of which one (1/225 = 0.4%) trans women living with HIV.
- In total, only 8% of oral abstracts (19/225) co/authored by organisations of people living with HIV and/or key populations and of (potential) relevance to women living with HIV in all our diversity.

CONCLUSIONS: It is disappointing to see such low numbers of women / trans people living with HIV as speakers, presenters and oral abstract co/authors in 2018, even compared to 2016.
The IAS should address this so that future conferences do not continue to talk ABOUT us and instead hear from us, as invited speakers, and as oral abstract co/authors and presenters.

PEF1895

PEPFAR WATCH: INCREASING U.S. GOVERNMENT ACCOUNTABILITY THROUGH NORTH-SOUTH SOLIDARITY

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BACKGROUND: Among countries facing a high burden of HIV, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is often the largest source of funding for HIV treatment and prevention. Holding PEPFAR accountable to the goals and priorities of people living with HIV (PLWHIV) and communities most affected by HIV is critical to ensuring an HIV response that is high impact and driven by evidence and human rights.
DESCRIPTION: In order to increase PEPFAR's accountability to PLWHIV, we have established "PEPFAR Watch," a flexible network of national and global civil society advocacy organizations working in solidarity in more than 22 countries. PEPFAR Watch equips activists with the technical capacity to develop a critical understanding of in-country PEPFAR program performance data and to translate their treatment and prevention priorities into strategies and targets that are concretely reflected in their country's PEPFAR "Country Operational Plans" (COPs). Beginning in 2018, PEPFAR Watch members developed the "People's COPs," activist shadow reports describing advocacy demands generated from community-led monitoring and fact-finding efforts at the site of HIV treatment and prevention service delivery. In Uganda, Malawi, South Africa, Kenya, and beyond, People's COPs have been used to highlight poor program performance and to use data to support advocacy to correct substandard outcomes, resulting in important PEPFAR program shifts in treatment and prevention.
LESSONS LEARNED: As a result of these evidence-based advocacy approaches, activists in countries receiving PEPFAR funding have secured important policy victories, such as improving the quality and coverage of service delivery for men who have sex with men and other criminalized populations in Uganda, increased funding for high impact, indigenous key population-led organizations; increased remuneration and recruitment of professional and lay health workers to improve loss-to-follow-up rates; and national community-led clinic monitoring and advocacy programs to fix treatment retention crises.
CONCLUSIONS/NEXT STEPS: Accountability to end-users of HIV programs is a non-negotiable component of a successful HIV response. Our model of North-South global solidarity has been used to highlight and close gaps in accountability that have triggered an off-track HIV response. Our approach could be expanded to other countries and donors in order to extend impact.

PEF1896

SAVING OUR LIVES: COMMUNITY-LED MONITORING AND ADVOCACY TO CORRECT THE HIV RETENTION CRISIS

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BACKGROUND: The effectiveness of the HIV response is today highly variable—across populations and geographies. HIV programs that implement models of care that are responsive to the priorities, demands, and human rights of people living with HIV (PLWHIV) demonstrate excellent treatment retention. In South Africa, community-led monitoring of HIV service delivery quality is a vital intervention to challenge and correct poor HIV treatment outcomes and high rates of loss to follow up among PLWHIV, and to increase the accountability of the most powerful actors in the HIV response: the South African government, along with PEPFAR and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

DESCRIPTION: In South Africa, Treatment Action Campaign (TAC), as a member of the PLWHIV sector, with technical support from Health GAP and Georgetown University, began implementation community-led monitoring and advocacy in September 2019, called Ritshidze ("Saving Our Lives"), to correct the HIV treatment retention crisis. Monitors are trained to carry out routine clinic visits and conduct data collection using tools developed by their communities. Activists then analyse the findings and develop advocacy interventions to correct the problems uncovered through monitoring. By September 2020, Ritshidze is expected to cover 400 clinics representing more than 50% of PLWHIV on treatment nationwide.

LESSONS LEARNED: Ritshidze has successfully launched community-led monitoring of service delivery, trained and supported clinic monitors to watchdog service delivery quality, initiated data collection and analysis and more. A database has been established to support routine assessment and analysis of the state of service delivery quality in various high volume clinic settings, so trends in service delivery quality can be easily gauged by activists--increasing real time public accountability of policymakers.

CONCLUSIONS/NEXT STEPS: Neither mortality reduction nor incidence reduction are on track to reach the 2020 global goals; the treatment retention crisis in South Africa is typical of many high burden countries facing unacceptably high rates of loss to follow up. Our initial findings from the Ritshidze programme indicate that community-led monitoring holds promise as an intervention to help fix the HIV retention crisis in South Africa through evidence based advocacy and could be used as a model extending beyond South Africa.

PEF1897

IMPLEMENTATION OF THE LOCAL INNOVATION SPREAD THROUGH ENTERPRISE NETWORK MODEL; LESSONS LEARNED FROM KENYA

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BACKGROUND: The National AIDS Control Council-Kenya with support from Centre for Global Health Practice and Impact (CGHPI) of Georgetown University has been supporting Kiambu and Homa Bay Counties to implement the Local Innovation Spread Through Enterprise Network (LISTEN) Model. The LISTEN Model is an innovative and accountability network model that focuses on Communities of Practice (CoP) using a Human Centered Design (HCD) approach to strengthen delivery of services (both Health and Non-Health) in the two (2) Counties. The model aims at;

1. Promoting access to key health services
2. Making communities resilient
3. Promoting accountability for results at all levels from community to county leadership
4. Enhancing communication for timely decision making

DESCRIPTION: The model involves the Harnessing communities of practice including priority populations such as Fisher folk and "Boda Boda" riders by identification and linking across all the four levels of the model from the ward, county and national levels. The vertical and horizontal linkages are done through the identified champions with the innovative team providing the technical support. Data is then customized to each CoP for more effective collection, use, and performance. To enhance innovation and sustainability, the human-centered design is used to catalyze the engagements. The CoPs develop charters and integrate HIV and Health indicators into what matters to them. Linkage and accountability meetings are held to review the performance based on the charters.

LESSONS LEARNED:

1. Communities have a potential;
2. Linkage of the CoPs across the model enhances accountability for results;
3. The model reduces duplication of services
4. The model helps in integrating HIV/Health into non-health programmes.
5. The model enhances sustainability and communication for timely decision making

CONCLUSIONS/NEXT STEPS: The LISTEN is an important strategy for enhancing; sustainability during transitioning and accountability for results in resource limited setting for HIV Prevention, treatment and care. Next steps include;

1. Scale up based on lessons learnt.
2. Enhance data visibility across the levels.
3. Monitor and review the implementation, institutionalization and implementation of the model against the CoP performance metrix.

IMPLICATIONS OF UHC ON KEY POPULATIONS' ACCESS TO HIV PROGRAMMING/SERVICES

PEF1898

FINDING THE GAP: NATIONAL IDENTIFICATION, UNIVERSAL HEALTH COVERAGE AND ACCESS TO HIV SERVICES AMONG KEY POPULATIONS IN JAKARTA, INDONESIA

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BACKGROUND: The government of Indonesia launched its ambitious universal health coverage (UHC) program in 2014. This program aims to ensure that all Indonesians, whether rich or poor, have access to quality health services without suffering undue financial hardship. The Indonesia UHC program is now the largest single-payer scheme in the world, covering 203 million people across the country. However, individual access to UHC is predicated on whether a person has a national identification card and can demonstrate residence in the area where they seek care factors that may limit participation of key population (KP) individuals and affect their access to HIV prevention and treatment services.

DESCRIPTION: The LINKAGES project, supported by USAID and PEPFAR and led by FHI 360, systematically tracked national identification and health insurance status among KP individuals reached in community-based outreach and case management interventions delivered in Jakarta, Indonesia to identify potential gaps in UHC coverage which could adversely affect HIV service access and uptake.

LESSONS LEARNED: Between October 2018 and September 2019, less than 1% of the 56,424 men who have sex with men (MSM), female sex workers (FSWs), people who inject drugs (PWID), transgender (trans) women, and sexual partners of KP members reported that they did not have a national identification card. In addition, approximately 17% (n=9,638) of KP individuals who did have national identification cards did not show their residence as Jakarta, with the majority of FSWs and transwomen officially living in other locales. Female sex workers and transwomen particularly those with HIV-negative or unknown status also were more likely to report that they had no health insurance compared to MSM, PWID, and sexual partners of KP members.

CONCLUSIONS/NEXT STEPS: HIV surveillance from 2018 found that more than 50% of MSM, FSWs, and KP partners had never tested for HIV; therefore, it is critical to identify structural barriers which may affect access and uptake of HIV services. Systematically tracking national identification and health insurance status and providing resources to assist KP individuals to procur relevant documentation may be necessary in contexts where HIV burden remains high.

PEF1899

PLHIV'S ACCESS TO HEALTH SERVICES THROUGH NATIONAL HEALTH INSURANCE IN INDONESIA: A CASE STUDY IN THREE CITIES

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BACKGROUND: In order to protect its citizen's rights on access to social protection, Indonesia's government launched a national health program in 1997, which enhanced into a more comprehensive and mandatory program called the Jaminan Kesehatan Nasional (JKN), translated into National Health Insurance in 2014, targeting 95% coverage in 2019. This study was conducted in three main cities in Indonesia, namely Denpasar, South Jakarta, and Makassar to understand the level of access to this health insurance among PLHIV.

METHODS: This study was conducted in three main cities in Indonesia's HIV program, which are South Jakarta, Denpasar, and Makassar using the cross sectional or survey research as study design. Population sampled are PLHIV who participate in JKN, and was sampled using the Slovin Formula (simplification of the Lemeshow formula) of the PLHIV population. Data collection was conducted in 12-30 November 2018.

RESULTS: Out of the total of 258 respondents, all of which are member of the JKN and are PLHIV, 96% of them currently holding active membership, and 95% of them are actively using JKN in accessing health services. As much as 60% of the respondents claim that JKN system is sufficient for their needs, and more than 90% of the respondents admit that JKN is highly beneficial towards PLHIV and key population. Although, 16% still receive discrimination in terms of their HIV status, while 17% admit being discriminated for being a part of key population.

This study also finds that there are five factors that are directly impacting PLHIV's, which are; issue of participation, portability, tiered referrals, benefit packages, and treatment classes. All these factors are seriously hampers PLHIV's access to treatment due to its complicated process.

CONCLUSIONS: Although JKN and its implementation is still flaw and needs several further improvements, study shows that PLHIV benefits from this system more than they obstructed by the challenges. Participate in JKN has proven to facilitate PLHIV in accessing healthcare without being financially burdened. Main recommendation from this study are: more comprehensive treatment packages, shortcuts in referrals, and friendlier and more supportive healthcare providers towards PLHIV and key population.

PEF1900

WHAT ABOUT THE HEALTH OF TRANS WOMEN IN LATIN AMERICA AND THE CARIBBEAN? CHALLENGES TO HIV DIAGNOSES AND LACK OF COMPREHENSIVE HEALTH CARE

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BACKGROUND: Between April 2016 and March 2019, during the implementation of "Trans Women Without Borders against Transphobia and HIV/AIDS", the proposal of the Global Fund to Fight AIDS, Tuberculosis and Malaria, RedLacTrans developed the only Health Guide prepared by Trans people from Latin America and the Caribbean with the objective of sensitizing professionals in the area of health about comprehensive care for this population.

DESCRIPTION: RedLacTrans conducted 122 sensitization workshops in 13 different countries in Latin America and the Caribbean, addressing a total of 4429 health providers sensitized about comprehensive health care and HIV-AIDS diagnoses towards Trans people. The "Suggested guidelines of comprehensive healthcare for Trans women in Latin America and the Caribbean" is a tool that allows to increase the reach towards the recipients and advocates the reduction of discriminatory practices in health centers, which prevent Access of Trans people to health services.

LESSONS LEARNED: The sensitization workshops, which were led by Trans women, allowed health providers to be sensitized from their own expertise; This practice highlighted the importance of Trans people sensitizing Health professionals about their own needs. In addition, these instances were the first steps to achieve inter-institutional agreements: between Civil Society Organizations and Hospitals to guarantee unrestricted access to health services. Among other achievements, we celebrate the opening of Health Centers that respect gender identity and the diagnosis of those living with HIV-AIDS.
CONCLUSIONS/NEXT STEPS: The local scope shows the importance of promoting political strategies integrated by the key populations in articulation with the Governments to guarantee Trans people access to Human Right of Health: effective and quality.

PEF1901

CHILDREN'S RIGHT AND HIV

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BACKGROUND: The awareness program on the rights of a child with HIV/AIDS were conducted in six (6) government owned community Junior Secondary schools across the six geopolitical zones in Nigeria where HIV/AIDS were statistically predominant as at March 2019 which include Benue, Akwa Ibom, Kano, Imo, Bauchi, and Lagos. The program was aimed at drawing attention as well as creating more awareness on these rights and to disabuse the dangerous attempt to limit children access to information about a range of issues such as sex, education, drug use and sexuality in the name of protection.
METHODS: The study population survey has 1,850 respondents comprising of students (mixed gender) between the age of 10-18 years. The grass root school sensitisation program was in three (3) stages: before the program, the program and after the program. Analysis of the impact of the program were done six (6) weeks after the program. Pretested semi structured questionnaire and simple random sampling technique were used. Data collected were analysed using frequency counts, percentage, means and Pearson product moment correlation. Four (4) null hypotheses were tested at 0.05 level of significance.
RESULTS: At the pre-sensitisation stage, the study and control group were similar in their socio-demographic characteristics, HIV knowledge/ child's right. After the sensitisation program those with good knowledge on child's right / HIV, sex education, drug use, sexuality and positive attitude towards HIV/AIDS infected and affected individual increased from 34% to 70.5 %,50.0% to 87.5%,32.6%to 68.5%and from 48.0% to 86.5% respectively($p<0.05$)
CONCLUSIONS: Although significant momentum for addressing the rights of children affected by HIV/AIDS has been generated to some extent at global, regional and national level, complicated challenges persist with respect to grass root community schools. Hence, more robust grass root sensitisation to other area across the six geographical zones hitherto not reached is highly recommended and systematically encouraged.

PUBLICATION ONLY ABSTRACTS

PUB001

REFUGEE RESILIENCE AS A PATHWAY FOR HIV PREVENTION

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BACKGROUND: South Africa is a popular destination for African refugees fleeing conflict. Displacement makes women and girls, disproportionately vulnerable to the risk of HIV:

1. They have suffered trauma and violence, including sexual violence during conflict and flight.
2. Traditional community support structures are destroyed during displacement.
3. HIV prevention campaigns and education in countries of asylum are often not in the language of the refugee.

The goal of the study was to determine whether Future Families NPO (FF) refugee program, supported by United Nations High Commission for Refugees provides an enabling environment for refugees to develop resilience and consequently reduce their risk of HIV infection by overcoming socio-economic adversities.

METHODS: The study was part of a broader qualitative study exploring resilience in promoting sustainable livelihoods among OVC and families in adversity. The study used a phenomenological research design to conduct one on one interviews guided by a semi-structured schedule. Participants included service users and providers in the South African regions where FF operates. Participants were purposively selected according to criteria that reflect resilience. This paper reports on the interviews with the 5 refugees who participated in the study in the category service users. Data were analyzed according to themes, supported by Atlas.ti software.

RESULTS: Findings indicate resilience of refugees is strengthened by a designated program enabling them to overcome socio-economic adversities and hence reduce their vulnerability and risk for HIV infection. Refugees' resilience is strengthened by a program respecting their dignity and abilities, engaging them in activities such as material and psycho-social support, providing access to education and health services, developing human and social capital, and facilitating earning sustainable livelihoods. Participation in the program activities concomitantly enhances their knowledge of HIV/AIDS awareness and prevention.

CONCLUSIONS: Refugees displaying resilience have a reduced risk for HIV infection. Organisations engaging refugees in programs, where refugees are engaged, not as victims but as people with agency who only need the knowledge, opportunity and support to create sustainable livelihoods.

PUB002

HIV STATUS DISPARITIES IN SUBSTANCE USE DISORDER TREATMENT NEED AND UTILIZATION AMONG ADULTS IN THE UNITED STATES, 2015-2018: IMPLICATIONS FOR HEALTHCARE SERVICE ACCESS

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BACKGROUND: Substance use disorders (SUD) are associated with HIV acquisition and disruptions in HIV medication adherence and care engagement. However, we lack national-level data on SUD treatment disparities by HIV status since most research on people living with HIV (PLWH) and SUD focuses on clinical samples. We used nationally representative data to estimate SUD treatment need and utilization by HIV status.

METHODS: The 2015-2018 National Survey on Drug Use and Health included 170,750 individuals aged 18 and older. Respondents self-reported whether a healthcare professional ever told them they had HIV (i.e., HIV-negative, HIV-positive/PLWH, HIV-unknown). Outcomes included past-year: 1) SUD treatment need (i.e., met SUD criteria and/or reported treatment use; 2) any SUD treatment use; 3) specialty SUD treatment use (e.g., drug/alcohol rehabilitation, inpatient hospital, mental health center). Weighted multivariable modified poisson regression models estimated likelihood of each outcome by HIV status, adjusting for age, gender, race/ethnicity, income and survey year.

RESULTS: Overall, 0.2% (n=337) were PLWH and 0.3% (n=620) reported HIV-unknown status. SUD treatment need differed by HIV status: HIV-negative (8.2%), PLWH (26.4%), and HIV-unknown (11.7%). Among people who needed SUD treatment (n=18,460), past-year SUD treatment utilization differed—HIV-negative (14.3%), PLWH (36.7%), and HIV-unknown (34.3%)—as did specialty SUD treatment utilization—HIV-negative (11.1%), PLWH (32.2%), and HIV-unknown (33.9%). In adjusted models, PLWH were more likely than HIV-negative individuals to need SUD treatment (aRR=2.87; 95% CI=2.35-3.52). Among people who needed treatment, PLWH were more likely to report past-year SUD treatment utilization (aRR=2.57; 95% CI=1.44-2.75) or past-year specialty SUD treatment utilization (aRR=2.20; 95% CI=1.54-3.14) than HIV-negative individuals. People with HIV-unknown status were more likely than HIV-negative individuals to report past-year specialty SUD treatment utilization (aRR=2.32; 95% CI=1.14-4.72).

CONCLUSIONS: PLWH had a higher SUD treatment need than HIV-negative individuals. Among those with SUD treatment need, PLWH had higher treatment utilization overall and, along with HIV-unknown individuals, higher specialty treatment utilization. As SUD is associated with adverse HIV outcomes, our findings highlight the need for the integration of comprehensive SUD treatment with HIV care and testing. Increasing access to SUD treatment tailored for PLWH could help reduce SUD-related negative outcomes in HIV care.

PUB003

A QUALITATIVE EXPLORATION OF HOW POLICIES THAT CRIMINALIZE SEX WORK IMPACT HIV-RELATED RISK BEHAVIORS AND HEALTH DISPARITIES AMONG RACIAL, SEXUAL, AND GENDER MINORITY YOUTH

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BACKGROUND: The impact of socio-structural factors on HIV vulnerabilities and related disparities is well established (e.g., stigma, homelessness, employment). However, little work has explored how state-level policies in the United States that regulate sex work affect HIV-related behaviors for sexual and gender minority youth of color (SGMYC), a population with disproportionately high HIV rates.

METHODS: We conducted 68 qualitative interviews from April 2018-June 2019 in New York City with Latinx and/or Black SGMYC ages 18-29 (n=30) as well as with community stakeholders across the U.S. at agencies serving SGMYC (n=38). Interviews were recorded, transcribed and analyzed using thematic content analysis to explore how sex work criminalization policies affect SGMYC's vulnerability to HIV.

RESULTS: Participants felt that policies criminalizing sex work: 1) necessitated behaviors that increased HIV-related vulnerabilities; 2) did not address the root causes of sex work; and 3) perpetuated stigma. First, criminalization forced behaviors that increased SGMYC's HIV-related risks, "It's affecting the kids. You can catch an STD doing sex work." Such policies also forced SGMYC to hide: "They're just going to do it underground, and not in safer ways." Second, criminalization ignored the root causes of sex work: "You're having sex with various people, sometimes unprotected because you can't say 'No,' if you haven't eaten for days." SGMYC identified potential health risks but felt hard-pressed to change behaviors because "this is how people survive." Third, criminalization perpetuated stigma by disproportionately affecting groups already facing HIV-related disparities: "I knew it's illegal, but who's knocking down a door to give a transgender a job?" Participants provided suggestions for policy reform: "Criminalization won't make it go away...decriminalizing it allows for that dialogue of safety in sex work."

CONCLUSIONS: Punitive sex work policies disproportionately affect SGMYC and challenge their ability to engage in HIV prevention. Increased attention to how sex work criminalization policies impact SGMYC's HIV-related vulnerability, and meaningfully engaging SGMYC in policy decisions, is essential to reduce SGMYC's disproportionate HIV burden. Interventions that incorporate policy change to reduce the structural drivers of HIV disparities among SGMYC are sorely needed to promote their health.

LATE-BREAKER ORAL ABSTRACTS

TRACK A

OAALB0101

INDUCTION OF CROSS-NEUTRALIZING ANTIBODIES AND PROTECTION FROM HETEROLOGOUS TIER-2 SHIV CHALLENGE BY AN MRNA-BASED VACCINE IN MACAQUES

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BACKGROUND: Despite intensive research over the past four decades, an HIV-1 vaccine capable of inducing broadly neutralizing antibodies (bNAbs) and protection from heterologous tier-2 strains is still wanting.

METHODS: We tested the immunogenicity and efficacy of an mRNA-based vaccine that expresses native, membrane-anchored HIV-1 envelope (Env) glycoproteins in combination with SIVmac239 Gag in order to promote the in vivo formation of virus like particles (VLP). Rhesus macaques were immunized with 8 sequential mRNA immunizations or mRNA followed by protein boosts with purified homologous SOSIP trimers over a period of one year. The Envs included WITO (a clade-B transmitter-founder strain) BG505 (clade A) and DU422 (clade C).

RESULTS: Env trimer-binding antibodies (Abs) were readily induced after the second immunization, showing increasing titers and durability after each booster injection. Following the third heterologous boost, cross-neutralizing Abs against tier-2 viruses of different clades started to appear in all animals, reaching higher and more stable titers after the last immunization. After challenge with heterologous tier-2 SHIV (AD8) by 12 repeated low-dose rectal inoculations, significant protection was observed in a group of animals, with no difference between those immunized with mRNA vs. mRNA+protein. Extensive immunologic analyses identified three significant correlates of protection: i) Abs to a glycanated CD4-binding site (CD4-BS) gp120 core protein; ii) Abs to the AD8 Env trimer expressed on the surface of infected cells; iii) Abs mediating ADCC against the closed AD8 Env trimer. Abs to both the CD4-BS and the trimer apex were visualized in the serum of protected animals by electron microscopy polyclonal mapping. By single B-cell cloning and antibody amplification from a protected macaque, we derived a panel of mAbs that share genetic similarities with previously identified macaque and human bNAbs against the CD4-BS. Detailed functional characterization of these mAbs will be presented at the Conference.

CONCLUSIONS: These results provide evidence that extensive immunization with mRNA encoding multiple heterologous membrane-anchored HIV-1 Envs can induce cross-clade neutralization and partial protection from heterologous tier-2 virus challenge.

FUNDING: Supported in part by the intramural research programs of the NIAID DIR and VRC, and by the NIH Office of AIDS Research (OAR).

OAALB0102

HIV ENVELOPE BG505 SOSIP IMMUNIZATION INDUCES AUTOLOGOUS VIRUS AND CD4 BINDING SITE-SPECIFIC B CELL LINEAGE ANTIBODY PRECURSOR RESPONSES IN INFANT RHESUS MACAQUES

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BACKGROUND: More than 30% of new HIV infections globally occur among youth ages 15 to 24 years. Thus, a vaccine that induces protective antibodies prior to sexual debut is critical for prevention of HIV in this population. A successful HIV vaccine will likely require induction of broadly neutralizing antibodies (bnAbs), yet this remains a challenge. Native conformation envelope (Env) trimers, such as BG505 SOSIP.664, are ideal immunogens given their enhanced ability to elicit antibody responses against vulnerable sites of the HIV Env that are the targets of bnAbs. As HIV-infected children have been shown to develop bnAbs earlier and at a higher frequency than adults do, the infant immune landscape may be more amenable to the induction of bnAb B cell lineages. Furthermore, immunization in childhood provides the opportunity for long term, multi-dose immunization prior to adolescence. The goal of our study was to assess the ability of a B cell lineage-designed HIV Env trimer to induce bnAb lineages in early life.

METHODS: Infant rhesus macaques (RMs) received 50mg of either the BG505 wild type (WT) SOSIP trimer or the BG505 germline-targeting (GT1.1) SOSIP trimer (n=5/group) with the 3M-052-SE adjuvant at 0, 6, and 12 weeks of age. All 10 infant RMs were then boosted with the BG505 WT SOSIP trimer at weeks 26 and 52, mimicking a pediatric immunization schedule of multiple vaccine boosts within the first two years of life.

RESULTS: Both immunization strategies induced durable, high magnitude binding antibody responses with the peak IgG responses at week 14. Plasma neutralization responses against BG505 tier 1 and 2 virus variants were enhanced after the 4th immunization at week 28 compared to week 14. Two GT1.1-immunized infants exhibited a plasma HIV neutralization signature reflective of CD4 binding site-specific bnAb precursor development. Moreover, this bnAb precursor neutralization signature continued to rise following immunization while other neutralization responses declined, potentially indicating continued maturation of this lineage.

CONCLUSIONS: A multi-dose immunization regimen in infants with a B cell lineage designed SOSIP trimer is a promising strategy for inducing HIV bnAbs throughout childhood to elicit protective HIV immunity prior to adolescence, when sexual HIV exposure risk begins.

OAALB0103

CCR5 ANTIBODY BLOCKADE PROTECTS RHESUS MACAQUES FROM RECTAL SHIV ACQUISITION

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BACKGROUND: Adherence remains a challenge to the success of pre-exposure prophylaxis (PrEP) in preventing HIV acquisition. Thus, new approaches are urgently needed. The primary use of the CCR5 co-receptor by mucosally transmitted virus, together with the resistance to infection observed in CCR5-delta 32 homozygous people, suggests that CCR5-blocking reagents might be effective PrEP agents. Leronlimab is a CCR5-specific monoclonal antibody with excellent safety and adherence profile used in over 800 HIV+ people. We hypothesize that leronlimab can protect from the sexual transmission of HIV.
METHODS: To determine if subcutaneous leronlimab at the lowest and highest doses tested in clinical trials (10 mg/kg or 50 mg/kg in rhesus macaques via allometric scaling) could prevent sexual transmission of SHIV, we conducted a study in macaques using low-dose intra-rectal SHIVSF162P3 challenges. Three groups of six macaques received either no treatment or leronlimab at 10 mg/kg weekly or 50 mg/kg bi-monthly. We monitored longitudinally for plasma viremia, CCR5 occupancy, cell-associated virus, and anti-SHIV immune responses.
RESULTS: Following eight weekly challenges, all animals treated with 50 mg/kg were protected from acquisition, while all control animals became infected (p=0.0005). Four animals treated with 10 mg/kg were fully protected, while two animals were infected following the last two challenges (p=0.001). Of these two infected animals, one developed anti-leronlimab antibodies resulting in rapid leronlimab clearance, while the other maintained CCR5 occupancy with the lowest longitudinally viral loads. Colon and duodenum biopsies taken from the protected animals after completion of all challenges showed complete CCR5 occupancy and absence of cell-associated viral DNA and RNA. Following leronlimab uncoating from CCR5, protected animals remained aviremic and lacked anti-SHIV immune responses for at least six weeks before sacrifice, indicating sterilizing protection from rectal SHIV acquisition.
CONCLUSIONS: These results support the efficacy of leronlimab as PrEP, with the potential development of long-acting leronlimab to improve adherence.

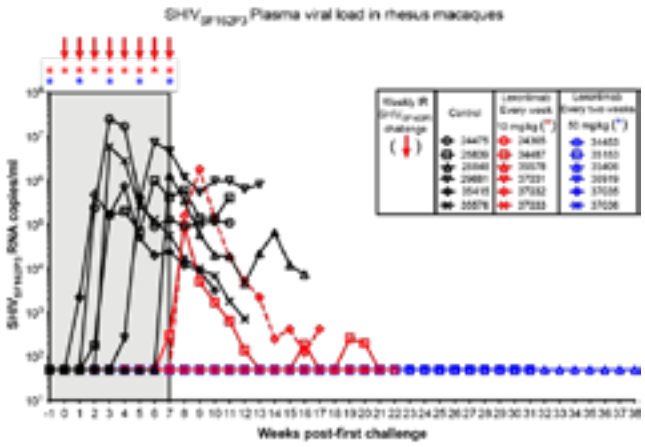

Figure 1: Leronlimab PrEP prevents intrarectal (IR) SHIVSF162P3 infection. One-week prior to the start of weekly, low-dose, intra-rectal challenges of SHIVSF162P3 (red arrow), animals received 10 mg/kg leronlimab weekly (red asterisk) or 50 mg/kg leronlimab bi-monthly (blue asterisk). The grey box indicates the timeframe for leronlimab treatment and intra-rectal challenges. Weekly plasma viral loads are presented over weeks post-first challenge for animals that received no treatment (black line), 10 mg/kg leronlimab (red line), and 50 mg/kg leronlimab (blue line). One animal developed anti-drug antibody (dashed line).

OAALB0104

VACCINATION AGAINST HIV-1 WITH INTERBILAYER CROSS-LINKED MULTILAMELLAR VESICLES CARRYING SOSIP TRIMER

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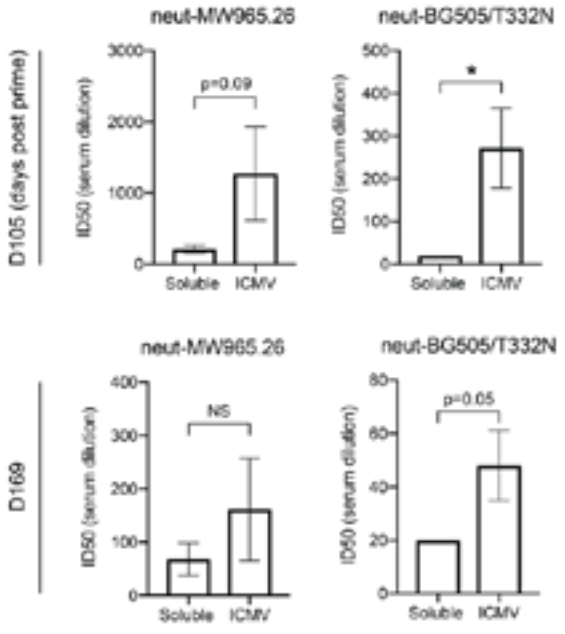
BACKGROUND: Successful vaccination against human immunodeficiency virus-1 (HIV-1) has been an elusive goal. Prior research has shown that nanoparticle systems can facilitate antigen delivery to lymph nodes and enhance immune responses. However, during encapsulation of protein antigens in nanoparticles, the conformation of epitopes can be altered, thus negatively impacting the potency of the vaccines. We have previously developed interbilayer cross-linked multilamellar vesicles (ICMV) as a vaccine delivery platform [1]. Here, we optimized our ICMV technology to deliver HIV envelope glycoprotein (BG505 SOSIP.664 Env Trimer).
METHODS: Rabbits were prime immunized on day 0 with 30 μg of SOSIP and 50 μg MPLA and boosted on day 28 and 84, each with 12.4 μg of SOSIP and 20.6 μg of MPLA by subcutaneous injections at four sites on both caudal thighs. Blood samples were collected from marginal ear vein on day 105 and 169 for neutralization study.
RESULTS: New ICMV formulation with a mean diameter of ~300 nm allows for ~30% loading efficiency of SOSIP. ICMV preserves the conformational epitopes in SOSIP protein complex as confirmed by PAGE and direct immunofluorescence staining with HIV-1 neutralizing antibodies. Rabbits were immunized three times with SOSIP-containing ICMVs, leading to elicitation of robust humoral immune responses. SOSIP-ICMV immune sera neutralized homologous tier 1A (MW965.26) and 2 (BG505/T332N) viral entry to TZM-bl cells, which was not observed from soluble control (Figure).



[Figure]

CONCLUSIONS: ICMV may be a promising vaccine platform for vaccination against HIV-1 and other infectious pathogens.

ACKNOWLEDGEMENT: This work was supported by NIH R01AI127070. We thank Dr. John Moore and Rogier Sanders for providing BG505 SOSIP.664 Env Trimer.

REFERENCE: [1] J. J. Moon et al., *Nature Materials* 2011 **10**:243-251

TRACK B

OABLB0101

SAFETY, PHARMACOKINETICS AND EFFICACY OF LOW-DOSE E/C/F/TAF IN VIROLOGICALLY SUPPRESSED CHILDREN ≥2 YEARS OLD LIVING WITH HIV

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BACKGROUND: Elvitegravir(EVG)/cobicistat/emtricitabine/tenofovir alafenamide(TAF) (E/C/F/TAF) is a single-tablet regimen (STR) approved for HIV treatment in children ≥6y and ≥25 kg. Previous data reported no bone or renal toxicity of E/C/F/TAF in 50 children 6-<12y. We report safety, pharmacokinetics (PK), and efficacy from interim analyses of the first clinical trial of low-dose E/C/F/TAF tablet in young children with HIV.

METHODS: Virologically suppressed children (≥2y), 14-<25 kg, HIV-1 RNA <50 c/mL for ≥6 months, CD4 ≥200 cells/μL received low-dose E/C/F/TAF (90/90/120/6mg) once daily in a, single-arm, open-label trial. Adverse events (AE), laboratory data, and proportion of participants with virologic suppression were assessed through W24. Steady-state PK of E/C/F/TAF was evaluated; EVG AUCtau and TAF AUCtau in children were compared to those in E/C/F/TAF-treated adults (150/150/200/10 mg).

RESULTS: 27 children were enrolled; median age 6y (range 3-9y), median weight 19 kg (15-24 kg), 63% female, 89% Black, median CD4 count 1061 cells/μL (383-2401 cells/μL),. Most common AEs were upper respiratory tract infection (6 participants [22%]), cough (5 [19%], decreased appetite (4 [15%]). All AEs were grade 1 or 2; no child discontinued STR for AE. 27 participants (100%) maintained HIV-1 RNA <50 c/mL by M=E at W16, with 10/11 (91%) at W24 (one participant had HIV-1 RNA between 200 to <400c/mL). Mean change (% change) in CD4 count from baseline was -95 cells/mL (-0.3%) at W24. EVG and TAF geometric mean AUCtau estimates were modestly (<2-fold) higher in children vs adults (table). Exposures of all analytes remained within range of historical data. Most children found swallowability, acceptability, and palatability favorable at all timepoints assessed.

CONCLUSIONS: E/C/F/TAF low-dose STR was acceptable with high virologic suppression. E/C/F/TAF exposures in young children were within range of adult historical data. Safety and efficacy of low-dose STR in young children are consistent with full-strength STR efficacy in older populations.

	Parameter	Young children[a]	Adults[b,c,d]	%GLSM Ratio (90% CI)
EVG	AUC_{tau}, ng*h/mL	29900	22600	139 (132, 172)
	C_{max}, ng/mL	2850	2000	143 (133, 180)
	C_{tau}, ng/mL	195	248	78.9 (53.1, 117)
COBI	AUC_{tau}, ng*h/mL	12900	8980	—
	C_{max}, ng/mL	1270	1400	—
	C_{tau}, ng/mL	16.6	17.0	—
FTC	AUC_{tau}, ng*h/mL	18600	15600	—
	C_{max}, ng/mL	2810	2010	—
	C_{tau}, ng/mL	77.4	89.1	—
TAF	AUC_{tau}, ng*h/mL	344	178	193 (166, 224)
	C_{max}, ng/mL	218	145	150 (116, 195)
TFV	AUC_{tau}, ng*h/mL	327	284	—
	C_{max}, ng/mL	19.1	14.8	—
	C_{tau}, ng/mL	18.1	10.9	—

Values presented to 3 significant digits. PK parameters are presented as geometric least squares mean (GLSM). Statistical comparisons of the PK parameters in children (test) versus adults from Phase 3 studies (reference) were made using GLSM ratios and associated 90% confidence intervals (CI).
[a] n=17-22 from intensive PK substudy in current child cohort
[b] n=19 from intensive PK data from one Phase 2 studies in adults with HIV (EVG, COBI, FTC)
[c] n=539 from population PK data from two Phase 3 studies in adults with HIV (TAF)
[d] n=841 from population PK data from two Phase 3 studies in adults with HIV (TFV)

[Table. PK parameters of the components of low-dose E/C/F/TAF (90/90/120/6 mg) STR in young children vs regular strength E/C/F/TAF (150/150/200/10 mg) STR in adults]

OABLB0102

CLINICAL OUTCOMES BY HIV SEROSTATUS, CD4 COUNT, AND VIRAL SUPPRESSION AMONG PEOPLE HOSPITALIZED WITH COVID-19 IN THE BRONX, NEW YORK

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BACKGROUND: It is unknown whether people living with HIV (PLWH) are at greater risk for adverse outcomes due to COVID-19 than people without HIV infection or if, among PLWH, outcomes are associated with CD4 count and viral suppression (VS). Bronx County in New York City is an epicenter of both the HIV epidemic and COVID-19 in the United States.

METHODS: We conducted a retrospective cohort study of SARS-CoV-2 PCR-positive patients admitted to a large tertiary academic health system in the Bronx, New York between March 10 and May 11, 2020. HIV-related data came from the Einstein-Rockefeller-CUNY Center for AIDS Research Clinical Cohort Database[DH1] . Outcomes assessed were in-hospital intubation, acute kidney injury (AKI), mortality, and length of stay (LOS). To compare outcomes between PLWH and those without HIV infection we used multivariable regression models, adjusting for age, gender, and race/ethnicity. Outcomes were explored among PLWH according to CD4 count and VS.

RESULTS: Among 4,662 patients, median age (IQR) was 65 (54-76); 47% were female. Most were either non-Hispanic Black (36%) or Hispanic (37%), and 80% had public health insurance. Overall, 77 (1.7%) were PLWH, among whom the most recent HIV viral load was undetectable (<40 copies/mL) in 83%; most recent CD4 was <200 cells/uL in 16%, 200-499 cells/uL in 44%), and ≥500 cells/uL in 40%. Overall, 10/77 (13%) PLWH and 634/4585 (14%) without HIV were intubated, and 29/77 (38%) PLWH and 1881/4585 (41%) without HIV developed AKI. In-hospital mortality was 14/77 (18%) among PLWH and 1037/4585 (23%) among those without HIV. Hospital LOS was 5 days

(3-9) for both PLWH and those without HIV who were discharged. HIV status was not significantly associated with mortality, intubation, AKI or LOS. In exploratory analyses among PLWH with CD4 count available (N=73), higher CD4 count was associated with intubation (adjusted odds ratio 1.36 per 100 cells/uL, 95% CI 1.02-1.82). None of the 10 viremic PLWH were intubated, versus 10/57 (18%) among suppressed PLWH.

CONCLUSIONS: In hospitalized patients with COVID-19, there were no significant differences in intubation, AKI, mortality, and LOS between PLWH and without HIV. Our preliminary findings regarding intubation among PLWH warrant further examination.

OABLB0103

THE PREDICTED RISK OF ADVERSE PREGNANCY OUTCOMES FROM TREATMENT-INDUCED OBESITY IN THE ADVANCE TRIAL

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BACKGROUND: Dolutegravir (DTG) is associated with obesity, especially when combined with tenofovir alafenamide (TAF) in black females. Obesity increases the risk of adverse pregnancy outcomes (APOs). We aimed to predict the 10-year risk of APOs caused by DTG-induced obesity, using the ADVANCE trial as a model.

METHODS: A systematic review was performed, evaluating the association between pre-pregnancy obesity and APOs. The relative risk (RR) for each APO in women with obese (≥30kg/m^2) versus normal BMIs (18.5-24.9kg/m^2) was calculated. To model the risk prediction, 1000 pregnant women with normal baseline BMIs were allocated to each treatment-arm of ADVANCE (TAF/FTC/DTG, TDF/FTC/DTG, TDF/FTC/EFV). The ADVANCE treatment-induced obesity rates were applied to this model to calculate the number of obese and normal BMI women at 96-weeks. This was combined with APO RRs to predict the number of women experiencing APOs with each treatment at 96-weeks.

APO	Relative Risk		TAF/FTC/DTG		TDF/FTC/DTG		TDF/FTC/EFV	
	RR	95% CI	Baseline	96-weeks	Baseline	96-weeks	Baseline	96-weeks
Preterm delivery	1.33	(1.19,1.48)	70	73	70	71	70	70
Gestational Hypertension	3.68	(2.97,4.55)	28	39	28	34	28	29
Gestational diabetes mellitus	4.31	(3.18,5.85)	16	23	16	19	16	16
Pre-eclampsia	4.06	(3.09,5.33)	25	35	25	30	25	26
Postpartum haemorrhage	1.23	(1.01,1.50)	112	115	112	114	112	112
Caesarean section	1.64	(1.55,1.73)	213	232	213	224	213	215
Small-for-gestational-age infants	0.84	(0.76,0.93)	89	87	89	88	89	89
Large-for-gestational-age infants	2.04	(1.65,2.52)	134	154	134	145	134	137
Low birthweight infants	1.01	(0.56,1.80)	64	65	64	64	64	64
Macrosomia	2.48	(2.10,2.93)	31	37	31	34	31	31
Stillbirth	1.39	(1.01,1.92)	4	4	4	4	4	4
Neonatal death	1.57	(1.00,2.48)	2	2	2	2	2	2
Neural tube defect	2.53	(1.15,5.55)	0	0	0	0	0	0

[Table]

RESULTS: At 96-weeks, the percentage of women becoming obese was 14% for TAF/FTC/DTG, 8% for TDF/FTC/DTG and 2% for TDF/FTC/EFV. The RR of APOs in women with obese versus normal BMIs was significantly higher for most APOs. Women were predicted to have a higher risk of APOs with DTG-regimens compared to TDF/FTC/EFV, noticeably with TAF/FTC/DTG. From baseline to 96-weeks, the predicted increase in APOs for women receiving TAF/FTC/DTG, TDF/FTC/DTG, and TDF/FTC/EFV was 9.9%, 5.2% and 0.9%, respectively.

CONCLUSIONS: Treatment-emergent obesity with TAF/FTC/DTG and to a lesser extent, TDF/FTC/DTG, could increase the risk of APOs in black females. The increase in APOs with TAF/FTC/DTG was almost double that of TDF/FTC/DTG. These predictions are likely underestimates of the APO risk with DTG-induced obesity as weight gain continues past Week 96. Longer-term follow-up of women and their infants is required.

OABLB0104

IMMUNOLOGIC CHARACTERISTICS OF ACUTE COVID-19 IN PEOPLE WITH HIV

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BACKGROUND: Data on the immunologic impact of SARS-CoV-2 co-infection in people living with HIV (PLWH) are limited.

METHODS: We conducted a retrospective study of clinical and immunologic outcomes of COVID-19 in 93 PLWH presenting to 5 New York City emergency departments who tested positive for SARS-CoV-2 by nucleic acid amplification.

RESULTS: Median previous CD4+ T lymphocyte count was 554 cells/uL, and 57/68 individuals (83.8%) had recent plasma HIV-1 RNA measurements below 50 copies/mL. Sixty-two of 89 (69.6%) were on antiretroviral therapy (ART) that included tenofovir. At presentation, PLWH with COVID-19 demonstrated significant lymphopenia and decreased CD4+ T cell counts. Levels of inflammatory markers, including C-reactive protein (CRP), fibrinogen, and D-dimer were commonly elevated. Serum cytokine profiles during acute COVID-19 were characterized by elevated interleukin (IL)-6, IL-8, and TNF-alpha, but not IL-1b.

Of 72 PLWH hospitalized with COVID-19, 16 (22.2%) died, 48 (66.7%) recovered, and 8 (11.1%) remained hospitalized at the time of analysis. Those who died had significantly lower nadir absolute lymphocyte counts during COVID-19 compared with those who recovered. Peak inflammatory markers including CRP, fibrinogen, and IL-6 were significantly higher in those who died; there were non-significant trends toward IL-8 and TNF-alpha elevations. No difference was observed in age, sex, BMI, duration of HIV infection, nadir, preceding, or presenting CD4+ T cell count, or viral suppression preceding or during the COVID-19 presentation. A greater proportion in the recovered group was on a regimen containing tenofovir, but the difference was not statistically significant.

CONCLUSIONS: PLWH who died of COVID-19 had significantly higher levels of soluble markers of immune activation and inflammation and more severe lymphopenia than those who survived. Our findings indicate that a subset of PLWH are capable of mounting profound inflammatory responses that have been noted to correlate with poor outcomes in people without HIV. Taken together, these findings raise important concerns that PLWH remain at risk for severe manifestations of COVID-19 despite ART, and that prominent immune dysregulation in a subset of PLWH during infection is associated with worse outcomes. Further studies are warranted to determine whether inflammatory pathways are exacerbated or potentiated in some PLWH compared with the general population.

OABLB0105

FASTER VIROLOGICAL SUPPRESSION WITH DOLUTEGRAVIR VERSUS EFAVIRENZ IN PREGNANCY DOES NOT LOWER THE RISK OF HIV MOTHER-TO-CHILD-TRANSMISSION: A META-ANALYSIS OF 5 CLINICAL TRIALS IN 1074 PREGNANT WOMEN

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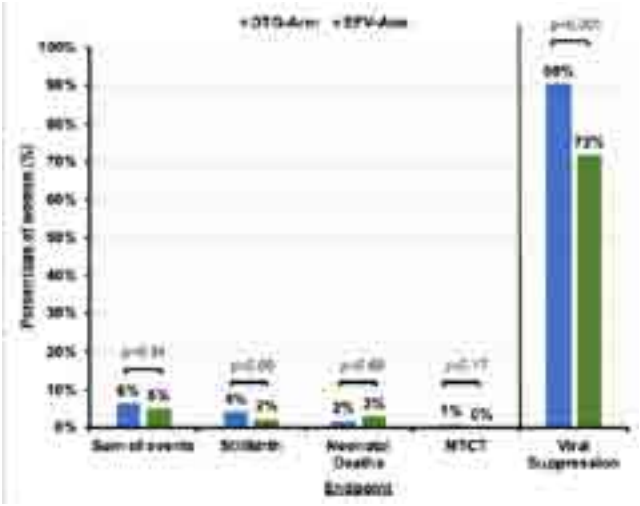
BACKGROUND: Dolutegravir (DTG) is part of the updated first-line antiretroviral treatment. However, literature surrounding the safety and efficacy of DTG in pregnant women remains insufficient as most early drug trials excluded this population from enrolment. A meta-analysis was conducted to collate the data emerging from newer RCTs that measure pregnancy outcomes with DTG use.

METHODS: Clinicaltrials.gov was searched for RCTs that compared DTG+2 NRTIs against the control treatment, EFV+2 NRTIs, in pregnant women. The primary endpoints included viral suppression, the number of stillbirths, neonatal deaths and HIV mother-to-child-transmissions (MTCT). Secondary endpoints included the number of mothers and infants experiencing ≥1 adverse event, preterm births and small-for-gestational-age infants. Using the Mantel-Haenszel test with random-effects modelling, risk difference and odds ratio were calculated.

RESULTS: The following five trials were selected: DOLPHIN-1, DOLPHIN-2, IMPAACT 2010, ADVANCE and NAMSAL to provide a sample of 1074 pregnant women for analysis. Preterm births and viral suppression rates were the only endpoints with a significant difference between treatments. The odds of viral suppression were almost 3 times higher in women using DTG (OR: 2.90, 95% CI:1.54, 5.46). The risk of preterm births was 4% higher in women using EFV (RD: -0.04, 95% CI:-0.07, -0.00). Interestingly, no significant difference was found between the treatments regarding the number of MTCTs. Two cases were reported in IMPAACT 2010 and three cases in DOLPHIN-2, all occurring in the DTG-arms. As viral suppression rates were significantly lower with EFV, a significantly higher number of MTCTs had been expected with EFV use.



[Table. Proportion of stillbirths, neonatal deaths, MTCT and viral suppression]

CONCLUSIONS: Greater and faster rates of viral suppression were seen in pregnant women who used DTG over EFV but, all five cases of HIV MTCT occurred in the DTG-arms, versus none in the EFV-arms. There was minimal difference between the safety of the treatments. These results should be confirmed in larger studies with longer-term follow-up.

TRACK C

OACLB0101

HPTN 083 INTERIM RESULTS: EFFICACY OF PRE-EXPOSURE PROPHYLAXIS (PREP) CONTAINING LONG-ACTING INJECTABLE CABOTEGRAVIR (CAB-LA) IS MAINTAINED ACROSS REGIONS AND KEY POPULATIONS

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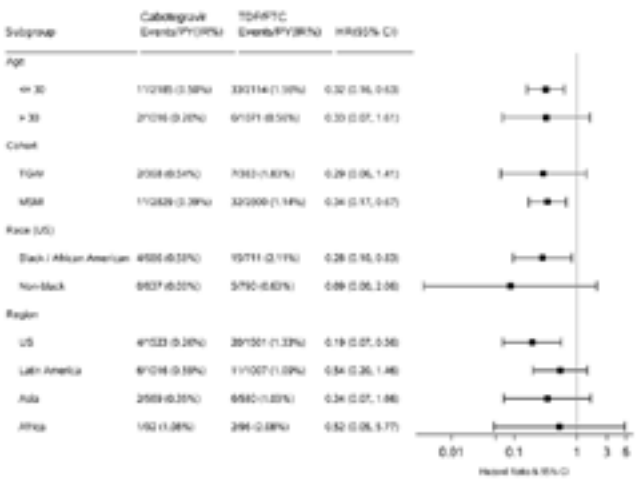
BACKGROUND: HPTN 083 is a phase 2b/3 randomized multicenter double-blind, double-dummy clinical trial of long-acting cabotegravir (CAB) compared to daily oral TDF/FTC for HIV PrEP; primary results have been presented. In this analysis we compare HIV incidence and efficacy of CAB-LA versus TDF/FTC in targeted subpopulations.

METHODS: HIV-negative cisgender men who have sex with men (MSM) and transgender women (TGW) who have sex with men at increased HIV risk were randomized 1:1 to either active CAB + placebo TDF/FTC or active TDF/FTC + placebo CAB. Participants were offered open-label daily oral TDF/FTC after their last injection. Enrollment

was pre-specified to include at least: 50% participants under age 30; 10% TGW; and 50% Black in the United States (US). Hazard ratios (HR) were estimated using Cox proportional hazard models.

RESULTS: Of the 4566 participants enrolled, 67% were < 30 years, 12% were TGW, 50% of the US population was Black. Fifty-two incident HIV infections were observed, 44 among participants < 30 years old (11 in the CAB-LA arm versus 33 in the TDF/FTC arm; HR: 0.32, 95%CI: 0.16, 0.63). Nine infections were observed among TGW, 2 in the CAB-LA arm and 7 in the TDF/FTC arm (HR 0.29, 95% CI: 0.06,1.41). Among Black US participants, 4 infections were observed in the CAB-LA arm versus 15 in the TDF/FTC arm (HR 0.28, 95%CI:0.10,0.83). Across regions, the HR (CAB-LA vs TDF/FTC) varied from 0.19 (95% CI:0.07,0.56) in the US to 0.54 (95% CI: 0.20,1.46) in Latin America (Figure).



[Figure]

CONCLUSIONS: HPTN 083 is the first study demonstrating efficacy for a long-acting PrEP agent. Pre-specified key subpopulations historically underrepresented in PrEP registrational trials were successfully enrolled and retained, fostering inclusion and equity in scientific development. CAB provided estimates of high levels of protection regardless of gender, region, or age.

OACLB0102

HIV INFECTION AND UNSAFE INJECTION PRACTICE AMONG CHILDREN IN SINDH, PAKISTAN: A CASE-CONTROL STUDY OF AN OUTBREAK

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BACKGROUND: An HIV outbreak unfolded in Larkana District, Sindh, Pakistan in April 2019. By December 2019, 1167 children had tested positive for HIV. Our study evaluates risk factors for HIV in this population.

METHODS: We conducted a household-based, individually-matched case-control study. Cases (children aged <16 years registered for pediatric HIV care in Larkana City) and controls (HIV-uninfected children matched 1:1 by age, sex and neighbourhood) were sampled concurrently. Serum was collected from all participants for hepatitis B and C serology. Mothers of all participants were tested for HIV. Adjusted odds ratios (aOR) were estimated using conditional logistic regression to assess factors associated with HIV infection.

RESULTS: From 3 July to 26 December 2019, 403 HIV cases and 403 individually-matched controls were recruited. Prevalence of HBV surface antigen and HCV antibodies were 18.4% (95% CI 14.7-22.5) and 6.5% (95% CI 4.3-9.3) respectively among cases, and 5.2% (3.3-7.9) and 1.0% (0.3-2.5) respectively among controls. Only 7.0% of cases had HIV positive mothers. In the 6 months prior to HIV testing, 228 (56.6%) cases and 32 (7.9%) controls reported >10 injections, and 294 (72.7%) cases and 78 (19.3%) controls had received an infusion. At least one blood transfusion was reported in 56 (13.9%) cases and 3 (0.7%) controls. HIV infection was independently associated with mother's occupation, history of blood transfusion (aOR 115.6, 95%CI 6.4-2091), and history of more injections/infusions (aOR 1.5, 95%CI 1.2-1.9), more than 1 visit to a government hospital (aOR19.9, 95%CI 2.6-155.2), and more visits to private clinics (aOR 3.1, 95%CI 1.9-5.2) in the 6 months prior to HIV testing.

CONCLUSIONS: HIV infection was associated with blood transfusion, multiple recent injections or infusions, and more visits to healthcare facilities in this population. This establishes that the most likely mode of transmission in this outbreak was parenteral (unsafe injection).
Funding Department of Pediatrics and Child Health, the Aga Khan University, Karachi

OACLB0103

IMPACT OF PHYSICAL DISTANCING DUE TO COVID-19 ON HIV PRE-EXPOSURE PROPHYLAXIS (PREP) USE AND SEXUAL BEHAVIOUR AMONG GAY AND BISEXUAL MEN IN AUSTRALIA: IMPLICATIONS FOR TRENDS IN HIV AND OTHER SEXUALLY TRANSMISSIBLE INFECTIONS

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BACKGROUND: In late-March 2020, Australian state and federal governments introduced physical distancing measures to combat COVID-19. We investigated the impact of physical distancing measures on HIV pre-exposure prophylaxis (PrEP) use and sexual behaviour among gay and bisexual men (GBM) in Australia.

METHODS: In April 2020, 940 participants in an ongoing cohort study responded to questions about COVID-19 and changes in PrEP use and sexual behaviours before and following enactment of physical distancing measures.

RESULTS: Mean age was 43.9 years (SD: 13.4). Among the 664 men who reported sex with either fuckbuddies or casual partners, 82.8% had ceased sex with those partners entirely following COVID-19 and

the average number of partners per day decreased from 0.089 (SD: 0.144) to 0.031 (SD: 0.097; p<0.001), representing a reduction of 65.2%. Among non-HIV positive GBM, 48.2% reported PrEP use prior to COVID-19 physical distancing measures. Among those, 58.4% continued to use PrEP and 41.6% ceased use since physical distancing restrictions were imposed. Men who ceased PrEP use were more likely to cease having sex with casual partners (90.8% vs 74.8%; p<0.001) and with fuckbuddies (88.2% vs 64.4%; p<0.001).

Most (86.0%) indicated that the reason for their cessation of PrEP use was 'I'm not having sex' but 17.0% also indicated that they had found it more difficult to access PrEP during social distancing restrictions.

CONCLUSIONS: The dramatic decreases in PrEP use and sexual activity observed in these data will likely result in short-term reductions in new HIV and sexually transmissible infections diagnoses in the short term, but they may be transient as COVID-19 physical distancing restrictions are eased, and reinstated, over time. These dramatic reductions in sexual activity may be difficult to sustain throughout physical distancing restrictions.

On-demand PrEP messaging could be usefully deployed to GBM who have ceased their PrEP use during physical distancing measures. The possibility of continued non-use of PrEP, or lack of preparedness for recommencement of PrEP when physical distancing measures eventually ease may lead to short term increases in HIV infections. Policy responses and harm reduction interventions will need to be appropriately targeted as GBM engage with a 'new normal'.

OACLB0104

IMPACT OF COVID-19 ON HIV PREEXPOSURE PROPHYLAXIS CARE AT A BOSTON COMMUNITY HEALTH CENTER

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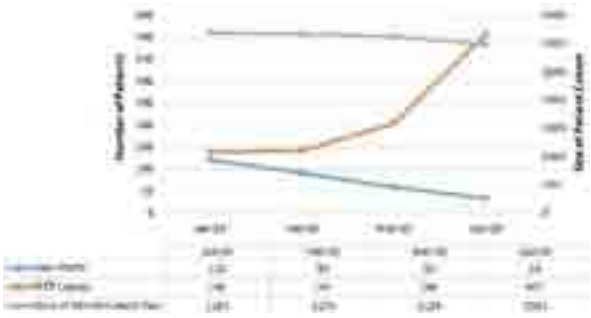
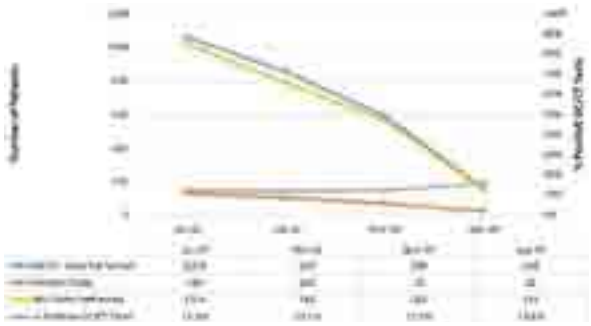
BACKGROUND: COVID-19 has impeded healthcare in the US since March 2020. We described the impact of COVID-19 on HIV preexposure prophylaxis (PrEP) care at a Boston community health center specializing in sexual healthcare.

METHODS: We extracted electronic healthcare data for patients with at least one active PrEP prescription during January-April 2020. We described trends in PrEP initiations and refill lapses (i.e., lack of refill before end of prior prescription), testing for gonorrhea/chlamydia (GC/CT) and HIV, and telehealth. We assessed covariates associated with refill lapses in April 2020 using chi-squared tests.

RESULTS: Of 3520 PrEP patients, the mean (SD) age was 36.9 (11.2), 72.7% were white, 13.6% Latinx, 92.1% cisgender men and 12.9% publically insured. From January to April, PrEP initiations decreased by 72.1% (122/month to 34/month), refill lapses increased by 278% (140/month to 407/month), and the number of PrEP patients decreased by 17.9% (Figure 1). GC/CT and HIV tests each decreased by 85.1% (1058/month to 158/month for GC/CT and 1014/month to 151/month for HIV), while GC/CT test positivity rates increased slightly (12.3% to 15.8%; Figure 2); the only HIV diagnosis among PrEP patients was in January. Clinical encounters decreased by 26.3% (1419 to 1046) and transitioned from 0% to 97.7% telehealth. Refill lapses were associated with being ≤26y (p=0.001), non-white (p=0.001), Latinx (p=0.049), and publically insured (p=0.002).



[Figure 1. Changes in PrEP use before and during Covid-19]



[Figure 2. Changes in GC/CT and HIV testing before and during Covid-19]

CONCLUSIONS: COVID-19 was associated with disruptions in PrEP care, especially among vulnerable subpopulations, despite high use of telehealth. Studies to understand whether changes in PrEP care reflect decreased sexual risk or barriers to optimal healthcare are needed.

OACLB0105

CLUSTER RANDOMIZED TRIAL OF AN HIV SELF-TESTING INTERVENTION TO PROMOTE PARTNER TESTING AND SAFER SEXUAL BEHAVIOR AMONG WOMEN AT HIGH RISK OF HIV INFECTION IN KENYA

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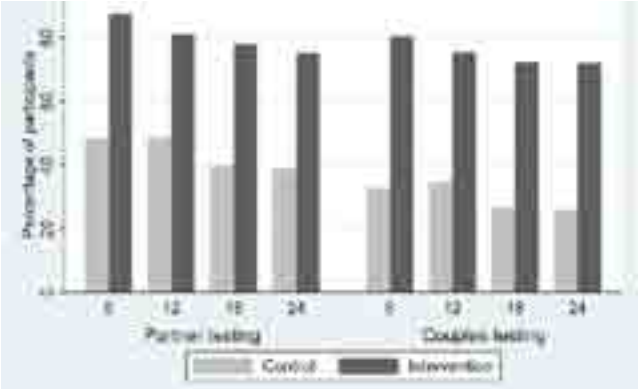
BACKGROUND: HIV self-testing (HIVST) can overcome barriers to HIV testing, but its potential as an HIV prevention strategy for women in sub-Saharan Africa has not been assessed. We examined whether provision of multiple self-tests to high-risk women promotes partner testing, facilitates safer sexual behavior, and reduces HIV risk (NCT03135067).

METHODS: Between 2017-2018, we recruited 2,090 HIV-negative women ≥18 years with ≥2 partners from 66 clusters in Siaya County, Kenya including beach communities and sex worker hotspots. In clusters randomized to the intervention, participants received self-tests at regular intervals during the study. In control clusters, participants received referral cards for facility-based testing. Follow-up visits occurred at 6-month intervals, for up to 24 months, and concluded in March 2020. HIV incidence, partner testing, couples testing, HIV-positive partners identified, and sexual behavior were compared between study groups.

RESULTS: Participants' mean age was 27.1 years, 64.5% were married, and 66.6% reported sex work as an income source. Mean follow-up duration was 19.1 months. Intervention participants received an average of 16.8 self-tests. HIV incidence did not differ between the intervention and control groups (1.2 vs. 1.0 per person-year, HR 1.17; 95% CI 0.54, 2.51; p=0.69). At each follow-up, the intervention significantly increased primary partner and couples testing in the past 6 months (Figure). The intervention also identified 1.79 times more HIV-positive sexual partners per participant (p<0.001). At 6 months, intervention participants were more likely to report that condom use resulted from ≥1 partners testing HIV-positive or declining testing (11.6% vs. 6.2%; p<0.001); however, this difference did not persist at 12-24 months.



[Figure. Primary partner and couples testing in past 6 months
Reported by participants at each 6-months follow-up visit]

CONCLUSIONS: Provision of multiple self-tests to high-risk women in Kenya led to increased awareness of sexual partners' HIV status and modestly safer sexual behavior, but did not affect HIV incidence.
This approach can support achievement of UNAIDS 95-95-95 targets and should be accompanied with additional HIV prevention interventions.

TRACK D

OADLB0101

IMPACT OF COVID-19 RELATED SHELTER-IN-PLACE ORDERS ON PREP ACCESS, USAGE AND HIV RISK BEHAVIORS IN THE UNITED STATES

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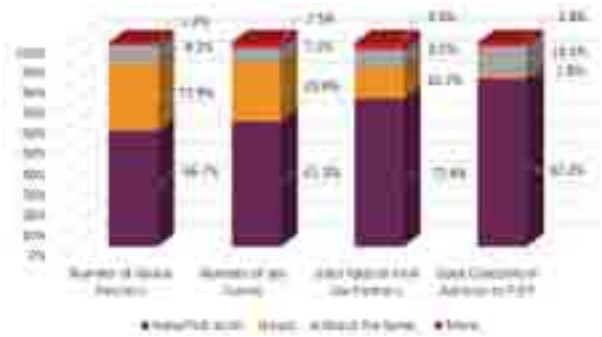
BACKGROUND: In 2020, USA implemented shelter-in-place orders (SIPOs) during the COVID-19 outbreak. These orders led to reduced staff and hours or completely closed healthcare facilities. We sought to understand how SIPOs impacted PrEP access, use, and HIV risk behaviors among PrEP users or modified PrEP providers' practice to understand how SIPOs may impact the future of PrEP delivery.
METHODS: Electronic convenience sample surveys of PrEP users and prescribers were simultaneously deployed across a 25-day period at the height of SIPO implementation. PrEP user survey link was sent via social media and PrEP advocates. The provider survey link was emailed to more than 2500 providers from the Academy's database. Summary analysis of cohort groups for insights and trends
RESULTS: 409 PrEP users under SIPOs responded, approximately 33% reported discontinuing PrEP. Many discontinued users (83%) stopped voluntarily and of those, 85% due to low perceived HIV risk, with only 11 participants citing inability to access PrEP medications. Post-SIPO HIV risk varied among respondents (Figure 1.) Of 189 prescribers, 95% reported being able to prescribe PrEP during SIPOs despite >90% reporting practice-site restrictions. While some PrEP users discontinued PrEP, among providers: 90% recommended no PrEP regimen changes to patients; 68% implemented telemedicine practices; and 59% indicated refilling PrEP medications while postponing routine HIV/STI and laboratory tests to be completed as soon as possible; 15% opted to completely forgo testing and lab monitoring. One in five providers encountered PrEP users with suspected STIs for which they could not obtain a test and half (47%) elected to treat empirically.



[Figure 1. Changes to risk taking behaviors after SIPO/SAHO]

CONCLUSIONS: During USA SIPOs, PrEP users were able to access PrEP via telemedicine while some discontinued due to perceived low HIV risk and self-reported reduced risk behaviors. Despite in-person visits being limited, providers were able to prescribe PrEP, however, PrEP users had limited access to HIV/STI testing.

OADLB0102

EXPERIENCES OF PARTICIPANTS IN A DECENTRALIZED HIV MEDICATION DISTRIBUTION PROGRAM IN SOUTH AFRICA DURING THE COVID-19 PANDEMIC

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BACKGROUND: Restrictions on social interaction and mobility during the COVID-19 pandemic could adversely impact long-term HIV care, particularly in areas of high HIV prevalence such as South Africa. De-centralized antiretroviral therapy (ART) programs, which allow stable patients to collect ART at community-based pick-up points, have the potential to improve care by decongesting clinics and decreasing barriers to ART access. We aimed to evaluate the experiences of people receiving HIV care through a decentralized program in South Africa during the COVID-19 pandemic.

METHODS: We telephoned a random subsample of 604 participants enrolled in a larger prospective cohort study of the Central Chronic Medicine Dispensing and Distribution Program (CCMDD) in urban Kwazulu-Natal. A semi-structured telephone interview included questions about general concerns regarding the COVID-19 pandemic and national lockdown, and changes in access to HIV care and ART.

RESULTS: We completed interviews with 280 participants (46%) of whom 66% were female, median age was 37y, and median time of enrollment in the CCMDD program was 6.7 months. The most common concern among participants regarding the COVID-19 pandemic was food running out, cited by 113 (40%) of participants, followed by becoming infected (n = 99; 35%), being unable to work (n = 85, 30%), and money running out (n= 80; 29%). Primary concerns regarding ART pick-up in the future were COVID-19 infection risk (91, 33%), transportation availability (63, 22%), and safety (58, 21%). Twenty (7%) of 278 participants had recently delayed picking up their ART due to COVID-19. Among those with available data, 40 (30% of 143) reported an increase in time to travel to their medication pick-up point, and 71 (49% of 144) reported an increase in wait-times.

CONCLUSIONS: Participants in a decentralized ART program in South Africa identified socioeconomic concerns and fear of COVID-19 infection during the national lockdown for COVID-19 mitigation. While a small number had delayed picking up ART due to COVID-19, a significant proportion had concerns about accessibility and safety of medication pick-up going forward, and many reported new barriers to picking up their medication. Strategies for maintaining access to longitudinal HIV care during the COVID-19 pandemic in South Africa are needed.

OADLB0103

SAFETY AND PRELIMINARY EFFECTIVENESS OF THE TU'WASHINDI INTERVENTION TO INCREASE PREP USE AMONG KENYAN ADOLESCENT GIRLS AND YOUNG WOMEN AT RISK OF INTIMATE PARTNER VIOLENCE: A PILOT CLUSTER-RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Oral pre-exposure prophylaxis (PrEP) has potential to reduce HIV acquisition among adolescent girls and young women (AGYW) in sub-Saharan Africa, a priority population for epidemic control. However, intimate partner violence (IPV) and low relationship power may create significant challenges to PrEP use. The Tu'Washindi intervention aimed to increase PrEP uptake and adherence among AGYW enrolled in the DREAMS Initiative in Siaya County, Kenya, where IPV and gender inequity are highly prevalent.

METHODS: Our multi-level, community-based intervention was piloted in a cluster-randomized controlled trial conducted at 6 pair-matched DREAMS Safe Spaces. Three intervention components were delivered over 6 months: an 8-session empowerment-based support club, community sensitization targeted towards male partners, and a couples' PrEP education event. Participants were ages 17-24, HIV-uninfected, and either eligible for, or already taking, PrEP. PrEP uptake and IPV were assessed over 6 months of follow-up through interviewer-administered questionnaires, and adherence was assessed with Wisepill electronic monitoring devices. PrEP uptake, adherence and IPV were compared using Poisson and negative binomial regression models adjusting for matched sites.

RESULTS: We enrolled 103 AGYW; median age was 22 years (IQR 20-23), 95% had a primary partner, 32% were currently taking PrEP, and 44% reported IPV in the past 3 months. Retention was 97% at Month 6. Compared to control arm participants, those in the intervention arm were more likely to initiate PrEP, if not already using it at enrollment (68% vs. 32%, aRR 2.28, 95% CI 1.19-4.38, p=0.01), and those taking PrEP had higher adherence (25% vs.13%, aRR 1.86, 95% CI 1.10-3.13, p=0.02). Twenty percent of participants reported IPV during study follow-up. There were trends towards fewer IPV events per participant (aRR 0.62, 95% CI 0.24-1.57, p=0.31) and fewer events resulting in injury (aRR 0.22, 95% CI 0.05-1.06, p=0.06) in the intervention versus control arm.

CONCLUSIONS: Tu'Washindi shows promise in promoting PrEP uptake and adherence among AGYW without concomitant increases in IPV, however adherence was still suboptimal. Further research is needed to determine whether these gains translate to increases in the proportion of AGYW with protective levels of PrEP adherence and to evaluate the potential for the intervention to reduce IPV risk.

OADLB0104

EFFECTIVENESS OF THE SISTA2SISTA PROGRAM ON IMPROVING HIV AND OTHER SEXUAL AND REPRODUCTIVE HEALTH OUTCOMES AMONG VULNERABLE ADOLESCENT GIRLS AND YOUNG WOMEN IN ZIMBABWE

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BACKGROUND: In Zimbabwe, adolescent girls and young women (AGYW) experience high rates of HIV infection, gender-based violence, and other sexual and reproductive health challenges. They also face barriers to accessing health information, services and support. In 2013, the Ministry of Health and Child Care partnered with the United Nations Population Fund to design and implement the Sista2Sista program. Sista2Sista is a structured peer group behavioral intervention aimed at improving health outcomes among vulnerable in- and out-of-school AGYW.

METHODS: Program data was analyzed for 91,612 AGYW aged 10-24 years who were enrolled in the Sista2Sista program in Zimbabwe between 2013 and 2019. Logistic regression was used to determine odds ratios (OR) with 95% confidence intervals (CI) and evaluate Sists2Sista program exposure as a factor in the following variables, defined a priori: HIV testing, marriage, school attendance, family planning, pregnancy and reported sexual abuse.

RESULTS: A total of 58,471 AGYW (63.82%) graduated from the Sista-2Sista program by completing at least 30 out of 40 exercises. Compared to those with fewer than 30 exercises, graduates were more likely to take an HIV test (2.78 OR 95% CI 2.52-3.10), less likely to get married (0.63 OR 95% CI 0.55-0.73) and less likely to drop out of school (0.60 OR 95% CI 0.53-0.69). At higher thresholds of program completion, additional positive outcomes were observed. Participants who completed all 40 exercises were more likely to go back to school (1.41 OR 95% CI 1.18-1.69), report the use a family planning method (1.38

OR 95% CI 1.21-1.56), and come forward to report sexual abuse (1.76 OR 95% CI 1.17-2.66). They were also less likely to become pregnant as adolescents (0.41 OR 95% CI 0.24-0.72). Participants who benefited from individual counselling sessions were more likely to graduate from the program.

CONCLUSIONS: The Sista2Sista program had a positive effect on a range of HIV and other sexual and reproductive health outcomes among vulnerable AGYW in Zimbabwe. Strategies to retain participants in the program for longer should be explored. These might include layering structural elements into the program (e.g. school support) as well as intensifying individual counselling.

OADLB0105

THE #STAYHOME #SELFTEST CAMPAIGN. RAPID PIVOT OF HIV TESTING SERVICES TO ENABLE CONTINUITY OF CARE IN HANOI, VIETNAM DURING THE COVID-19 LOCK-DOWN

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BACKGROUND: With SARS-CoV-2 transmission on the rise in Hanoi, Vietnam in late March, facility-and community-based HIV testing was largely halted through most of April. Even before restrictions were put in place, the number of individuals seeking an HIV test declined through March. Leading up to COVID-19, differentiated HIV testing options were available to key populations (KP), such as self-testing (HIVST), lay-testing, and facility-based testing. Both blood-based and oral fluid HIVST are available in Vietnam.

DESCRIPTION: Starting in April, KP-led organizations, private clinic partners, and the USAID/PATH Healthy Markets project crowd-sourced ideas from KP for re-framing HIV testing during COVID-19. The resulting "#Stayhome #Selftest" campaign offered KP the option to place an order for an HIV self-test kit by phone, text, or an online ordering platform. An online risk screening tool further guided individuals in self-determining their need for an HIVST. HIVST kits were delivered using local courier options (e.g. Grab), post, or home drop-off depending on client preference and location, while applying a universal mask use policy.

LESSONS LEARNED: The coordinated effort to offer HIVST through online orders and home-delivery resulted in 877 HIVST kits being couriered, posted, or otherwise delivered to those seeking an HIV test in Hanoi in April. This reflected a 97% increase in the monthly average number of HIVST kits that were distributed in the three previous months. The majority of those ordering a test were young men who have sex with men between the ages of 19-24, of whom 28% had never tested for HIV before, and 85% of whom said it was online content that prompted them to seek an HIV test.

CONCLUSIONS/NEXT STEPS: HIVST is an empowering self-care tool, allowing individuals to seek an HIV test based on their own assessment of risk and need. It also provides testing options for those who may be reluctant to go to a clinic for an HIV test due to COVID-19. Increasing access to HIV self-testing during and after the COVID-19 lock-down is an essential measure to ensure that those at risk of HIV, including those who have never tested for HIV before, have continued access to COVID-19 safe HIV testing.

TRACK E

OAELB0101

CONTINUITY OF ART PROVISION DURING COVID-19 LOCKDOWN, A TASO MASAKA COMMUNITY ART DELIVERY EXPERIENCE

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BACKGROUND: TASO Masaka has 8020 ART clients in care of which 65% of these receive their drugs through the community arm of drug distribution. The outbreak of COVID -19 in Uganda with now 55 cases recorded has come with preventive measures to reduce transmissions. These include social distancing and lockdown where movement from one place to another is restricted to a few professionals hence affecting ART clients who seek ART care at TASO Masaka. The procedures of obtaining travel permits are cumbersome given that one must seek approval from the Resident District Commissioners office which is far away for most clients given the geographical scope of the district. It is against such a background that TASO Masaka developed community strategies of reaching out its clients amidst the lock down.

DESCRIPTION: Monitoring and evaluation department classified clients based on ART delivery models, for clients receiving drugs in Community drug distribution points the group leaders were called and ensured that drugs were to be delivered while maintaining social distancing measures.

Those receiving drugs at facility and leave far away from the centre, the Monitoring and evaluation team had to cluster clients based on their sub counties, parishes and villages.

The list is shared with the phyco-social department for follow up, files are retrieved and phone calls are made to schedule appointments for ART delivery. This can be at home or near by agreed central location where clients can receive drugs.

For clients outside the catchment areas appropriate referrals are made to near by health centers and updating of client's records is done at the parent facility.

LESSONS LEARNED: During the lockdown clients have had uninterrupted drugs refills in their communities.

Referrals to near by health facilities have enabled continued adherence to ART among clients.

New community structures are emerging for those clients who were receiving drugs at facility.

CONCLUSIONS/NEXT STEPS: A community ART delivery approach has enabled service providers to continually provide care to clients amidst COVID Lock down.

The created community structures can be maintained to handle ART delivery during complicated situations.

OAELB0102

TWENTY-FOUR MONTH RETENTION AND VIRAL LOAD OUTCOMES FROM A NON-INFERIORITY CLUSTER RANDOMIZED TRIAL OF EXTENDING ART DISPENSING INTERVALS TO 6-MONTHLY IN ADHERENCE CLUBS

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BACKGROUND: Patients and health systems could benefit from reduced visit frequency by increasing ART refills. Antiretroviral therapy (ART) adherence clubs (AC) support clinically stable patients' retention through lay healthcare worker-led group ART refills and psychosocial support. We conducted a non-inferiority cluster randomized control trial comparing standard of care (SoC) ACs and 6-month refill intervention ACs in Khayelitsha, South Africa.

METHODS: Existing ACs were randomized to either SoC or intervention ACs. SoC ACs met five times annually receiving 2-month refills with a 4-month refill over year-end; one AC visit included an annual blood draw followed by clinical assessment at the next visit. Intervention ACs met twice annually receiving 6-month refills, with an individual blood collection anytime 3-30 days before the annual clinical assessment AC visit. Study enrolment took place in 2017 with the first study visits in October/November 2017 and patients followed for 24-months. Retention was defined as a visit on or within 3-months after the 24-month scheduled appointment. Viral load (VL) completion (12-24 months after enrolment) and suppression(<400copies/mL) at analysis closure are presented by group. We conducted a Cox proportional hazards regression analysis to compare attrition (death or loss to follow-up) using robust standard errors to account for clustering.

RESULTS: A total of 2,150 patients in 88 ACs were included; 977 in 40 intervention ACs (22% male) and 1,173 in 48 SoC ACs (24% male). Twenty-four month retention was high in both arms; 93.1% (95% CI: 91.2-94.7%) in intervention ACs and 94.0% (95% CI:92.4-95.2%) in SoC ACs, with no significant difference between groups (Hazard Ratio 1.09, 95% CI: 0.54-2.19). Among those retained at 24 months, viral load completion was slightly higher in the intervention arm (848/897;94.5% [CI:92.9-95.8%] vs. 972/1089;89.3% [CI:85.6-92.1%]) and suppression was similar between arms (817/848; 96.3% [95%CI: 94.6-97.5%] vs. 948/972; 97.5%[95%CI: 96.4-98.3%]).

CONCLUSIONS: After 24-months, non-inferior retention and viral load outcomes were observed between the intervention ACs with 6-month ART refills and the SoC ACs. These findings are consistent with the 12-month outcomes and provider further reassurance that clinically stable patients can achieve good outcomes with fewer ART visits and longer ART refills.

OAELB0103

SWING-LED EFFORT TO SUSTAIN ESSENTIAL NEEDS AND HIV SERVICES OF VULNERABLE SEX WORKERS IN THAILAND THROUGH COVID-19 PANDEMIC

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BACKGROUND: Around 200,000 sex workers in Thailand immediately became jobless due to COVID-19 public health measures. Sex workers could not access the government's financial aid for informal workers as their job is deemed non-existent/illegal. We described how an agile community-led effort has enabled sex workers in Thailand to access essential needs and HIV services during the pandemic.

DESCRIPTION: SWING, a sex worker-led organisation, empowers the lives of sex workers through health, educational, and legal support. SWING staff are current/ex-sex workers trained to be lay providers delivering HIV services to their peers. COVID-19 enthused these lay providers to cook and deliver meals to sex workers and their families. The "COVID-19 Fund for Sex Workers" was rapidly set up asking for money and essential supply donations to provide immediate support to sex workers in Bangkok and Pattaya.

LESSONS LEARNED: From April 11 to 22 May 2020, SWING received almost 2 million THB (≈62,500USD) from individuals and various industries. Over this period, SWING has provided support to 560 Thai and non-Thai sex workers (385 cis-women, 96 trans-women, 79 cis-men), aged 18-65 years, in Bangkok and Pattaya. Ready-to-eat meals and food supplies were delivered to these service workers three times a week. Over 80% of them had to rely on sex work income to support their children and families.

Temporary jobs were created for sex workers to aid other homeless people during these times. Some entertainment venues, inspired by SWING, also acted as temporary kitchens to support sex workers. A small entrepreneur group has also helped SWING to conduct crowdsourcing through the vending of SWING merchandise.

Realizing that many service workers have been struggling to continue their job during COVID-19, SWING has also organized mobile clinics to provide HIV/COVID-19 laboratory screening and referral services to these sex workers. A life-saving guide and toolkit for sex workers during COVID-19 is currently under development.

CONCLUSIONS/NEXT STEPS: Sex workers in Thailand have survived through COVID-19 pandemic due to true leadership, agility, and solidarity within their own community. Sex work has been de-stigmatized through public donation campaign which proved to fill in support gaps not covered by the Thai government.

OAELB0104

GLOBAL INTERRUPTIONS IN HIV PREVENTION AND TREATMENT SERVICES AS A RESULT OF THE RESPONSE TO COVID-19: RESULTS FROM A SOCIAL MEDIA-BASED SAMPLE OF MEN WHO HAVE SEX WITH MEN

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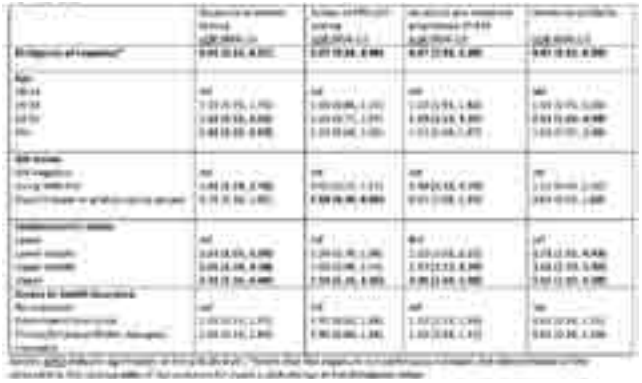
BACKGROUND: Globally, the coronavirus pandemic has necessitated a range of population-based measures in order to stem the spread of infection and reduce COVID-19 morbidity and mortality. These measures may be associated with disruptions to other health services including for gay men and other men who have sex with men(MSM) at risk for or living with HIV.
Here, we assess the relationship between intensity and breadth of COVID-19 mitigation strategies and interruptions to HIV prevention and treatment services for MSM.
METHODS: Data for this study were collected as part of a COVID-19 disparities survey implemented by the gay social networking app, Hornet (16/Apr/2020-4/May/2020). Data were assessed for countries where ≥100 participants completed the survey (Brazil/France/Indonesia/Mexico/Taiwan/Turkey/UK/USA), to evaluate the association between stringency of COVID-19 mitigation strategies and HIV-service engagement (n=1929) using mixed-effects models with clustering by country. Stringency was measured using the Oxford Government Response Tracker Stringency Index; each country received a score (0-100) based on the number and strictness of nine indicators related to school and workplace closures and travel bans.
RESULTS: The median age of participants was 36(IQR:28-47); 13%(246/1929) are living with HIV. The median stringency score was 70.5(Range:[29.36,Taiwan]-[89.41,France]). For each indicator of prevention, increasing stringency of response was associated with decreased access to services. For every one-point increase in stringency, there was a 4% reduction in the odds of access to in-person testing, and a 3% reduction in the odds of access to self-testing, to PrEP, and to condoms (Table 1).



[Table 1. Factors associated with access to HIV prevention services during the coronavirus pandemic at the country- and individual-level]

Among those living with HIV, having health insurance (government (aOR: 4.86,[95%CI:1.58,14.9]); private(aOR: 4.47,[95%CI 1.45,13.8])) was independently associated with access to antiretroviral treatment.

CONCLUSIONS: More stringent government responses were associated with decreased access to HIV services. Innovative strategies, like mobile-service delivery or telehealth, may be needed to minimize the service interruptions from these types of government responses on MSM communities and ensure continuity of care.

OAELB0105

REACHING UNAIDS 95-95-95 TARGETS WORLDWIDE: PREDICTED BENEFITS AND TREATMENT COSTS WITH GENERIC MANUFACTURE

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BACKGROUND: UNAIDS aims for HIV testing, treatment and viral suppression rates to be 90%-90%-90%, respectively, by 2020 and 95%-95%-95% by 2025. Patented drug prices remain a barrier to HIV treatment. Generic alternatives are being produced and exported from countries without patent barriers at a fraction of the cost. Global access to generic alternatives could reduce expenditure and improve clinical outcomes.
METHODS: Epidemiological and demographic HIV data were compiled for 160 countries from UNAIDS, publications and country reports. The cost of generic TDF/3TC/DTG was estimated using the Panjiva database; shipment values of active pharmaceutical ingredients from India were used to estimate finished product costs, including excipient costs, tax, and 10% profit. We estimated the cost of generic drugs with (a) current, (b) 90-90-90 and (c) 95-95-95 service coverage. Weighted log-linear regression of the relationship between antiretroviral coverage and (i) HIV infections, (ii) deaths, and (iii) mother-to-child transmission (MTCT) rate was used to estimate the effects of increased service coverage. Annual antiretroviral sales were compiled from pharmaceutical quarterly financial sales reports, adjusted for inflation and GDP.
RESULTS: The estimated cost of generic TDF/3TC/DTG was $59 per person per year. The TDF component was $20, 3TC was $27 and DTG was $12. 95-95-95 generic coverage at this price would cost $2 billion annually. Estimated 2019 global HIV drug expenditure was $36.25 billion ($700 million per week).

	Service coverage		
	Current	**90-90-90**	**95-95-95**
Cost of treatment with generics in 160 countries	$1.34 billion	$1.81 billion	$2.00 billion
Number receiving ART	22.63 million	30.42 million	33.67 million
Estimated number of new infections in adults	1.16 million	0.74 million	0.68 million
Estimated number of HIV-related deaths in adults	530,000	240,000	200,000
Estimated number of mother-to-child-transmissions	179,000	71,000	58,000

[Table]

CONCLUSIONS: Reaching the UNAIDS 95-95-95 targets could prevent 480,000 new adult HIV infections, 121,000 infant HIV infections and 330,000 adult deaths per year, compared to current treatment coverage levels. The annual cost of 95-95-95 treatment coverage for the 160 countries in this study is equivalent to only three weeks of global sales at current prices; significant savings could be made by switching to quality-assured generics. Generic drug access is paramount to reduce HIV infections and deaths.

CO-CHAIRS' CHOICE

OAXLB0101

HPTN083 INTERIM RESULTS: PRE-EXPOSURE PROPHYLAXIS (PREP) CONTAINING LONG-ACTING INJECTABLE CABOTEGRAVIR (CAB-LA) IS SAFE AND HIGHLY EFFECTIVE FOR CISGENDER MEN AND TRANSGENDER WOMEN WHO HAVE SEX WITH MEN (MSM,TGW)

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BACKGROUND: HPTN 083 is a Phase 2b/3 randomized multicenter double-blind, double-dummy, clinical trial evaluating safety and efficacy of long-acting injectable cabotegravir (CAB) compared to daily oral TDF/FTC for HIV PrEP. The blinded trial was stopped at a pre-planned interim DSMB review in May 2020.

METHODS: HIV-uninfected MSM and TGW at increased HIV risk were randomized 1:1 to either active CAB +TDF/FTC placebo (oral cabotegravir(CAB) for 5 weeks, then IM injections every 8 weeks for 148 weeks) or active TDF/FTC+CAB placebo (oral placebo for 5 weeks, then placebo injections on the same schedule). All participants were offered daily oral TDF/FTC for 48 weeks after last injection. The primary endpoints were incident HIV infection and grade 2 or higher clinical and laboratory events.

RESULTS: Participants were enrolled at 43 sites in Africa, Asia, Latin America, and the US (N=4566); median age: 26y (IQR 22-32); 12%TGW (n=567); 50% of US participants were Black (n=844). Participant retention at 6, 12, and 24 months was 91%, 87%, and 74%, respectively. Fifty-two incident HIV infections were observed over 6385 person-years, with overall HIV incidence 0.81% (95%CI 0.61-1.07); 39 infections were in the TDF/FTC arm (incidence 1.22%, 95%CI 0.87-1.67); 13 infections were in the CAB arm (incidence 0.41%, 95%CI 0.22-0.69%); HR: 0.34 (95%CI 0.18-0.62). Blinded study product injections covered 92% of person-years. Adherence to oral TDF/FTC was high; in a random subset of 372 TDF/FTC participants 87% had plasma samples with detectable concentrations, and 75% had concentrations consistent with daily dosing. CAB and TDF/FTC were both well tolerated; most adverse events were mild/moderate and balanced between arms. Injection site reactions, pyrexia, and hypertension were significantly more common in CAB participants, nausea was significantly more common in TDF/FTC participants. Injection intolerance led to discontinuation in 46 (2.2%) active CAB-LA recipients and was associated with the severity of the intolerance/reaction.

CONCLUSIONS: CAB and TDF/FTC were both safe and highly effective for PrEP in HPTN083, with estimated HIV incidence in the CAB arm 66% lower than in the TDF/FTC arm. CAB is the first injectable agent proven effective for HIV PrEP; a companion trial in cisgender women is ongoing.

OAXLB0102

UPDATE ON NEURAL TUBE DEFECTS WITH ANTIRETROVIRAL EXPOSURE IN THE TSEPAMO STUDY, BOTSWANA

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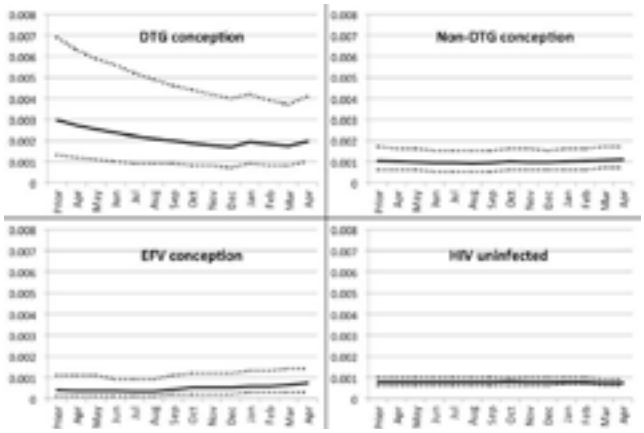
BACKGROUND: The Tsepamo study last reported neural tube defect (NTD) data collected through March 2019 (Zash et al, *NEJM* 2019), with 0.3% prevalence following exposure to dolutegravir at conception compared with 0.1% following exposure to non-DTG antiretrovirals at conception. The study is ongoing and data collected through April 2020 are now reported.

METHODS: The Tsepamo Study conducts birth outcomes surveillance study at government hospitals throughout Botswana, currently covering ~70% of all births. Midwives perform surface examinations of all live births and stillbirths and describe abnormalities. Research assistants photograph major abnormalities after maternal consent, which are reviewed by a birth defects expert blinded to exposures. Prevalence of NTDs was determined by maternal HIV and antiretroviral exposure status (95%CI by Wilson method) and the primary analysis evaluated prevalence differences by exposure status (95%CI by Newcombe method).

RESULTS: Since March 2019, 39,200 additional births were recorded, including 1908 additional DTG conception exposures. Since August 2014, there have been a total of 158,244 deliveries; 153,899 (97.2%) had an evaluable infant surface exam, with 126 (0.08%, 95%CI 0.07%,

0.09%) NTDs identified (83 with photo, 43 by description only). Among women on dolutegravir at conception, 7/3591 NTDs occurred (0.19%; 95%CI 0.09%, 0.40%): 3 myelomeningoceles, 1 anencephaly, 2 encephaloceles, and 1 iniencephaly. In comparison, NTDs occurred in 21/19,361 (0.11%; 95%CI 0.07%, 0.17%) women delivering on any non-dolutegravir antiretrovirals from conception, 8/10,958 (0.07%; 95%CI 0.03%, 0.17%) on efavirenz from conception, 2/4,581 (0.04%; 95%CI 0.1%, 0.16%) on dolutegravir started in pregnancy, and 87/119,630 (0.07%; 95%CI 0.06, 0.09%) HIV-uninfected women. NTD prevalence differed non-significantly between dolutegravir and any non-dolutegravir antiretrovirals from conception (0.09% difference; 95%CI -0.03%, 0.30%).



[Figure. Prevalence of neural tube defects (and 95% CI) from March 2019 - April 2020 in Tsepamo]

CONCLUSIONS: After a period of decline since the original safety signal, prevalence of NTDs among infants born to women on dolutegravir at conception may be stabilizing at approximately 2 per 1000.

OAXLB0103

COMMUNITY HIV TESTING CONTINUITY IN THE CONTEXT OF COVID-19 LOCKDOWN AND SOCIAL DISTANCING

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BACKGROUND: Eswatini entered into a national lockdown at the end of March 2020 in response to the spread of SARS-CoV-2. Non-essential industries stopped operating, and the Ministry of Health announced a halt to community HIV testing services (those taking place outside of healthcare facilities). Focus shifted to providing HIV self-testing kits near to essential businesses, including pharmacies and food stores.
The latest data indicate that Eswatini is one of six countries who have achieved the 90-90-90 cascade goals. It is thus especially important in the country's context of a generalised epidemic to not undo this achievement. The objective of this paper is to analyse this new approach in offering HIV testing.
DESCRIPTION: PSI healthcare workers distributed oral HIV self-tests in front of food stores, pharmacies, and in their own residential communities. A risk assessment was conducted for each client, as well as screening for contacts to receive an HIV self-test. Contact details were collected from consenting clients for follow-up, where they were provided with further support and linked to HIV prevention or treatment services.
LESSONS LEARNED: Over 24 days, 7,997 HIVST kits were distributed near to pharmacies, shops and residential communities of distributors. The kits distributed were evenly split between male and female recipients. With regards to testing history, 38% of all recipients had not tested for HIV in the year prior to receiving the self-test, and 17% of recipients had never tested for HIV before. Further breakdown reveals that 56% of the recipients who had never tested for HIV prior were men, and 15% were above age 40.
CONCLUSIONS/NEXT STEPS: The advent of Covid-19 brought temporary HTS policy changes to Eswatini. The new HTS strategy had positive results, with more than half of the HIV self-tests reaching clients who had never tested before, or who had not tested in the past year, which is the guideline for testing frequency in Eswatini. Furthermore, the larger proportion of those with poor testing behaviour were men, who are a target group for HIV self-testing. Though new, this is a strategy that should continue, with more attention given to locations all over the country, for more equitable access.

OAXLB0104

THE ADVANCE TRIAL: PHASE 3, RANDOMISED COMPARISON OF TAF/FTC+DTG, TDF/FTC+DTG OR TDF/FTC/EFV FOR FIRST-LINE TREATMENT OF HIV-1 INFECTION

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BACKGROUND: In low- and middle-income countries, most treatment-naïve people living with HIV (PLWH) take tenofovir disoproxil fumarate (TDF) with emtricitabine FTC (or lamivudine (3TC)) and efavirenz (EFV). Dolutegravir (DTG) and tenofovir alafenamide (TAF) are recommended in international guidelines, but clinical experience with these ARVs in sub-Saharan Africa is limited. In South Africa, over 10% of patients have transmitted NNRTI drug resistance.
METHODS: We conducted a 96-week, open-label randomised trial in South Africa, comparing TAF/FTC+DTG, TDF/FTC+DTG and TDF/FTC/EFV. Inclusion criteria included age ≥12 years, no prior ART >30 days, creatinine clearance >60 mL/min (>80 mL/min if <19 years), and HIV-1 RNA >500 copies/mL. Pregnancy and tuberculosis (TB) were exclusion criteria. There was no screening for baseline drug resistance, consistent with South African treatment guidelines. The primary treatment failure endpoint was 96-week HIV-1 RNA >50 copies/mL, discontinuation or missing data (Intent-to-treat population, non-inferiority margin -10%, significance level p=0.017, adjusted for multiple comparisons). We report 96-week efficacy and safety data.
RESULTS: We randomised 1053 PLWH between February 2017 and May 2018: 99% black, 59% female, mean age 32 years, with mean CD4 336 cells/uL. At week 96, the percentage of participants with HIV RNA <50 copies/mL was 78.6% for TAF/FTC+DTG, 78.3% for TDF/FTC+DTG and 73.5% for TDF/FTC/EFV. In the on-treatment analysis, 96% of participants on TAF/FTC+DTG, 95.7% on TDF/FTC+DTG and 95.5% on TDF/FTC/EFV had HIV RNA <50 copies/mL at Week 96. Both DTG arms demonstrated non-inferior efficacy versus the EFV arm. Overall, 206/244 (84%) of treatment failures were from discontinuation. Clinical adverse events and laboratory abnormalities were similar between treatment arms.

Treatment arm	TAF/FTC+DTG	TDF/FTC+DTG	TDF/FTC/EFV
n	n=351	n=351	n=351
Week 96 Efficacy			
HIV RNA <50 copies/mL	276 (78.6%)	275(78.3%)	258 (73.5%)
HIV RNA ≥50 copies/mL	11 (3.1%)	14 (4.0%)	15 (4.3%)
Discontinuation for adverse events	2 (0.6%)	1 (0.3%)	10 (2.8%)
Discontinuation for other reasons	64 (18.2%)	62 (17.7%)	80 (22.8%)
Treatment-emergent drug resistance	0 (0.0%)	2 (0.6%)	14 (4.0%)
Female mean weight change	+8.1kg	+4.8kg	+3.2kg
Male mean weight change	+5.4kg	+3.6kg	+1.1kg
Treatment emergent obesity	47 (18%)	28 (11%)	18 (8%)
Treatment emergent metabolic syndrome	23 (8%)	16 (6%)	10 (4%)

[Table 1, ADVANCE trial results at Week 96]

CONCLUSIONS: In the ADVANCE study, TAF/FTC+DTG and TDF/FTC+DTG demonstrated non-inferior efficacy versus TDF/FTC/EFV, with low rates of virologic failure in all three arms despite country-level background NRTI/NNRTI resistance.

OAXLB0105

THE FIRST LONG-TERM REMISSION OF CHRONIC HIV-1 INFECTION WITHOUT MYELOABLATION?

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BACKGROUND: A 34 yo Brazilian male received HIV diagnosis on October 11th, 2012. Baseline CD4+ T cell count was 372 cells/microliter and viral load (VL) was 20,221 cp/mL, suggesting chronic HIV infection. On December 12st, 2012 he started antiretroviral treatment with TDF/3TC/EFV maintaining VL below detection limits (BDL) since them. In 2016, he was enrolled in clinical trial NCT02961829 as one of five individuals under highly intensified ART (baseline ART+dolutegravir+maraviroc) and nicotinamide (500 mg twice daily) for 48 weeks. Nicotinamide (NAM) was chosen because of inhibition of immune exhaustion-related lymphocyte apoptosis related to its inhibitory effects on PARPs, and potential multiple mechanisms of antilatency such as Class III HDACs inhibition (NAM) and SUV39 Deacetylation (NAD). Maraviroc was also chosen due to potential HIV antilatency property.
METHODS: Viral DNA was measured as an estimate of the viral reservoir by published qPCR techniques. Antibody quantitation was performed using the Abbott ARCHITECT HIV Ag/Ab Combo assay (Abbott, IL, USA). Mathematical modelling performed according Conway et al., 2015.
RESULTS: Among 30 participating patients from NCT02961829, this study subject was the only experiencing viral load blips during experimental treatment, at weeks 16 (VL BDL with target detected) and 24 (56 cp/mL). Viral DNA showed low-level positivity in PBMCs and rectal biopsy at baseline and week 48. Antibody quantitation over time (RLU [S/CO] in duplicates) was 91.8 (baseline), 75.6 (week 12), 60.8 (w24), 56.8 (w36) and 58.0 (w48). In March 28th 2019, he underwent analytical treatment interruption (ATI). HIV Plasma VL performed every 3 weeks after ATI was BDL up to 57 weeks, and total HIV DNA on PBMCs was undetectable pre-ATI and 57 weeks post-ATI. EIA rapid test kit (TR DPP HIV 1/2 Bio-Manguinhos) on February 3rd 2020 was negative. Mathematical modelling (Conway et al., 2015) showed that the antiapoptotic and antiproliferative effects might improve clearance of productively infected cells, but only the additional contribution of the antilatency effect might induce long-term remission.
CONCLUSIONS: Although still an isolated case, this might represent the first long-term HIV remission without myeloablation/stem cell transplantation. Further analyses such as viral cultivation and sequential HIV antibody profile/detection are ongoing.

LATE-BREAKER POSTERS

TRACK A

LBPEA01

LONG-ACTING STARCH NANOPARTICLE DRUG DELIVERY SYSTEM TO TREAT CHRONIC HIV

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BACKGROUND: Human immunodeficiency virus (HIV) patients are commonly treated with combination antiretroviral therapy (cART), which has improved life expectancy for HIV-infected patients. Oral administration has been the predominant method of drug delivery but requires strict patient adherence. Oral administration can enforce stigma for specific patient groups and thus further complicate adherence. Long-acting antiretroviral drug formulations may improve adherence to therapy and extend opportunities for therapeutic or prophylactic intervention especially to vulnerable patient populations

METHODS: We have previously patented a method for preparing starch nanoparticles (WO2015144983A1). Present study details a preclinical evaluation of novel long-acting parenteral starch nanoparticle formulations utilizing a series of both water soluble and insoluble drug combinations (EVG, TAF, FTC, RAL, TDF, EFV, 3TC, DTG) for treating HIV-1 (HIV) in a humanized mouse model. Nanoparticle formulations (n=6) were prepared by high-pressure homogenization by utilizing citric acid crosslinked starch nanoparticles. To establish HIV, mice were intravaginally challenged with HIV-1 and maintained for 12 weeks. Baseline pVL was comparable between treated (n = 24) and control (n = 8) mice groups. The treatment groups received 3 subcutaneous doses of the selected nanoparticle formulation biweekly. No safety issues, including injection site reactions, were observed. pVl was determined prior to each treatment dose and weekly after the last treatment dose.

RESULTS: Animals treated with the nanoparticle formulations demonstrated undetectable HIV in plasma and tissues. With three subcutaneous doses of cART nanoparticles, a non-detectable pVL was established between weeks 18-20. A detectable pVL was found in all groups during weeks 26-30 after treatment had been stopped. The chosen study drugs were detectable in plasma throughout the administration period. Steady release of the drugs was achieved by controlling the degree of crosslinking for the nanoparticles.

CONCLUSIONS: The present study demonstrates that the modified starch nanoparticles maintained a long-acting therapeutic concentration of the cART and suppressed cHIV in the humanized-mouse model even up to 13 weeks after final dose. The starch nanoparticles offer a bio-based, non-toxic matrix for preparing long-acting cART drug formulations without the use of any toxic chemicals. The modified starch nanoparticles provide a long-acting drug delivery system that overcomes classical drawbacks of oral administration.

LBPEA02

DRUG RESISTANCE TO NOVEL NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR ELSULFAVIRINE AMONG DRUG NAÏVE HIV-INFECTED CAUCASIAN AND ASIAN PATIENTS

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BACKGROUND: Elsulfavirin (ESV) - the new generation NNRTI, was designed and developed with a demonstrably high genetic barrier to HIV-1 resistant mutations.

ESV has been approved for HIV-1 treatment in combination with HAART in Russia and Kazakhstan. ESV has been submitted for obtaining marketing authorization in Thailand, Indonesia, Colombia, initiated a regulatory submission in China and is in development for once weekly, once monthly or less frequent dosing.

Combinations of the major mutations V106I/A + F227C and V106I + Y188L, which were often accompanied by mutations A98G, L100I, V108I, E138K, Y181C, M230L, P236L were described for ESV resistance profile.

A recent study of drug resistance (DR) among naïve patients in Russia showed less than 1.2% frequency of the major mutations, which is the lowest for NNRTIs and comparable to INSTI therapy. This work is comparing the prevalence of DR mutations to ESV between Caucasian and Asian treatment-naïve HIV1-positive patients to estimate treatment efficiency prognosis.

METHODS: The sequences from treatment-naïve Chinese patient population (n=5661) were obtained from the Los Alamos HIV Database (www.hiv.lanl.gov).

The Stanford HIV Resistance Database was used to determine viral subtype and describe the ESV resistance profiles.

RESULTS: CRF01_AE (44.9%), CRF07_BC was detected for 27.8% viruses as the most frequent clade, subtype B - for 15.5%, CRF08_BC - for 6.4%, subtype C - for 3.2%.

The analysis of the major DR mutations to ESV showed that at least one of them was detected in 200 sequences (3.53%). V106I mutation (n=191;3.37%), Y188L (n=8;0.14%), V106A (n=2; 0.04%) were detected most often.

At least one additional ESV resistant mutation was detected in 1.24% sequences. Additional mutations were found with the following frequencies: Y181C (0.65%), V108I (0.37%), A98G (0.35%), E138K (0.07%), M230L (0.05%).

CONCLUSIONS: This work has shown that the prevalence of DR to ESV among treatment-naïve patients in Chinese subpopulation is extremely low. One or more major and accessory mutations were detected in 3.5% and 1.2% of cases, respectively.

The results suggest that ESV could be potentially used as a first line/alternative first line therapy in Europe, US, Canada and China, East and South-East Asia in combination with HAART for Caucasian an Asian treatment-naïve populations.

LBPEA03

VPU INHIBITOR BIT225 ALTERS T CELL ACTIVATION AND HOMING PLASMA MEMBRANE RECEPTOR EXPRESSION ON CD4+T CELLS (CD28 AND CCR7) AND MONOCYTE-DERIVED MACROPHAGES (CD80 AND CD86)

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BACKGROUND: Chronic HIV-1 infection occurs in-part because the virus encodes accessory proteins to misdirect the host immune system so that HIV-1-infected cells can survive and propagate virus. In a recent Phase 2 clinical trial the addition of BIT225 to Atripla ® therapy resulted in a delayed decline in T cell activation. This in vitro study investigated if there was a Vpu-dependent mechanism that could result in better activation and function of T cells during ART. The costimulatory receptor of T cell activation is CD28 and its counterparts are CD80 and CD86 on macrophages, dendritic cells and B cells. Experiments were designed to identify the role of accessory proteins Vpu and Nef expression on T cell activation and homing plasma membrane (PM) receptor expression on CD4+ T cells (CD28, CCR7) and monocyte-derived macrophages (MDM)(CD80, CD86).

METHODS: CD4+ T cells and monocytes were extracted from the blood of three donors. MDM were grown in culture from monocytes isolated from PBMCs. The MDM or CD4+ T cells were infected with VSVG-pseudotyped wildtype, Vpu-, Nef- and Vpu-/Nef- HIV-1NL4-3. The expression of PM receptors CD28, CCR7, CD80 and CD86 was measured by flow cytometry. Statistical analysis of the data was performed by ANOVA.

RESULTS: HIV-1NL4-3 infection of CD4+ T cells results in downmodulation of PM expression of CD28 and CCR7. Downregulation of CD28 and CCR7 is induced by Vpu expression. CD28 expression is also impacted by Nef. BIT225 treatment increases the expression of CD28 and CCR7 in a Vpu-dependent manner. Infection of MDM with VSVG-pseudotyped HIV-1NL4-3 resulted in decreased expression of CD80 and CD86. BIT225 treatment of MDM infected with VSVG-pseudotyped HIV-1NL4-3 resulted in a partial reversal of downmodulation of CD86 which was partially Vpu-independent. BIT225 treatment partially restores CD80 expression. The effect on CD80 expression is Vpu-dependent. Double deletion of Vpu and Nef returns receptors to uninfected levels. BIT225 had no effect on Nef-HIV-1NL4-3 mutants.

CONCLUSIONS: BIT225, a Vpu inhibitor, is able to counteract the HIV-1-induced downregulation of key cellular receptors essential for T cell activation and subsequent response.

LBPEA04

NOVEL GAG AND ENVELOPE DETECTION ASSAY REVEALS VIRAL AND CELLULAR DYNAMICS DURING EARLY TREATMENT PERIODS AT THE SINGLE-CELL LEVEL

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BACKGROUND: According to most recent studies only few PBMCs show signs of HIV-1 integration, whereof ≥95% are proven defective, which most genetic assays falsely identify as latent HIV-1 reservoir. We thus developed a new methodology called GERDA (Gag and Envelope Reactivation Detection Assay) to identify cell populations with active viral contribution and to understand viral dynamics before and after therapy initiation.

METHODS: PHA stimulated CD4 T-cells of HIV-1 infected individuals were analyzed for immune characterization and HIV-1 protein expression by FACS, utilizing tSNE and DBScan clustering algorithms to identify target cell clusters. HIV provirus and HIV intracellular transcripts were measured by qPCR. For viral outgrowth PBMCs were sorted and cultured for 3 weeks monitoring viral reactivation by Tat induced X-Gal staining.

RESULTS: Serial dilution experiments revealed detection sensitivity of our GERDA system down to ≥16 infectious input cells/10^6 cells (R^2 0.998). In PBMCs/CD4s of viremic HIV patients (n=7) most patients had surprisingly low HIV-1 activity in terms of HIV provirus (median: 163/10^6 cells (20-4'412)), HIV poly-A transcripts (median: 90/10^6 cells (56-85'003)) and HIV Gag+Env+ (DP) cells (median: 18/10^6 (2-2100)). For one patient (546) we saw highest HIV-1 activity with proviral levels of 4'412/10^6 PBMCs, transcript levels of 85'033/10^6 cells and 140 DP events in 10^6 CD3+ T-cells, suggestive for infectious particle production, with mostly central memory (TCM) phenotype. 52 days after cART initiation we saw a massive decline of productively virion producing cells by GERDA (2/10^6 cells) in line with decreased provirus (1'297/10^6) and poly-A transcripts (418/10^6). After 6 months post cART we sorted and expanded CD4 cells of Patient 546 and predominantly found DP cells in TCM, which were already detected as major reservoir by GERDA at our first sampled time point, validated by X-Gal staining.

CONCLUSIONS: This new methodology adds new value to recent reservoir questions as it reduces specimen input and comes very close to the term "real viral reservoir" since it integrates intracellular Gag and extracellular Envelope expression as a proxy for release of infectious virions from host cells validated by genetic and functional detection methods and allows reservoir characterization down to the single-cell level.

LBPEA05

CHARACTERISING THE SERUM METABOLIC PROFILE OF HIV/TB CO-INFECTION

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BACKGROUND: The metabolic mechanisms that contribute to the associated disease burden experienced during HIV/TB co-infection remain poorly understood. This limits progress towards the development of much needed, improved TB diagnostics in HIV co-infected individuals. The objectives of this study were to characterise the metabolic profile of untreated HIV/TB co-infection and the specific metabolic changes induced by untreated HIV on an untreated TB-positive population.

METHODS: Untargeted two-dimensional gas chromatography time-of-flight mass spectrometry was used to analyse the serum metabolic profiles of 9 HIV-positive and 22 HIV-negative South African adults with active pulmonary tuberculosis, as well as 29 healthy controls.

RESULTS: Using one-way analysis of variance, 18 metabolites were identified that distinguish the HIV/TB co-infected individuals from healthy controls, while five metabolites characterised HIV/TB co-infected individuals from the TB-positive population. All of the metabolites primarily corresponded to amino acid and microbial metabolic

changes. Several other metabolites which characterised TB from the healthy group, showed more pronounced changes in the HIV/TB co-infected group, relative to the healthy group, though these were not statistically significant. The large proportion of microbial metabolites supports previous findings of gut microbiome dysbiosis in HIV and TB patients. Four of the five metabolites distinguishing the HIV/TB co-infection from TB disease group, were of microbial origin, reflecting the central role of the gastrointestinal tract and the microbiome in the pathogenesis of HIV. Gut integrity loss and subsequent microbial translocation results in increased inflammation and immune/cytokine activation, culminating in a reduced appetite and malabsorption, which support the profile of exacerbated wasting.

CONCLUSIONS: Although the metabolic profile of untreated HIV/TB co-infection observed here is similar to that previously reported for HIV infection and TB disease, the changes were more pronounced and microbial metabolic alterations typically do not feature as prominently as was found here. These results suggest that HIV augments the HIV-*Mycobacterium tuberculosis* synergy, at least in part, through its detrimental effects on gut health.

LBPEA06

REANALYSIS OF NATIVE RNA SEQUENCING OF HIV-1 SUPPORTS SPLICED HIV MRNA PACKAGING INTO VIRIONS AS A NEW HYBRID SEGMENTED RETROVIRUS MODEL

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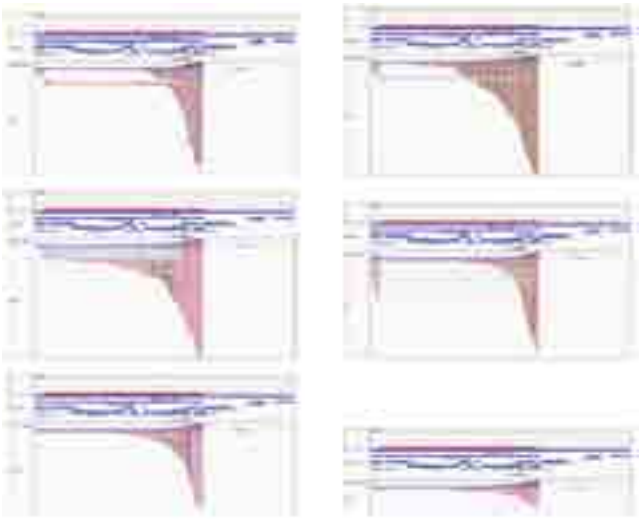
BACKGROUND: Native RNA sequencing is possible with Oxford Nanopore's Direct RNA Sequencing protocol. This kit leverages oligo-dT adapters early during library preparation to capture polyadenylated mRNAs. Recently, we (Gener and Kimata, 2019) completed the first native RNA sequencing of HIV. Despite this RNA sequencing protocol's strong 3' bias, full-length viral transcripts equivalent to HIV genomes were recovered in 3 out of 15 separate experiments. In that work we reported some coverage spikes near known HIV exons, however we did not expect to detect spliced viral transcripts.

METHODS: Data as mapped reads in FASTQ format from previous native RNA sequencing of HIV virion samples were reanalyzed with Minimap2 in Galaxy with splice-aware settings. Mapped reads were visualized in Integrative Genomics Viewer.

RESULTS: Six out of 15 samples exhibited spliced mRNAs (Figure 1). Of the samples with full-length HIV viral genomes recovered, spliced reads were observed in 89.6 2% (1 out of 50), AD17 2.58% (5/194), and NLAD8 11.34% (33/291). Spliced reads were also observed in BaL 0.59% (1/169), HIV1-SX 1.87% (2/107), and NL4-3 7.14% (2/28). False positives from 6 samples were excluded based on absence of ψ (psi) packaging element.

CONCLUSIONS: Spliced HIV mRNA can be packaged into nascent virion. This is in line with previous observations by others who have noted integration of replication-deficient HIV sequences (including sequences with large gaps). This work fundamentally changes our understanding of how HIV can introduce information into cells, augmenting the virus' ability to cause cytopathic effects after infection. A new model of HIV virion mRNA represents a shift in the understanding of the HIV genome, from a ~9 kb integrating retrovirus to a ~9 kb + splice variant hybrid segmented retrovirus. Acknowledging this shift will inform more complete observation of retroviral sequences so that we may follow the virus better as newer tools become available.



[Figure 1. HIV virions package spliced HIV mRNA. Reads are colored based on orientation relative to reference. Pink: forward. Purple: reference. HIV genome modeled from TSS to end of 3' LTR in red above reference (Accession Number AF324493.2) in blue. All HIV-mapping reads observed occurred in the forward orientation. Compare 12/13 false positives seen in BaL without the packaging element Ψ to true positive in that sample (bottom spliced read), and to robust packaging in NLAD8 (all true positive). Ψ occurs between the end of the 5' LTR and gag. Upper left: 89.6. Upper right: AD17. Middle left: NLAD8. Middle right: BaL. Bottom left: HIV1-SX. Bottom right: NL4-3.]

TRACK B

LBPEB07

A RANDOMIZED PROSPECTIVE STUDY EVALUATING VIROLOGIC OUTCOMES AMONG PATIENTS SWITCHING WITH DETECTABLE AND UNDETECTABLE VIRAL LOADS FROM EFAVIRENZ AND NEVIRAPINE-BASED FIRST LINE ART REGIMENS TO DTG REGIMENS IN ZAMBIA

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BACKGROUND: In sub-Saharan Africa, patients taking NNRTI based ART are being switched to fixed dose TDF/3TC/DTG, often without recent viral load results available. This switch is partly supported by results from the DAWNING trial, although this included viral load and drug resistance testing before switch. The VISEND study aims to compare virologic outcomes among ART-treated adults switched from TDF/XTC/EFV or NVP-containing regimens to TDF/3TC/DTG or TAF/3TC/DTG containing regimens with and without virologic suppression at the time of switch. There was no resistance testing before switch.

METHODS: Patients with HIV-1 RNA<1,000 copies/mL were randomized to either Tenofovir-disoproxil-fumarate, Lamivudine and Dolutegravir (TLD) or Tenofovir-alafenamide, Emtricitabine and dolute-

gravir (TAFED). Participants with HIV-1 RNA>1,000 copies/mL were randomized to TLD, TAFED, ATV/3TC+LPVr or ZDV/3TC+ATVr. The primary treatment failure endpoint was week 24 and 48 HIV-1 RNA>50 copies/mL. We report the week 24 efficacy (Observed data analysis) and safety data.

RESULTS: We randomised 1,126 PLWH into arm A (VL<1,000 copies/mL, n=419) and arm B (VL>1,000 copies/mL, n=707). In arm A, the percentage of participants with HIV RNA <50 copies/mL was 89% and 85% for TLD, and TAFED. In arm B, the percentage of participants with HIV RNA <50 copies/mL was 67%, 88%, and 65% for TLD, TAFED and AZT+3TC+LPVr/ATVr. Clinical adverse events and laboratory abnormalities were similar between treatment arms. Weight change was +0.4 and +1.7 for TLD and TAFED in arm A (p<0.05). There were statistically significant differences between TLD and TAFED compared to ZDV/3TC+LPV/r or ATV/r in arm B (p<0.05).

	Arm A: TLD	ARM A: TAFED	ARM B: TLD	ARM B: TAFED	ARM B: AZT+3TC+LPVr or ATVr
Baseline (n)					
Women (%)	67%	58%	59%	61%	60%
age	43	42	37	39	37
HIV RNA (copies/mL), mean(SD)	83 (179)	106(449)	104,375(162)	113,939 (332)	221,578 (266)
CD4 (cells/m3), mean (SD)	498 (275)	482 (111)	242 (667)	242 (332)	237 (222)
Weight (kg), mean(SD)	66 (15)	65 (14)	60 (13)	59 (13)	61 (13)
Week 24					
HIV-1 RNA (n<50 copies/mL/total), %	145/163 (89%)	111/130 (85%)	41/61 (67%)	51/57 (88%)	31/48 (65%)
Weight change (kg), mean(SD)	+0.4 (4.7)	+1.7 (3.8)	+2.2 (5.4)	+2.3 (4.1)	+0.6 (5.0)

[Table]

CONCLUSIONS: In the VISEND study, TAFED demonstrated similar efficacy to TLD, with low rates of virologic failure at week 24 in participants with <1,000 copies/mL at time the time of switch. In comparison, participants with >1,000 copies/mL at the time of switch showed higher rates of suppression on TAFED compared to other treatment arms.

LBPEB08

HALF OF CHILDREN LIVING WITH HIV WITH VIROLOGIC FAILURE HAVE DRUG RESISTANCE REQUIRING ANTIRETROVIRAL REGIMEN CHANGE: EARLY INSIGHTS FROM A RANDOMIZED TRIAL IN WESTERN KENYA

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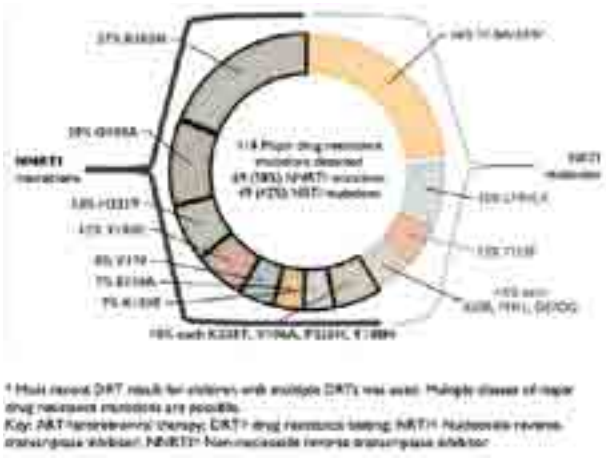
BACKGROUND: Children living with HIV (CLHIV) on antiretroviral therapy (ART) achieve low rates of virologic suppression. Most guidelines in resource limited settings recommend intensified adherence counseling and repeat viral load testing for CLHIV with virologic failure (VF) on first line regimens without drug resistance testing (DRT). In an on-going randomized trial, we conducted targeted DRT testing for children with VF in the intervention arm.

METHODS: 704 CLHIV ages 1-14 years were enrolled in the Opt4Kids study from five government facilities in Kisumu County, Kenya March to December 2019. Children were individually randomized 1:1 to control (standard-of-care) or intervention (point-of-care viral load testing every three months with DRT for those with VF [> 1000 copies/ml]) arms. DRT was performed for CLHIV in the intervention arm using consensus sequencing and results discussed by a clinical management committee comprised of research staff, pediatric and HIV experts, and facility health care workers. We use descriptive analyses to report the DR patterns and treatment recommendations.

RESULTS:



[Figure 1. Percentage of children with each mutation among 60 children on ART undergoing DRT for virologic failure in Kenya]*

Among 365 CLHIV in the intervention arm, median time on ART 70.7 months, 60 (16%) had at least one DRT requested per protocol and 51 (85%) had DR mutations (DRM). Forty-eight (80%) of CLHIV with DRT had non-nucleoside reverse transcriptase (NNRTI) resistance, 36 (60%) nucleoside reverse transcriptase inhibitor (NRTI) resistance, 33 (55%) both NNRTI and NRTI, and 9 (15%) had no resistance. In 30 CLHIV (50%) with DRT results, an ART regimen change was recommended, 90% of whom were on an NNRTI-based regimen. Most common DRM are described in Figure 1.

CONCLUSIONS: Early review of CLHIV undergoing targeted DRT shows improved adherence alone is unlikely to result in viral suppression for a substantial proportion of CLHIV with VF. Early DRT for CLHIV with VF may be a critical tool in determining appropriate ART, in order to ensure optimal health outcomes for CLHIV.

LBPEB09

COMPARATIVE OUTCOMES IN HOSPITAL ADMISSIONS WITH COVID-19 IN PEOPLE LIVING WITH HIV AND PEOPLE LIVING WITHOUT HIV: A RETROSPECTIVE STUDY

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BACKGROUND: Information on outcomes of COVID-19 infections in people living with HIV (PLWH) is scarce. We compared outcomes of PLWH hospitalised with COVID-19 with matched HIV-negative patients from the same hospital.

METHODS: In this retrospective study, PLWH and matched HIV-negative patients with confirmed COVID-19 admitted between 01/03/2020 and 30/04/2020 were included. Matching was blinded to outcomes, up to a 3:1 ratio, by test date (±7 days), age (±5 years), gender, and deprivation index decile (±1). The primary endpoint was defined as the time from COVID-19 diagnosis to

1. ≥2 points improvement from baseline on an ordinal scale [1 not hospitalised - normal activities, 7 death or palliation];
2. Discharge from hospital.

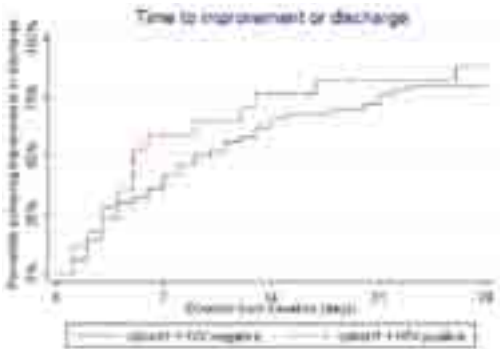
Cox-proportional hazards regression was performed for confounding variables.

RESULTS: Patient characteristics are presented (Table 1). During 28-days' follow-up, there were 0 (0%) and 5 (10%) deaths among PLWH and HIV-negative patients respectively; 14 (82%) and 37 (74%) were discharged; 13 (76%) and 34 (68%) experienced ≥2 points improvement. Median (IQR) time to improvement was 5 days (4-13) in PLWH compared to 9.5 days (3-15) in HIV-negative (p=0.635).

Adjusting for ethnicity, BMI, smoking status, hypertension, diabetes with complications, baseline hypoxia, frailty score, end stage renal failure, cardiac disease and chronic lung disease, PLWH were more likely to reach the primary endpoint (HR=2.67; 95% CI 1.21–5.91, p=0.015; Figure 1.)

	PLWH (n = 17)		HIV-negative individuals (n=50)		p-value
	N	%	N	%	
Mean [SD] Age *	51.3	(11.5)	49.8	(12.2)	
Mean [SD] Index of Multiple Deprivation Decile * (1 least affluent, 10 most affluent)	3.47	(3.55)	3.64	(3.66)	
Male Gender *	10	58.8%	30	60.0%	
Non-white Ethnicity	10	58.8%	27	61.4%	0.856
Median [range] time since HIV diagnosis (years)	13.5	(0.25 - 34)			
Median [Range] CD4 cells (cells/uL)	452	(22 - 1090)			
On antiretroviral therapy (ART)	14	82%			
Suppressed HIV Viral load (<200copies/ml)	15	88%			
Antiretroviral therapy					
- Protease inhibitors	6	(35%)			
- Integrase inhibitors	9	(53%)			
- NNRTIs	3	(18%)			
- Tenofovir disoproxil fumarate (TDF)	3	(18%)			
- Tenofovir alafenamide (TAF)	5	(29%)			
Current smoker	3	20.0%	3	6.7%	0.270
Hypertension	8	47.1%	21	42.0%	0.420
Diabetes Mellitus (Type 1 or Type 2)	2	11.8%	17	34.0%	0.120
Chronic pulmonary disease	2	11.8%	5	10.0%	1.000
Mean Baseline Body Mass Index	27.32	6.48	32.14	9.56	0.060
Mean [SD] Baseline Clinical Frailty Score	3.00	1.37	2.36	1.39	0.261
Baseline COVID-19 disease characteristics					
Median [range] duration from symptom onset (days)	7	0 - 21	8	1 - 21	0.641
Baseline ordinal score 24 (Hospitalised requiring oxygen)	12	70.6%	34	68.0%	0.843
Admission reason related to COVID-19	14	82.4%	43	86.0%	0.682

[Table 1. Patient demographics, characteristics, and co-morbidities
**Matching variables - therefore characteristics comparable between groups]*



[Figure 1. Kaplan-Meier plot of time to clinical imporvement or discharge in PLWH and HIV-negative cohorts]

CONCLUSIONS: PLWH had fewer deaths and did not experience worse outcomes than HIV-negative patients, suggesting HIV is not a negative prognostic indicator in COVID-19. SARS-CoV-2 infections occur in patients receiving tenofovir or protease inhibitors.

LBPEB10

CHANGES IN NICOTINE METABOLITE RATIO IN HIV+ SMOKERS AFTER VIRAL SUPPRESSION ON ANTIRETROVIRAL THERAPY

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BACKGROUND: People with HIV (PWH) are nearly three times more likely to smoke than the general population. Faster nicotine metabolism in PWH than HIV-uninfected individuals may contribute to this disparity. Higher levels of the nicotine metabolite ratio (NMR; 3-hydroxycotinine:cotinine), a validated biomarker of nicotine metabolism via CYP2A6, are associated with increased tobacco use and nicotine dependency. We investigated whether antiretroviral therapy (ART) increases NMR among HIV+ smokers and hypothesized that efavirenz, a substrate of CYP2A6, would result in higher NMR.

METHODS: We conducted a retrospective study in adult smokers with HIV in the University of Pennsylvania Center for AIDS Research cohort. We compared the NMR from paired plasma samples before viral suppression (>10,000 copies/ml) and after suppression on ART (<200 copies/ml). We used mixed effects linear regression to determine the change in nicotine metabolite ratio after viral suppression. Potential confounders were retained in the adjusted model if the association between viral suppression and NMR changed by more than 15%. We targeted a sample size of 73 for 80% power to detect a 0.1 change in NMR after viral suppression.

RESULTS: 120 individuals had detectable cotinine levels, of which 89 had cotinine levels >10 ng/ml, consistent with regular smoking and were included in the primary analysis. Individuals were 63% male, had a median age of 40 years (IQR 35-46), median CD4 of 275 cell/mm3 (IQR 130-424), with 27% on efavirenz. The mean NMR prior to ART was 0.42 (SD 0.30). In those on efavirenz, mean NMR increased after viral suppression by 0.57 (P<0.001), while among those on all other ART, mean NMR increased by 0.10 (P=0.03) after viral suppression. The results were unchanged after controlling for confounders and when including individuals with cotinine levels <10 ng/ml.

CONCLUSIONS: We observed an increase in NMR after viral suppression among HIV+ smokers, which was even more pronounced among those on efavirenz-based regimens. These findings may help

explain higher rates of tobacco use and lower quit rates among PWH in care. Future research can test if higher NMR rates portend lower quit rates among PWH and whether choice of ART may affect cessation success.

LBPEB11

SWITCH TO SECOND-LINE VERSUS CONTINUED FIRST-LINE ANTIRETROVIRAL THERAPY FOR PATIENTS WITH LOW-LEVEL HIV-1 VIRAEMIA: AN OPEN-LABEL RANDOMISED CONTROLLED TRIAL

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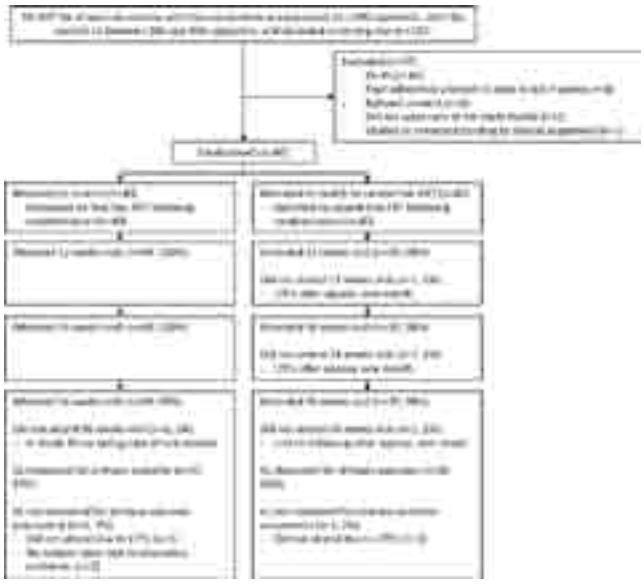
BACKGROUND: Current World Health Organisation (WHO) antiretroviral therapy (ART) guidelines define virologic failure as two consecutive viral loads (VL) ≥1000 copies/mL despite good adherence, triggering empiric switch to next-line ART. This trial assessed if patients with sustained low-level HIV-1 viraemia on first-line ART benefit from switch to second-line.

METHODS: This multicentre, parallel-group, open-label, superiority, randomised controlled trial enrolled patients on first-line ART containing non-nucleosidic reverse transcriptase inhibitors with two consecutive VLs ≥100 copies/mL, with the second VL between 100-999 copies/mL, from eight clinics in Lesotho. Consenting participants were randomly assigned (1:1), stratified by facility, demographic group, and baseline VL, to either switch to second-line ART (switch group) or continued first-line ART (control group; WHO guidelines). The primary endpoint was viral suppression (<50 copies/mL) at 36 weeks. Analyses were by intention to treat, using logistic regression models adjusted for demographic group and baseline VL. The trial is registered at ClinicalTrials.gov, NCT03088241.

RESULTS: Between Aug 1, 2017, and Aug 7, 2019, 137 individuals were screened, of whom 80 were eligible and randomly assigned to switch (n=40) or control group (n=40).



[Figure]

The majority of participants was female (54 [68%]) with a median age of 42 years (interquartile range 35-51) and taking tenofovir disoproxil fumarate / lamivudine / efavirenz (49 [61%]). At 36 weeks, 22/40 (55%) participants in the switch versus 10/40 (25%) in the control group achieved viral suppression (adjusted difference 29%, 95% CI 8-50%, p=0·009).

The switch group had significantly higher probability of viral suppression across different VL thresholds (<20, <100, <200, <400 copies/mL) but not for <1000 copies/mL. No serious adverse events were observed.

CONCLUSIONS: Switching to second-line ART among patients with low-level HIV-1 viraemia resulted in higher proportion of viral suppression. These results endorse lowering the threshold for virologic failure in future WHO guidelines.

LBPEB12

BLACK ETHNICITY IS A RISK FACTOR FOR HOSPITALIZATION WITH COVID-19 IN PEOPLE WITH HIV

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BACKGROUND: People with HIV (PWH) may be variably immunosuppressed and thereby at risk of severe coronavirus disease 2019 (COVID-19). There are few reported data on the risk factors and clinical outcomes of COVID-19 in PWH.

METHODS: We identified PWH under the care of King's College Hospital in South London, an area early and severely affected by the pandemic, who were hospitalized with COVID-19 in March/April 2020. We compared their clinical characteristics to our overall HIV outpatient cohort using Kruskal-Wallis (continuous variables) and Fisher's exact (categorical variables) tests.

RESULTS: Twenty-three PWH (18 confirmed SARS CoV-2 RNA positive) required hospitalisation for COVID-19. The median age was 52 (IQR 48, 57) years; 65% were male; 91% of black ethnicity; 91% had HIV RNA <200 cps/mL; 35% had CD4 counts <350 cells/μL. Comorbidities were common (obesity [BMI >30 kg/m^2] 43%, hypertension 35%, diabetes 22%, chronic kidney disease 30%, frailty [clinical frailty score ≥5] 22%). Eight patients (35%) required ITU admission for mechanical ventilation, inotropic support and/or renal replacement therapy. Seven patients (30%) died. Compared to the overall HIV outpatient population, those hospitalized for COVID-19 were more likely to be of black ethnicity (OR 7.6 [95%CI 1.8, 32.3]) and had somewhat lower CD4 cell counts. No protective effect of the major classes of antiretroviral therapy or tenofovir was observed (Table 1).

Parameter		HIV/COVID-19 (N=23)	King's College Hospital HIV full outpatient cohort (N=2555)	Odds ratio (95%CI)	P value
Age [years]		52 (48, 57)	40 (31, 50)	-	0.14
Male gender		15 (65)	1644 (61)	1.20 (0.51, 2.85)	0.69
Black ethnicity (vs. other)		21 (91)	1670 (65)	7.56 (1.77, 32.27)	0.003
Pre-admission CD4 count [cells/μL]		432 (253, 683)	573 (353, 764)	-	0.05
VL <50 [copies/mL]		19 (83)	2252 (88)	0.64 (0.29, 2.46)	0.77
Antiretroviral therapy *	Protease inhibitor	14 (61)	912/2322 (39)	2.45 (1.04, 5.08)	0.03
	Integrase strand transfer inhibitor	8 (35)	675/2322 (29)	0.80 (0.34, 2.19)	1.00
	Non-nucleoside reverse-transcriptase inhibitor	5 (22)	752/2322 (34)	0.55 (0.20, 1.48)	0.27
	Nucleoside reverse-transcriptase inhibitor	23 (100)	2163/2322 (94)	3.00 (0.18, 49.70)	0.40
	Tenofovir †	15 (65)	1344/2322 (58)	1.36 (0.57, 3.23)	0.53

Continuous variables (age and CD4 count) are presented as median (IQR) and compared by Kruskal-Wallis test, categorical variables are presented as N (%) and compared using Fisher's exact test.
* Antiretroviral prescribing data were available for patients attending the main hospital clinic only and not a satellite clinic
† Tenofovir includes both tenofovir disoproxil fumarate (TDF) and tenofovir alafenamide (TAF)

[Table 1. Clinical characteristics of PWH requiring admission for COVID-19 vs whole outpatient cohort]

CONCLUSIONS: Black ethnicity was a risk factor for COVID-19 hospitalization. Immunodeficiency may be an additional risk factor for developing severe COVID-19. We found no protective effect of HIV viral suppression or specific classes of ART. These results need to be confirmed in larger cohorts.

LBPEB13

RACIAL DISPARITIES AND HIGH RATES OF EXPOSURE TO CONGREGATE SETTINGS AMONG A COHORT OF PEOPLE LIVING WITH HIV AND COVID-19

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BACKGROUND: Little is known about the risk factors, presentation, diagnosis and course of coronavirus disease 2019 (COVID-19) in people living with HIV (PLWH).

METHODS: During a major outbreak of COVID-19 in Massachusetts from March 3 to April 26, 2020 we systemically identified all PLWH who had confirmed COVID-19 at a large hospital. COVID-19 was flagged in the electronic medical record for each patient. HIV status was identified using diagnosis code, HIV Ab/Ag test or HIV RNA ordered, and then confirmed by manual review.

RESULTS: We identified 36 confirmed cases of COVID-19 in PLWH (21 men and 15 women). Sixteen (44%) were non-Hispanic Black and 12 (33%) were Hispanic/Latinx, compared with the population in our HIV clinic of around 30% non-Hispanic Black and 10% Hispanic/Latinx. The average overall age of the cohort was 53.4 years, with a higher average age of 55.9 years for those who required hospital admission compared with 50 years for those managed as outpatients. Nearly 60% required hospitalization including 8 patients with severe disease (requiring supplemental oxygen) and 7 patients requiring intensive care. Two (5.6%) patients died. Among those diagnosed with COVID-19, nearly 85% had a comorbidity associated with severe disease including obesity (33%), hypertension (31%), diabetes (22%), hyperlipidemia (22%), and chronic kidney disease (22%). Nearly half of the cohort (16/36) lived or worked in a congregate setting including a skilled nursing facility, group home, or assisted living.

CONCLUSIONS: In this large cohort of people with HIV, non-HIV comorbidities were present in the vast majority, suggesting these risk factors play the dominant role in COVID-19 outcomes. The high rate of COVID-19 among racial and ethnic minorities with HIV highlight the importance of structural forces that drive the "twin" pandemics of HIV and COVID-19; these social factors must be studied urgently so they can be understood and mitigated. Finally, the high rate of exposure to congregate settings among people with HIV and COVID-19 makes clear that more must be done to protect vulnerable people in such settings.

LBPEB14

COVID-19 IN PEOPLE LIVING WITH HIV (PLWH): A CASE SERIES OF MEXICO

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BACKGROUND: As of May 2020, more than 5 million people have been reported worldwide with COVID19 caused by SARS-CoV-2. In Mexico more than 65,000 cases with more than 6,000 deaths have been confirmed. The main risk factors for severe COVID19 described are diabetes, hypertension, cardiovascular disease, chronic kidney disease and chronic lung disease. HIV infection has not been found to be an independent factor for severe COVID19, however, only small case series of HIV and COVID-19 have been reported. We describe clinical characteristics of PLWH and COVID-19 in 8 sites in Mexico.

METHODS: A retrospective study of patients with previously documented HIV infection and confirmed SARS-CoV-2 infection from 8 centers in Mexico were included from April 12 to May 20, 2020. Demographic data, comorbidities, last CD4 count (cells/mm3) and HIV-RNA viral load (VL, copies/mL), ARTc, clinical presentation of COVID-19 and clinical outcome was collected.

RESULTS: 24 PLWV and COVID-19 were included. Twenty-one were men (88%) with a mean age of 38.5 years (IQR 30-46years),15 (62.5%) patients required hospitalized care.

All patients were receiving ARTc: 20 based on INSTI (17 on BIC/TAF/FTC), 2 PIs, and 1 NNRTI. The median CD4 was 596 (IQR 261-931). 21/24 had HIV-RNA undetectable VL. Most common comorbidity was obesity followed by hypertension and chronic kidney disease (Table 1). The mean days since onset of COVID19 symptoms was 5.5 days. 16 presented with pneumonia and 4 had severe disease requiring mechanical ventilation, of whom, 2 were successfully extubated and 4 died (Table 2). At the time of this report, 15 patients had been discharged.

Gender	
Males	**87.5%**
Females	**12.5%**
Age, median (IQR)	38.50 (30- 46)
CD4 cells, median (IQR)	596.5 (261-931)
HIV status	
Undetectable	87.5%
Non undetectable	12.5%
Antiretroviral Treatment	
INSTI	83.3%
NNTR	8.3%
PI	8.3%
Comorbidities	
Obesity	29%
Hypertension	12.5%
CKD	12.5%
Tobacco use	12.5%
Diabetes	8.3%
Asthma	8.3%
Cancer	8.3 %
Depression	8.3%

[Table 1]

	Patient 1	Patient 2	Patient 3	Patient 4
Age (years)	20	45	68	56
Gender	Male	Male	Male	Male
ART-regimen	BIC/TAF/FTC	BIC/TAF/FTC	BIC/TAF/FTC	BIC/TAF/FC
CD4 cell count (cells/μL)	58	669	357	288
HIV-RNA copies	Unknown	<50	<50	770
Comorbidities	Plasmablastic non-hodgkin lymphoma	Obesity	Hypertension and CKD	None
Invasive mechanical ventilation	Yes	No	No	Yes
Comments	VIH stage C3, without virological control. Chemotherapy for the last 2 months.	Developed ARDS and did not accept intubation with mechanical ventilation.	On admission with severe pneumonia.	Presented with ARDS and died 48 hours after admission.

[Table 2]

CONCLUSIONS: In this case series of PLWH and COVID19 mortality similar to other reports of coinfection and non-HIV population. Our data may support the fact that HIV does not contribute to a greater increased risk of severe/fatal COVID19. Larger comparative studies with the non-HIV population are needed.

LBPEB15

CLINICAL CHARACTERISTICS, RISK FACTORS, AND INCIDENCE OF SYMPTOMATIC COVID-19 IN A LARGE COHORT OF PLWH: A SINGLE-CENTER, PROSPECTIVE OBSERVATIONAL STUDY (COVIH19-BCN STUDY)

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BACKGROUND: It is unclear whether characteristics, risk factors, and incidence of COVID-19 in people living with HIV (PLWH) are different from those in the general population.

METHODS: Prospective observational single-centre cohort study of adult PLWH reporting symptoms of COVID-19. We assessed clinical characteristics, risk factors for COVID-19 diagnosis and severity, and standardized incidence rate ratio for COVID-19 cases in PLWH cohort and Barcelona inhabitants.

RESULTS: Fifty-three (0.9%) PLWH were diagnosed with COVID-19 during the study period. Median age was 44 years, 15% were women, median CD4 T cells were 618/mm3 and CD4/CD8 was 0.90. All but two individuals were virologically suppressed. Cough (87%) and fever (82%) were the most common symptoms. Twenty-six (49%) were admitted, 6 (14%) had severe disease, 4 (8%) required intensive care, and 2 (4%) died. Several laboratory markers (lower O2 saturation, higher leukocytes, lower platelets, higher C reactive protein, higher procalcitonin, higher creatinine, higher LDH, and higher ferritin) were associated with COVID-19 severity. No HIV or antiretroviral factors were associated with COVID-19 diagnosis or severity. The standardized incidence rate ratio of confirmed COVID-19 was 38%, (95% CI 27%-52%, P<0.0001), and that of confirmed/probable was 62% and that of confirmed/probable COVID-19, 33% (95% CI 21%-50%, P<0.0001), a 62% and 67% lower in PLWH than in the general population, respectively.

CONCLUSIONS: COVID-19 in PLWH showed similar clinical characteristics and outcome as those reported in the general population, HIV or antiretroviral factors did not play a major role on the risk or severity, and incidence in PLWH was lower than in the general population. These findings should be confirmed in larger multicenter cohort studies.

LBPEB16

THE IMPACT OF THE COVID-19 PANDEMIC ON PATIENT RE-ENGAGEMENT WITHIN FIVE LONDON HIV CENTRES

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BACKGROUND: As the COVID-19 pandemic evolved, several HIV services across London observed that people living with HIV (PLWH) who disengaged for >12 months (defined as lost to follow up (LTFU)) or those noted to be poor adherers to antiretroviral therapy (ART) and/or poor clinic attenders were re-engaging with HIV care. We describe and characterise these re-engagers within five London HIV centres.

METHODS: Five HIV centres across three London NHS trusts identified those either LTFU or had not attended >two clinic appointments, and/or had documented poor ART adherence in the past 12 months, who re-engaged since COVID-19. Electronic patient records were reviewed to collect data on demographics, mode and date of contact, HIV duration, duration off ARVs, CD4/HIV viral load, ART re-initiation, 2019 index of multiple deprivation rank, social/lifestyle factors, psychological issues and COVID-19 status. All analyses were performed using STATA 14.

RESULTS: Sixty patients re-engaged; 45% female; mean age 40 years, 50% black African; 48% (29/60) LTFU and 52% (31/60) poor adherers/attenders. Median CD4 208 cells/mm3 (IQR 98-376); median HIV viral load 26,800 copies/ml (IQR 796-112,000)

70% (42/60) resided in the most deprived local authorities in London; 42% from the most deprived local authorities in England.

67% independently contacted the clinic to restart ART/re-engage. 5(8%) re-engaged following a recent inpatient admission; 1/5 admitted with COVID-19. 3 (5%) COVID-19-positive.

41/60(69%) off ARVs in past 12-months; 80%(48/60) re-started ART on re-engagement. 71% of poor adherers/attenders and 55% of LTFU maintained contact since re-engaging.

28/60(47%) re-engaged early in the lockdown and further increase seen at easing of the lockdown.

CONCLUSIONS: COVID-19 has prompted significant re-engagement of PLWH into HIV care. Key factors associated with re-engagement were Black ethnicity, high deprivation, mental health concerns and smoking.

This data suggests that PLWH may perceive themselves at increased risk of COVID-19 despite relatively low incidence. Further work is needed to understand the psychological impact of COVID-19 on PLWH and their health-seeking behaviour.

The pandemic has created an opportunity to re-engage patients but, has also created broader socio-economic challenges. Further work is needed to reinforce health messaging and shape service delivery to support PLWH to remain engaged in care.

TRACK C

LBPEC17

A MAJOR REDUCTION IN ESTIMATED NEWLY-ACQUIRED HIV INFECTIONS SHOWS THE NETHERLANDS IS ON TRACK TO ACHIEVE THE UNITED NATIONS 2020 INCIDENCE TARGET

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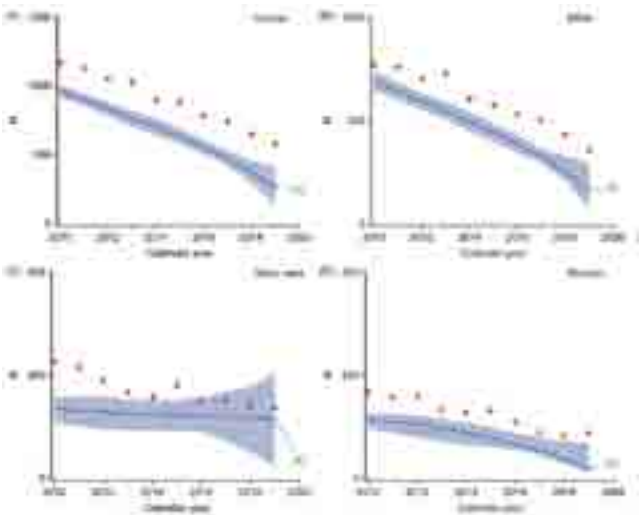
BACKGROUND: One of the United Nations (UN) 2020 targets is a 75% reduction in HIV incidence compared with 2010. In the Netherlands, numbers of newly-diagnosed infections have been steadily decreasing since 2010 and we investigated whether this also means the country is on track of achieving this UN 2020 target.
METHODS: Data on people diagnosed with HIV-1 during 2000-2019 were retrieved from the ATHENA national HIV database. We excluded people originating outside of the Netherlands with documented HIV diagnosis before arrival. Diagnoses during 2015-2019 were adjusted for reporting delay by estimating the delay distribution using the European Centre for Disease Prevention and Control (ECDC) HIV Estimates Accuracy Tool. Annual numbers of newly-acquired infections were estimated with the ECDC HIV Modelling Tool, a CD4 count-based back-calculation method, for the entire population and separately for men who have sex with men (MSM), other men, and women.
RESULTS: 20,838 people were newly diagnosed during 2000-2019. We excluded 1,170 migrants already diagnosed before arrival, but included 5,960 migrants for whom data on pre-arrival diagnosis were not yet available. Of the 19,668 individuals included in the analysis, 11,883 (60%) were MSM, 4,136 (21%) other men, and 3,649 (19%) women. Numbers of newly-diagnosed infections decreased from 1,167 in 2010 to 579 in 2019 (Figure). The majority of diagnoses and estimated newly-acquired infections were in MSM. Compared with 2010, estimated HIV incidence in 2019 had declined by 72% (95% confidence interval 61–86) in the total population, 76% (58–89) in MSM, 14% (-75–85) in other men, and 83% (31–91) in women.



[Figure. Annual number of newly-diagnosed (dots) and estimated newly-acquired HIV infections (solid line) in the Netherlands, (A) overall, (B) MSM, (C) other men, (D) women. Diagnoses during 2015-2019 were adjusted for reporting delay. The cross indicates the UN 2020 target.]

CONCLUSIONS: Inherent to the nature of back-calculation methods, estimates are less precise in recent years and we could not fully account for infections prior to immigration. Nonetheless, estimated HIV incidence has markedly declined in the Netherlands, and may have reached the UN 2020 target, including in MSM.

LBPEC18

CASH TRANSFER TO ADOLESCENT GIRLS AND YOUNG WOMEN TO REDUCE SEXUAL RISK BEHAVIOUR: A CLUSTER RANDOMISED CONTROLLED TRIAL, TANZANIA

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BACKGROUND: In sub-Saharan Africa, adolescent girls and young women (AGYW) aged 15-24 are 1.5-3 times more likely to be HIV-infected compared with their male counterparts. Cash transfers (CT) have been used to incentivize reducing HIV risk behaviours. A cluster randomised controlled trial to evaluate the effect of CT on risky sexual behaviour was conducted in Shinyanga region, Tanzania, where the PEPFAR/USAID funded Sauti Project provided combination HIV prevention (CHP) services to AGYW under the DREAMS Initiative. The trial compared CT plus CHP to CHP alone.
METHODS: From Dec 2017 to July 2019, the trial enrolled HSV-2 negative, out-of-school AGYW aged 15-23 in rural and urban areas of Shinyanga region. Village-based Clusters were ranked by size and matched by urbanization and risk categories (urban, rural low HIV risk and rural high HIV risk (mining areas). Thirty clusters were randomized to receive CT plus CHP interventions (n=15) or CHP only (n=15). Data were collected through Audio Computer-Assisted Self-Interviews and blood specimens collected for HSV-2 determination. Analysis was based on cluster-level summary measures.
RESULTS: 3,026 AGYW completed baseline survey procedures (1,482 in intervention and 1544 in control sites.) 1855 (930 intervention, 925 control) were eligible for longitudinal analysis. HSV-2 incidence was not significantly different between the intervention and control villages in the adjusted analysis (aRR 0.97, 95% CI 0·73–1·29). HSV-2 incidence was significantly lower in the intervention compared to the control group in rural low HIV risk sites (aRR 0.47, 95% CI 0.30-0.74) and higher in the intervention group in rural high-risk sites (aRR 1.69, 95% CI 0.90-3.17) and urban sites (aRR 1.46, 95% CI 0.71-2.98) compared to the control group, adjusted for potential confounders.
CONCLUSIONS: This trial showed no significant impact on HSV-2 incidence among AGYW. While the intervention appears to have reduced HSV-2 incidence among AGYW in rural, low-risk communities this effect was not observed in other communities. Economic activities in urban and rural high risk (mining) communities may have undermined the impact of CT.

LBPEC19

PREVALENCE OF MALE CIRCUMCISION IN FOUR WESTERN KENYA COUNTIES AFTER 10 YEARS OF VOLUNTARY MEDICAL MALE CIRCUMCISION PROGRAM

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BACKGROUND: Since 2016, Kenya has used the Decision Makers Program Planning Tool, Version 2 (DMPPT2) annually to estimate male circumcision (MC) prevalence, guide program targeting, and project its impact. DMPPT2 is a compartmental model that applies the number of planned or reported circumcisions to baseline MC prevalence data to estimate changes in MC prevalence. However, outputs for Kenya have included implausible prevalence estimates above 100% in age bands where uptake of MC remains high. We conducted a cross-sectional survey in four counties in western Kenya to generate better MC prevalence estimates by age bands for program planning.
METHODS: The survey was conducted in Siaya, Kisumu, Homa Bay and Migori counties (July–September 2019). We used stratified two-stage cluster sampling to select 6,028 households. Resident boys/men aged 10–29 years who assented/consented were asked about their circumcision status. Circumcision status was verified for respondents who consented to genital examination. We calculated survey-adjusted MC prevalence by age category and county and agreement between self-reported and physically verified MC status using Cohen's kappa statistic. P values <0.05 were considered statistically significant.
RESULTS: Per self-report, MC prevalence among boys aged 10–14 years was 64.3% (95% confidence interval [CI]: 59.2–69.1) overall and ranged from 55.3% (95% CI: 40.2–69.5) in Migori to 74.9% (95% CI: 68.8–80.2) in Siaya. Prevalence in men aged 15–29 years was 79.2% (95% CI: 76.1–82.1) overall; Homabay, 75.6% (95% CI: 69.0–81.2); Kisumu, 77.9% (95% CI: 73.1–82.1); Siaya, 80.3% (95% CI: 73.7–85.5); and Migori, 85.3% (95% CI: 75.3–91.7). Nearly all respondents (99.2%) consented to physical verification of their circumcision status with agreement of 99% between self-reported and verified status (kappa agreement, p<0.0001).
CONCLUSIONS: Our results show the accuracy of self-reported MC status and lower MC prevalence than 2019 DMPPT2 estimates which were 94-142% for 10-14-year age-band and 94-105% for 15-29-year age-band. Reviewing the model assumptions and verifying inputs in DMPPT2 could improve the validity and utility of its circumcision prevalence estimates. Circumcision prevalence surveys can be used to validate and correct DMPPT2 inputs especially for mature programs whose MC uptake are inconsistent with DMPPT2 estimates.

LBPEC20

OUTCOMES ALONG THE HIV CARE CONTINUUM AMONG MEN WHO HAVE SEX WITH MEN IN HAITI

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BACKGROUND: The HIV epidemic in Haiti continues, with an estimated 160,000 people living with HIV at the end of 2019. Although HIV prevalence in the general population is estimated to be 2.0%, certain groups are at a higher risk of HIV infection. The prevalence of HIV among men who have sex with men (MSM) is estimated to be 12.9%. As previous data have found gaps in HIV care for this population, we explored the steps in the continuum of care to determine outcomes at each step.
METHODS: We used an observational retrospective cohort study design to follow up MSM diagnosed with HIV in the largest HIV care clinic in Port-au-Prince, Haiti. Estimates were calculated of proportions of participants reached, tested, linked to care, commencing treatment, adherent to treatment, and who achieved virologic suppression. We identified factors associated with loss to follow-up at each step using multivariable analysis.
RESULTS: Data were collected between January 1, 2015, and December 31, 2019. 5009 MSM were reached for prevention services. Of those reached, 2499 (49.8%, 95% CI 48.5–51.3) were tested for HIV, 222 (8.8%, 95% CI 7.8-10.0) had a positive test result for HIV, and 172 (77,47%, 95% CI 71.4-82.8) were linked to HIV care. Among participants who started care, 54 (44.6 95% CI 24.5-38.9) were retained and 98 (78.4%, 95% CI 49.2–64.5) achieve a suppressed viral load. Fifty-nine (44.8%, 95% CI 27.2-41.9) were lost to follow-up. Participants who had been younger, with lower educational and economic levels were significantly less likely to achieve retention and viral suppression (p=0.001).
CONCLUSIONS: HIV cascade data among MSM in Haiti show very poor rates of retention in treatment although those retained had good virologic outcomes. Characteristics associated with LTFU suggest an urgent need to develop and implement effective interventions to support patients in achieving retention and viral suppression among MSM living with HIV.

LBPEC21

CHARACTERIZING RECENT INFECTIONS AMONG PERSONS WITH NEW HIV-1 DIAGNOSES IN MALAWI

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BACKGROUND: In 2019, the Malawi Ministry of Health established a new surveillance system to detect and characterize recent HIV-1 infections among persons with new diagnoses. The system utilizes a recent infection testing algorithm (RITA): a rapid test for recent infection (RTRI) and viral load (VL) testing for recent RTRI results to classify the infection as long-term or recent based on viral suppression status. This study aimed to evaluate the uptake of RITA and describe populations with ongoing HIV transmission.

METHODS: We abstracted routine HIV-testing data and RTRI results from 97 health facilities in 11 districts (June 2019-February 2020). Consenting clients aged ≥13 years with new HIV-1 diagnoses were tested with Asante™ HIV-1 Rapid Recency Assay. Participants with RTRI recent test results provided dried blood spot specimens for VL testing; recent infections were defined as those having recent RTRI results with VL ≥1000 copies/mL.

We calculated frequencies and proportions of RITA recent infections by age, sex, pregnancy status, and district. P-values <0.05 were considered statistically significant.

RESULTS: Most eligible persons (97.5%) consented to recency testing (10353/10616). Overall, the recent HIV-1 infection rate was 3.7% (confidence interval [CI]: 3.4%-4.1%), with 40% of recent infections observed in clients aged 25-35 years. Recent infection rate was 4.3% (CI: 3.8%-4.8%) among women versus 2.8% (CI: 2.3%-3.4%) among men (p<0.0001). Recent HIV-1 infection rate was highest (7.7%) among younger women aged 13-19 years (CI: 5.7%-10.3%; p<0.0001). The recent infection rate did not significantly differ between pregnant and non-pregnant women. Among all tested men, recent HIV-1 infection rate was significantly higher (5.5%) in those aged 20-24 years (CI:3.5%- 8.7%; p=0.004), compared to men in other age groups. Comparatively, recent HIV-1 infection rate was highest (7.7%) among younger (13-19 years old) women (CI:5.7%-10.3%; p<0.0001). The recent HIV-1 infection rate in Blantyre (3.0%) was significantly lower than in Zomba (3.5%), Chikwawa (6.5%) and Machinga districts (7.2%) (p<0.0001).

CONCLUSIONS: Malawi's novel recent HIV-1 infection surveillance system demonstrated high uptake and identified cases with new infections. Women are likely being infected and diagnosed at younger ages than men, suggesting the need for targeted prevention efforts and active case finding among men for earlier diagnosis.

LBPEC22

PREP PRESCRIPTION ABANDONMENT AT THE PHARMACY, UNITED STATES, 2018

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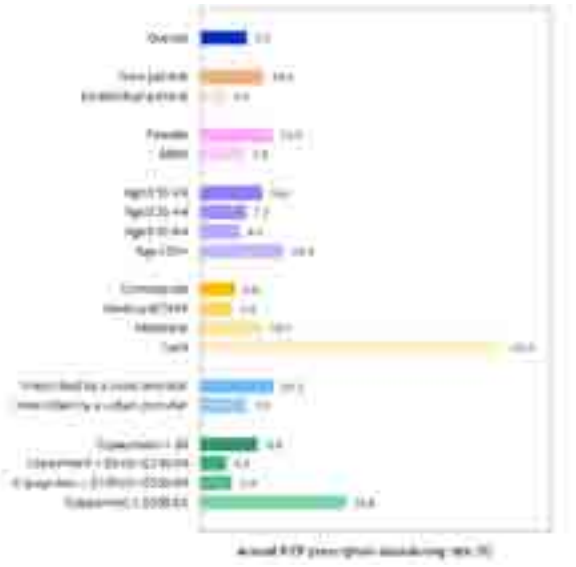
BACKGROUND: After medication for HIV preexposure prophylaxis (PrEP) is prescribed by a provider and filled by a pharmacy, the patient must pick up the medication at the pharmacy. The frequency of persons with a filled PrEP prescription but did not pick it up, or abandoned it, is unknown. We analyzed a national pharmacy database to examine PrEP prescription abandonment.

METHODS: We analyzed 2018 data in the IQVIA pharmacy database. Among persons with a filled PrEP prescription, we identified those who abandoned it. Using a probit multivariable regression model, we estimated the frequency of prescription abandonment and associated factors, including patient demographic characteristics, provider location, payer type, and copayment amount.

RESULTS: In 2018, among 195,061 PrEP patients included in the analysis, 15,472 (7.9%) abandoned their PrEP prescription. Abandonment was higher among new PrEP patients, women, persons aged <25 years or >65 years, cash payers, and persons with a high copayment (Figure). After adjusting for covariates, we found that new PrEP patients were 1.4 times as likely as established PrEP patients to abandon their prescriptions (adjusted relative risk (aRR)=1.41, p<.001). Compared to commercially insured patients, PrEP patients who paid with cash were 3.1 times as likely to abandon their prescriptions (aRR=3.09, p<.001). In addition, patients with an average copayment >$500 per 30 pills were more likely to abandon their prescriptions (aRR=2.02, p<.001), as were those who were prescribed PrEP by a rural provider (aRR=1.25, p<.001).



[Figure. Percentage of patients (N=195,061) with an abandoned PrEP prescription - United States, 2018

CONCLUSIONS: We identified PrEP prescription abandonment as an opportunity to intervene to improve PrEP uptake and adherence. More than half of persons who paid with cash abandoned their PrEP prescription, suggesting that cost is a key barrier to accessing PrEP. The DHHS "Ready, Set, PrEP" program provides PrEP at no cost for eligible persons and can help overcome the high cost of PrEP medication as a barrier to its use.

LBPEC23

COVID-19 IN THE LARGEST US HIV COHORT

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BACKGROUND: Immunocompromised persons are at higher risk of poorer SARS-CoV-2/coronavirus disease 2019 (COVID-19) outcomes. The CDC considers persons with HIV (PWH) a special high-risk population and stated, "at present time, we have no specific information about the risk of COVID-19 in [PWH]".[1] We examined COVID-19 testing and outcomes in PWH and uninfected persons in the Veterans Aging Cohort Study (VACS), the largest cohort of PWH in the United States.

METHODS: VACS is an open cohort of all Veterans with HIV and 1:2 age-, race/ethnicity-, sex-, and site-matched uninfected Veterans. We extracted COVID-19 laboratory testing results and diagnoses reported through May 17, 2020 and linked demographics, outpatient/inpatient encounters, diagnoses, procedures, health behaviors, and pharmacy records from Veterans Health Administration (VA) electronic health records. Baseline was defined as date of specimen collection, hospital admission, or reported external testing. We estimated associations between baseline characteristics and testing COVID-19-positive (COVID-19+) with logistic regression and associations between HIV and severe COVID-19 (i.e., intensive care, intubation, or death) with Cox regression.

RESULTS: Among VACS participants alive in 2020 (30,948 PWH, 76,618 uninfected), 4.8% of PWH and 3.6% of uninfected engaged in COVID-19-related VA care (Figure 1). Over a 78-day period, 189 PWH (12.7% of tested) and 380 uninfected (13.9%) were diagnosed with COVID-19 (Table 1, adjusted odds ratio [OR]: 1.04, 95% CI: 0.85-1.26). PWH and uninfected COVID-19+ patients had similar distributions of baseline characteristics. Elevated risk for non-Hispanic black (OR: 1.87, 95% CI:1.49-2.36) and Hispanic (OR: 1.57, 95% CI: 1.11-2.22) patients compared to non-Hispanic white was similar for PWH and uninfected (p-interaction=0.47). Risk of severe COVID-19 outcomes was similar by HIV status (adjusted hazard ratios were approximately 1.00 for all outcomes).

CONCLUSIONS: While PWH have higher testing rates, thus far, we have not found evidence of increased burden of positivity among those tested, nor an increased risk of severe COVID-19 outcomes by HIV status. Due to testing shortages and potential for differential adherence to stay-at-home guidance by immunosuppression status, we should continue to monitor testing, positivity, and COVID-related health outcomes. Additionally, potential linkages between antiretroviral treatment and CD4 count with COVID-19 severity and progression needs investigation.

LBPEC24

HIGH RISK PREGNANT WOMEN INITIATION AND PERSIST ON PREP IN CAPE TOWN, SOUTH AFRICAN COHORT

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BACKGROUND: Pre-exposure prophylaxis (PrEP) is an important prevention intervention during pregnancy and breastfeeding, but there are no experiences implementing PrEP for high-risk pregnant/breastfeeding women in South African clinics.

METHODS: PrEP-PP is a cohort of HIV-negative pregnant and postpartum women recruited at their first antenatal visit in a community with high antenatal HIV prevalence. We screen HIV-uninfected pregnant women for eligibility criteria, followed by an interviewer-delivered survey that asks participant socio-demographics, relationships, partner serostatus, intimate partner violence, substance use and depression. We test women for sexually transmitted infections (STI) (Cepheid-GeneXpert). We compare women who took PrEP to those who did not, and persistence at 1 and 3-months after PrEP start from the first seven-months of the PrEP-PP cohort.

RESULTS: From Aug'19-Mar'20, we recruited and enrolled 374 HIV-uninfected pregnant women at first antenatal visit (median gestation, 21w [IQR=14-28]; median age, 25y [IQR=22-31]). Overall 92% of enrolled women opted to start PrEP at their first antenatal visit (n=344). Women who self-selected to start PrEP had the following characteristics vs. those who did not take PrEP: 38% diagnosed with a STI (vs. 30%), 49% reported recent alcohol or drug use (vs. 40%), 6% reported depression/anxiety during pregnancy (vs. 3%), 11% reported intimate partner violence (vs. 3%), 2% reported >1 sex partners (vs. 0%), 1% reported HIV-positive partners (vs. 0%) (Table 1). At 1m, 68% of women, at 3m 69%, returned for study visits. At 1m follow-up, 89% and at 3m follow-up 85%, reported taking PrEP >5 days in the past week. Half of women on PrEP reported side effects at 1m, predominantly nausea (33%), vomiting (15%) and dizziness (14%).

	On PrEP (n=344)		Not on PrEP (n=30)	
	n	%	n	%
STI diagnosis (chlamydia, gonorrhoea, trichomonas vaginalis)	129	38%	9	30%
Depression/anxiety in pregnancy	19	6%	1	3%
HIV+ partner	4	1%	0	0%
Partner HIV status unknown	81	24%	7	23%
Reported IPV in past year	37	11%	1	3%
Reported alcohol/drug use in past year	169	49%	12	40%

[Table 1. Risk factors by PrEP use/non-use in pregnant women]

CONCLUSIONS: Higher risk pregnant women are enrolling in PrEP study and starting PrEP during antenatal care. Retention and reported persistence were high compared to other populations, although side effects are frequently reported and need to be managed.

LBPEC25

PRE-EXPOSURE PROPHYLAXIS RETENTION AND PERSISTENCE FOR HIGH-RISK PREGNANT WOMEN DROP SIGNIFICANTLY DURING COVID-19 LOCKDOWN IN SOUTH AFRICA: IMPLICATIONS FOR HIV PREVENTION PROGRAMS

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BACKGROUND: HIV risk is high during pregnancy and breastfeeding. Pre-exposure prophylaxis (PrEP) is an important prevention intervention during these periods. We sought to evaluate the impact of the lockdown on the study retention and PrEP prescriptions among pregnant/breastfeeding women.

METHODS: PrEP-PP is a cohort of HIV-negative pregnant and postpartum women recruited at their first antenatal visit at a primary care clinic in Cape Town and followed until 12m posptartum (launched Aug-19). HIV-uninfected pregnant women are screened for eligibility criteria, followed by an interviewer-delivered survey. Women decide if they want to take PrEP or not at each study visit. We compare study retention and PrEP prescription before COVID-19 lockdown on March 26, 2020 and during the lockdown using logistic regression.

RESULTS: From Aug'19-May'20, we enrolled 422 HIV-uninfected pregnant women at first antenatal visit (median gestation, 21 weeks [IQR=14-28]; median age, 25 years [IQR=22-31]). Overall 91% of enrolled

women opted to start PrEP at their first antenatal visit; most common reason was to prevent infant HIV. Prior to lockdown, study retention was 71% at 1m, and 59% at 3m. Following the lockdown, retention decreased significantly to 37% at 1m and 45% at 3m. Overall, retention was 63% in pre-COVID lockdown vs. 42% during lockdown. Odds of missing a study visit was 2.36 (95% CI=1.73-3.16) during the COVID-19 lockdown vs. before. Common barriers to study attendance was fear of COVID infection (for self/infant), limited transportation, and long queuing at facility.

	1-month visit			3-month visit		
	Attended	Missed	% retained	Attended	Missed	% retained
Pre COVID lockdown (Aug 15, 2019-Mar 26, 2020)	207	84	**71%**	113	80	**59%**
During lockdown (Mar 27-May 15)	19	32	**37%**	51	62	**45%**
Total	Attended	Missed	% retained			
Pre-lockdown	340	201	**63%**			
During lockdown	110	152	42%			

[Table 1. Retention in PrEP in pregnancy study before COVID-19 lockdown and during lockdown, Cape Town, South Africa (n=422 women) Bold: p<0.01]

CONCLUSIONS: PrEP refills and study visits dropped by 33% during the COVID lockdown. Pregnant women at high risk of HIV acquisition who are on PrEP cited fear of COVID infection and contact with health facility as common barriers. Community based PrEP delivery and phone interviews are needed to address barriers to attending facility-based PrEP prescription and study visits.

LBPEC26

IMPACT OF COVID-19 ON SERVICES FOR PEOPLE WHO INJECT DRUGS IN SITES WITH RECENT HIV OUTBREAKS IN EUROPE, NORTH AMERICA AND ISRAEL

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BACKGROUND: HIV outbreaks have occurred recently among people who inject drugs (PWID). Areas with recent HIV outbreaks among PWID may be particularly vulnerable for increased HIV/HCV transmission due to disruptions in HIV prevention services. We assessed the impact of COVID-19 on HIV/HCV prevention services in 12 sites with recent HIV outbreaks among PWID.

METHODS: Sites were included that detected HIV outbreaks among PWID during 2011–2019, in Europe, North America and Israel. Participating sites responded to a questionnaire about the impact of COVID-19 on service delivery for HIV/HCV and substance use disorder for PWID.

RESULTS: COVID-19 restrictions started 12–27 March in all sites. Opioid substitution treatment (OST), needle and syringe programmes (NSP) and antiretroviral treatment (ART) services continued, but most sites reported reductions in services and changes in operation. Service programmes reduced or suspended in-person client visits, counselling and new intakes due to social distancing policies. Service providers reported widespread difficulties for PWID to meet basic housing, food and hygiene needs due to severe economic challenges, changes in drug supply (associated in some sites with increases in overdoses, violence and acute mental health problems), increased homelessness, and one site mentioned increases in stigma toward the homeless. HIV, HCV testing, outreach and face-to-face research were halted or reduced, OST services reported treatment relapses while ART services reported some treatment interruptions and adherence problems. Services responded by introducing take-home medication for extended periods, providing syringes according to needs, long-acting OST, tele-health services and providing food and

shelter for homeless PWID. In some sites services that closed are being reopened. PWID were generally not screened for COVID-19 and only one site reported COVID-19 outbreaks among PWID.

CONCLUSIONS: COVID-19 has severely impacted HIV prevention services for PWID, likely resulting in an increased risk of HIV transmission among PWID in high-risk sites. Services have responded in innovative ways, often reforming entrenched policies. Essential services for PWID need to be sustained to prevent possible future HIV/HCV increases. Research and surveillance on HIV, HCV and COVID-19 among PWID will be key to detecting and responding to potential HIV, hepatitis or COVID-19 outbreaks among this vulnerable population.

LBPEC27

TEXT MESSAGING AND PEER COUNSELING FOR LINKAGE, ANTIRETROVIRAL THERAPY, AND VIRAL SUPPRESSION: A RANDOMIZED CLINICAL TRIAL AMONG NEWLY HIV-DIAGNOSED MEN WHO HAVE SEX WITH MEN IN BEIJING

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BACKGROUND: HIV continuum of care among Chinese men who have sex with men (MSM) is suboptimal. Text messaging and peer counseling are feasible interventions to promote HIV care in this population. We evaluated the efficacy of the combined intervention in a randomized clinical trial (ClinicalTrials.gov number NCT01904877).

METHODS: We randomly assigned 367 newly HIV-diagnosed MSM in Beijing to intervention or standard-of-care (SOC) arms. SOC included routine counseling and referrals for HIV care by the nearby Centers for Disease Control (CDC) clinics. Intervention arm participants received SOC plus enhanced support for engagement in HIV care through text message check-ins and five face-to-face sessions of peer counseling over 12 months. The primary outcomes of the trial were linkage to HIV care, initiation of ART, and viral suppression.

RESULTS: The combination intervention package significantly increased 12-month clinic follow-up visits: 93% in the intervention and 77% in the SOC arms (relative risk [RR] 1.20, 95% confidence interval [CI] 1.10-1.31; P<0.01), and uptake of plasma HIV-1 viral load testing: 80% in the intervention and 66% in the SOC arms (RR 1.15, 95% CI 1.02-1.31). Intervention participants were more likely to initiate ART than SOC participants (RR 1.18, 95% CI 1.02-1.37), particularly among the subgroup with CD4 count ≥350 cells/μL (RR 1.31, 95% CI 1.03-1.68). The rates of linkage to care (92% in the intervention versus 87% in SOC, P=0.11) and self-reported 4-day ART adherence (98% versus 100%, P=0.22) were high in both arms. The interventions did not have significant impact on HIV viral suppression within 12-month follow-up (53% versus 53%, P=0.55).

CONCLUSIONS: Peer-led text message outreach and face-to-face counseling interventions substantially increased 12-month clinical follow-up visits, viral load testing, and ART initiation. This combination strategy is promising for improving HIV care uptake among MSM. More robust interventions will be needed to achieve better viral load suppression.

LBPEC29

IMPLEMENTATION OF A SARS-COV-2 COMMUNITY SCREENING PROGRAM BY THE LARGEST PROVIDER OF PREP AND HIV CARE IN THE MIDWEST

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BACKGROUND: Community-oriented COVID-19 screening has the opportunity to identify and engage highly impacted communities that may not access traditional emergency room or hospital care during the coronavirus epidemic. In Chicago Illinois, Howard Brown Health collaborated with TaskForce Prevention and Community Services and Project Vida to transition walk-in STI screening and community outreach programs into high-throughput community-based screening sites starting March 13, 2020.

METHODS: Data was abstracted from the electronic medical record of seven non-clinical screening locations adjacent to existing clinics, including two mobile screening sites over 10 weeks from 13/3/20 to 22/5/20. Descriptive statistics were performed on all clients screened using RT-PCR during this period, with additional data presented on existing clinic patients who were screened.

RESULTS: A total of 5796 tests were performed for 5741 unique individuals over the 10 week analytic period. Average age was 43 (range 1-97), 46% were Latinx and 14% were Black/African American. The SARS-CoV-2 positive test percentage was 31% (1802/5796 [95% CI 30%-32%]) with highest percentages among Latinx (45% [95% CI 43%-47%]) populations followed by Black/African American (17% [95% CI 14%-19%]) and non-Hispanic whites (14% [95% CI 9%-16%]). Positive percentages varied by age ranging from 18% (95% CI 16%-21%) among >60 to 36% among 11-19 (95% CI 30%-42%). Of 948 existing clinic patients with 984 tests, positivity was 19% (95% CI 16%-21%). Rates were highest among Latinx patients (25% [95% CI 20%-31%]) but mostly similar by age, BMI (among adults), and gender. There was no difference by HIV status, 17% (95% CI 12%-24%) among 156 PLWHIV and 19% (95% CI 16%-22%) among 828 HIV-negative patients.

CONCLUSIONS: Through partnerships with community-based organizations TaskForce and Project Vida Inc., HBH was able to reach beyond its client base to engage a diverse population in SARS-CoV-2 screening, finding high positivity rates among Latinx populations. Screening sites need to be flexible and located in most impacted communities and populations, including sub-populations like the undocumented, who experience limited access to the US health care system. Future work will include modeling to determine key factors of positivity, given the observational nature of this work, and follow-up outcomes among those with COVID-19.

TRACK D

LBPED30

SITE-RANDOMIZED CONTROLLED TRIAL OF A COMBINED COGNITIVE BEHAVIORAL THERAPY AND A MEDICATION MANAGEMENT ALGORITHM FOR TREATMENT OF DEPRESSION AMONG YOUTH LIVING WITH HIV IN THE UNITED STATES

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BACKGROUND: U.S. youth living with HIV (YLWH) have high rates of depression. Studies suggest that manualized, measurement-guided treatment is more efficacious than usual care. This study tests this treatment model for depression among U.S. YLWH, ages 12- 24 years in care at sites of the International Maternal Pediatric Adolescent AIDS Clinical Trials Network. Outcome data became available March 23, 2020.

METHODS: Using restricted randomization, 14 participating sites were assigned to either a 24-week, combination cognitive behavioral therapy and medication management algorithm (COMB-R arm) tailored for YLWH or to Enhanced Standard of Care (ESC arm), which provided standard psychotherapy and medication management. Primary outcome measures included depressive symptoms evaluated using the 19-question Quick Inventory for Depression Symptomatology Self-Report (QIDS-SR) collected through audio computer-assisted interviews, HIV viral load, and CD4 count. Eligibility included diagnosis of nonpsychotic depression and current depressive symptoms (score ≥ 11 on clinician-rated QIDS-C). Arm comparisons used t-tests on site-level means.

RESULTS: Six COMB-R and seven ESC sites (one site withdrew) enrolled 156 YLWH, with a median of 13 per site (range 2-16). At baseline there were no significant differences between arms on demographic factors, severity of depression, or HIV status. Across all sites, the average mean age was 21 years (22% ≤ 18 years); 45% of youth at each site were male, 61% were black, and 53% had acquired HIV through perinatal transmission. At Week 24, youth at the COMB-R sites, compared to ESC sites, reported fewer depressive symptoms, (mean QIDS-SR score 6.7 vs. 10.6, difference -3.9, 95% CI -6.8, -0.9, p=0.01),had a greater proportion of participants with a treatment response (more than 50% reduction in QIDS-SR score from entry; 62.3% vs. 17.9%, p<0.001), and a greater proportion in remission (QIDS-SR score ≤ 5; 47.9% vs.17.0%, p=0.01). The site mean viral load and CD4 level were not significantly different between arms at Week 24. The proportions of participants with psychiatric hospitalization or suicide attempt were not significantly different between arms.

CONCLUSIONS: A 24-week manualized, measurement-guided psychotherapy and medication management algorithm tailored for YLWH was more effective in reducing depressive symptoms than standard care at HIV care clinics.

LBPED31

TELEPHONIC SUPPORT FOR PEOPLE LIVING WITH HIV WHO ARE NOT COPING WITH ART DURING THE COVID-19 PANDEMIC: LESSONS LEARNED FROM MEDÉCINS SANS FRONTIÈRES' RESPONSE IN SOUTH AFRICA

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BACKGROUND: In 2018, Medécins Sans Frontières (MSF) and the Western Cape Department of Health implemented the "Welcome Service" in a primary care clinic in Khayelitsha, South Africa. This is a differentiated service delivery model to support people living with HIV (PLHIV) who need additional support taking antiretroviral therapy (ART), including clients who are virally unsuppressed or have disengaged from care (missed appointments or adherence difficulty). The package included linkage to care, medical management and psychosocial support. COVID-19 magnified socioeconomic barriers to engagement and impacted healthcare delivery; urgent adaptation to the Welcome Service was required in response.

DESCRIPTION: MSF adapted the Welcome Service to support ART engagement despite additional challenges, as support for viral suppression is a necessary component of the COVID-19 response. To reduce facility visits, clinics extended ART refills from 1 up to 2 months at re-engagement or if virally unsuppressed. MSF supported clients with telephonic follow-up before their next face-to-face visit at two months: a nurse reviewed clients' symptoms and a counsellor provided psychosocial support.

LESSONS LEARNED: Telephonic consultations provided a safety net for PLHIV at the Welcome Service-supported clinic in April 2020 while intervals between clinic visits were prolonged: a counsellor provided psychosocial support and a nurse asked about concerning symptoms, such as features suggesting immune reconstitution and ART side effects, and advised if clients needed to return to the clinic earlier. Fifteen clients were contacted: 8 were receptive to telephonic consultations with staff able to establish rapport over the phone, 1 refused phone contact because of HIV non-disclosure to their family and the remaining 6 were unavailable telephonically. Fewer clients than usual re-engaged with ART services during the COVID-19 lockdown. Additionally, these services required access to phones, airtime, and revision of administrative procedures to keep client notes confidential outside work premises.

CONCLUSIONS/NEXT STEPS: Timely adaptation of services to support engagement with ART was feasible with few structural changes. However, implementation and expansion may be limited by community acceptance of telephonic consultations, clients' availability telephonically, and access to phones, airtime and administrative procedures. Lessons could be applied to other public health concerns and inform the restructuring of healthcare services beyond the COVID-19 pandemic.

LBPED32

EFFECTS OF SOCIAL SUPPORT AND STIGMA ON PRE-EXPOSURE PROPHYLAXIS USE DISCLOSURE IN WOMEN WHO INJECT DRUGS

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BACKGROUND: Due to the COVID-19 pandemic, syringe exchange programs have closed and there is reduced access to services across the country, raising concerns that current HIV outbreaks among people who inject drugs (PWID) will be exacerbated. Now more than ever innovative strategies are needed to prevent HIV among PWID, particularly women who inject drugs (WWID), who are disproportionately represented in new HIV cases. One such method is Pre-exposure Prophylaxis (PrEP), a highly effective yet underutilized HIV prevention strategy in WWID. There is a paucity of literature addressing PrEP use in WWID with even less data on how social networks affect consistent usage. This study evaluates how perceptions of social support and stigma within social networks impact PrEP use disclosure among WWID and peers.

METHODS: Eligible participants were WWID participating in a PrEP demonstration project in Philadelphia who had initiated PrEP. Participants completed a personal network survey that included measures of PrEP stigma and social support within social networks. The primary outcome variable was PrEP disclosure within relationships. Logistic generalized estimating equations (GEE) models were used to examine the bivariate and multivariable relationship between predictor and outcome variables.

RESULTS: Participants (n=39) named an average of 9.5 (SD±3.3) network members, resulting in a total of 371 relationships. WWID disclosed their PrEP use to 42.1% (n=156/371) of network members. WWID had increased odds of disclosing PrEP use to main romantic partners [AOR 3.9, 95% CI: 1.6-8.5] and those currently taking PrEP [AOR 3.3; 95% CI: 1.3-8.2]. Related to stigma, WWID had decreased odds of disclosure if the person would disapprove of PrEP use [AOR 0.3, 95% CI: 0.1-0.8]. Related to social support, WWID had increased odds of disclosure if the person could provide advice [AOR 1.9, 95% CI: 1.2-3.2] or pick up their medication from the pharmacy [AOR 1.3, 95% CI: 1.3-7.8].

CONCLUSIONS: WWID's social networks were sources of PrEP stigma and support, both of which impacted PrEP-use disclosure. Findings support the need for peer-based strategies, such as couples-based PrEP counseling, to increase support for PrEP adherence while reducing stigma. During a crisis, understanding how social networks affect HIV prevention is more important than ever.

LBPED33

RAPID INTEGRATION OF SELF-SAMPLING FOR CHLAMYDIA AND GONORRHEA TESTING AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER WOMEN IN KEY POPULATION-LED HIV CLINICS IN THAILAND DURING THE COVID-19 OUTBREAK

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BACKGROUND: Approximately 30% of men who have sex with men (MSM) and transgender (trans) women who accessed key population (KP)-led clinics in Thailand had chlamydia trachomatis (CT) and/or neisseria gonorrhea (NG) infection in 2017. However, uptake of CT/NG testing remains low, mainly due to privacy issues. The need to continue sexual health services during the COVID-19 outbreak while maintaining social distancing and occupational safety led to immediate integration of self-sampling for CT/NG testing for the first time among MSM and trans women. We report feasibility and testing yield from four KP-led clinics in Thailand partnering with the USAID/PEPFAR-funded LINKAGES project.

METHODS: Standard operating procedures for CT/NG testing self-sampling from the urethra, oropharynx, rectum, and neovagina were developed, used for virtual training, and implemented within one week. Demographic characteristics, self-sampling uptake, and CT/NG testing yield were collected from MSM and trans clients visiting the Tangerine Clinic, SWING, RSAT, and Mplus community health clinics in Bangkok and Chiang Mai March 02–May 15, 2020. Molecular CT/NG testing was performed on GeneXpert.

RESULTS: A total of 131 (77.5%) MSM and 38 (22.5%) trans women conducted self-sampling. Self-sampling acceptability varied by anatomical site: 100% for urine collection, 100% for rectum, 21% for neovagina, and 76.3% for oropharynx. Among MSM and trans women, 26.7% and 21%, respectively, tested HIV positive. In addition, 63.4% of MSM and trans women reported currently being on pre-exposure prophylaxis, engaging in sex work (14.2%), using injecting substances (10.4%), inconsistent condom use (52.8%), and condomless sex (8.3%), and 30.3% tested syphilis reactive. CT and/or NG were identified in 19.1% of MSM and 10.5% of trans women. There were no invalid test results.

CONCLUSIONS: Self-sampling for CT/NG testing was highly acceptable and feasible among MSM and trans women in Thailand. Self-collection can address privacy issues, a key barrier to CT/NG testing among Asian MSM and trans women, and can put them in charge of their own health. Our data support self-sampling as an alternative/additional sexual health service approach, which could eventually become a new normal. Client and provider perspectives and economic data are needed to efficiently scale up self-collection.

LBPED34

FAMILY NETWORK SPILLOVER IN A COMMUNITY-RANDOMIZED CONTROLLED TRIAL OF MICRO-INCENTIVES FOR HIV TESTING: EVIDENCE FROM THE HITS STUDY

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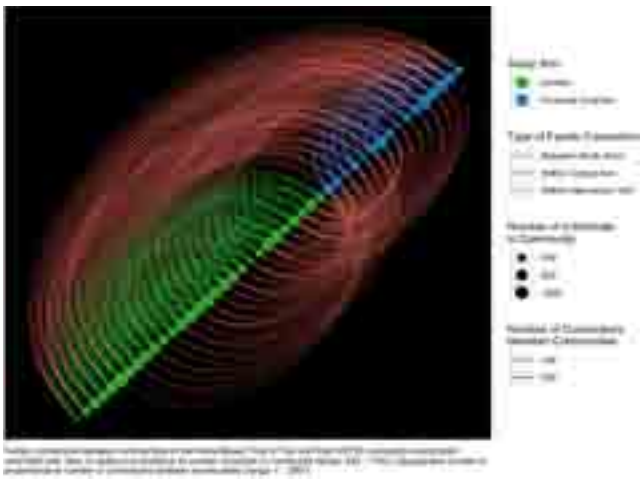
BACKGROUND: While incentives can increase HIV testing uptake, it is not known whether they have spillover effects among recipients' family members. Spillover might occur through transmission of information or resources through family networks. We measure family spillover effects of a community-randomized micro-incentive for HIV testing.

METHODS: The 'Home-Based Trial to Test and Start' (HITS) is a community-randomized controlled trial of 45 communities in Umkhanyakude, KwaZulu-Natal (ClinicalTrials.gov # NCT03757104). It is based in the Africa Health Research Institute's population-based HIV testing platform, which offers home-based HIV testing and collects information on family relationships among residents in the catchment area. All people aged ≥15 years in 16 randomly selected communities were offered a micro-incentive (R50 [$3] food voucher) for rapid HIV testing (intervention arm). Those living in the remaining 29 communities were offered testing only (control arm). To measure spill-over, we estimated the effect of the micro-incentive for people with and without family members in the intervention arm. Family relationships were ascertained using data on parent-child and romantic relationships. We used a linear probability model with robust standard errors for estimation.

RESULTS: 15,675 people participated in the HITS trial. Family relationships across study arms were common (Figure 1).



[Figure 1. Family connections between communities in HITS study]

As expected, compared to people living in control communities, people in intervention communities were more likely to have family members living in an intervention community (85.1% vs. 9.4%). Among people with no family members in the intervention arm, the micro-incentive increased HIV testing by 11.6% (95%CI 9.0-14.3%); among people with at least one family member in the treatment arm, the micro-incentive increased testing by 18.1% (95%CI 14.6-21.6%). Results were robust in a sensitivity analysis using a marginal structural model.

CONCLUSIONS: Micro-incentives appear to have substantial positive spillover effects within family networks. These effects support family- and community-based approaches for the design of incentives and other HIV interventions.

LBPED35

SOCIAL AND RACIAL DISPARITIES ARE ASSOCIATED WITH UNATTAINABILITY OF MAINTAINING SOCIAL DISTANCING DURING THE COVID-19 PANDEMIC AMONG MEN WHO HAVE SEX WITH MEN AND TRANSGENDER/NON-BINARY POPULATIONS IN BRAZIL

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BACKGROUND: Brazil adopted social distancing measures in March 2020 to avoid the spread of COVID-19 and the collapse of health system. Those measures may disproportionally affect individuals from sexual and racial minorities, as well as the poorest.

METHODS: Brazilian cisgender men who have sex with men (MSM) and transgender/non-binary people (age≥18y) were recruited through advertisements on Hornet, Facebook and WhatsApp to complete a web-based survey during April-May,2020. They answered questions on sociodemographic, HIV self-reported status, substance use, and impact of social distancing measures due to COVID-19 on personal life. We also assessed unattainability of maintaining social distancing due to any reason, such as work or housing challenges (yes/no). Logistic regression model was used to assess factors associated with that unattainability.

RESULTS: A total of 4289 individuals accessed the questionnaire and 3536(82%) completed it. Of these, 3453(98%) were cisgender MSM and 83(2%) transgender/non-binary. Median age was 33 years (IQR:27-40). Most lived in Southeast/South regions (3160; 89%) and completed secondary school or higher (2261; 64%). Black/mixed-black accounted for 44%(n=1541), 38%(n=1333) had low family income (<US$380/month), and 23%(n=811) self-reported HIV-positive status. Respondents reported challenges to access hand sanitizer (1222; 35%), food (457; 13%), health care (402; 11%), and transportation (676;19%). Almost 30%(n=1024) reported reduced income or working hours. Among those reporting alcohol use (1713; 48%), 24% increased its use during social distancing period.

Among those reporting illicit drug use (2738; 23%), 31% informed increased use. The majority were very afraid or afraid (2735;77%) of getting COVID-19. 63% of respondents were highly impacted by social distancing measures in their lives (n=2235), and 928(26%) were unable to maintain social distancing. Lower schooling (aOR1.52;95%CI:1.27-1.81), black/mixed-black race (aOR1.29;95%CI:1.10-1.51) and lower family income (aOR1.40;95%CI:1.11-1.78) were associated with unattainability to maintain social distancing when adjusted for age, gender, sexual orientation, region and HIV self-reported status.

CONCLUSIONS: The lives of minorities in Brazil have been highly impacted by social distancing measures, likely aggravating inequality factors in Brazil. Social and racial disparities are associated with unattainability in complying with social distancing among sexual minorities in Brazil. Tailored social and economic support policies during the COVID-19 pandemic should be made available to these individuals.

LBPED36

SEXUAL BEHAVIOR AND PREP USE AMONG SEXUAL MINORITIES DURING COVID-19 PANDEMIC IN BRAZIL

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BACKGROUND: Social distancing measures implemented during the COVID-19 pandemic may affect HIV prevention by hindering access to HIV testing, linkage to prevention services and PrEP initiation. It is critical to understand the impact of social distancing on sexual behavior and PrEP use among sexual minorities in Brazil.

METHODS: Between April-May 2020, we conducted a national web-based survey advertised on Hornet, Facebook and WhatsApp to enroll people aged≥18y who identified as cisgender men who have sex with men (MSM) or as transgender/non-binary with self-reported HIV negative/unknown status. The questionnaire included topics on sociodemographics, sexual behavior during social distancing, and PrEP. PrEP eligibility criteria includes one of the following: condomless receptive anal sex, HIV-positive partner, and transactional sex.

RESULTS: Out of 3536 people who completed the questionnaire, 2725 were eligible: 2660(97.6%) MSM, 17(0.6%) transwomen, 12(0.4%) transmen, and 36(1.3%) non-binary. Median age was 32(IQR:26-40) years, 43%(n=1161) were black/mixed-black, 58%(n=1578) recruited on Hornet, 65%(n=1783) completed secondary school or higher, 76%(n=2081) had middle/high income. During the social distancing period, the number of sexual partners decreased for most of respondents (1736;64%) and increased for only 3%(n=89). Almost half reported no sex during this period (1282; 47%), 482(18%) had sex only with steady partners, and 986(36%) had sex with casual partners. Among these, apps were the most common way to find casual partners (653/986; 66%). A total of 26%(705/2725) were using daily oral PrEP before social distancing period. Among them, 69%(486/705) continued daily oral PrEP, 27%(193/705) stopped PrEP, 2%(11/705) used event-driven PrEP, and 2%(15/705) used different PrEP regimens. Main reasons for stopping PrEP were inability to pick up PrEP at the health service (88/193; 46%) and sexual abstinence (252/193; 27%). Among those who stopped PrEP, 33%(63/193) maintained PrEP eligibility and could have continued PrEP use if they had access to. Among those not on PrEP previously, 85% had heard about PrEP (1706/2020), and 22%(445/2020) were eligible to PrEP, among who 72%(322/445) would likely use PrEP.

CONCLUSIONS: The COVID 19 pandemic adds new challenges for HIV prevention. Innovative solutions are of utmost importance to guarantee PrEP access and to avoid a raise in HIV epidemic among most vulnerable groups.

LBPED37

MENTAL HEALTH IMPACT OF COVID-19 LOCKDOWN AND CONCERNS ABOUT CONTINUING HIV CARE AMONG OLDER PLWH IN UKRAINE

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BACKGROUND: Of 4.2 million older people with HIV (OPWH), defined as ≥50yo, 80% reside in low- and middle-income settings that experience unequal Covid-19 burdens on healthcare. Ukraine is a low-middle income country with increasing HIV incidence and mortality. Covid-19 has brought Ukraine under lockdown since March 2020, with scarce resources directed to fighting coronavirus epidemic. To understand the impact of Covid-19 pandemic on older patients, we surveyed OPWH receiving HIV care in Kyiv.

METHODS: From May 1-22, 2020 three interviewers administered a phone questionnaire to OPWH patients referred by clinicians from the Kyiv City AIDS Center and Kyiv City Addiction Treatment Clinic, entering answers into REDCap data management system. Participants' experiences of Covid-19 impact were analyzed using R statistical software.

RESULTS: Among 66 OPWH, 62% were women, median age was 56 yrs (SD 6.1), 42% were employed, 100% were prescribed ART, and 82% had comorbidities. During the lockdown, 28% were alone while 44% isolated with family, and 15% had Covid-19 exposure directly or through loved ones. Among OPWH, 75% had smartphones, 61% obtained Covid-19 information online, and 44% coped with lockdown by talk/video chats with family and friends. Almost half (46%) feared getting infected with Covid-19 and 15% worried about being able to continue HIV care. While 96% of OPWH reported ART adherence, 15% stopped medication for other chronic conditions. Mental health was an underrecognized problem: only 6% of participants felt anxious or depressed since lockdown, but PHQ9 and GAD7 scales revealed substantial (i.e. low-level and higher) depressive and anxiety symptoms respectively in 44% and 42% of participants, signifying that further mental health assessment would be advisable. Social support was another vulnerability domain: 10% of OPWH were left by partners during lockdown, 15% reported 1 or less persons in their support network, 23% have never disclosed their HIV status and 48% had nobody supporting their HIV care. Yet, 70% wished to support other OPWH.

CONCLUSIONS: As many OPWH live alone, lack people to support their HIV care, yet have high levels of smartphone use and willingness to support other OPWH, peer-based mHealth intervention can help OPWH remain on ART post-COVID-19-lockdown and improve mental health.

LBPED38

SURGING THROUGH THE COVID-19 PANDEMIC TO RETAIN PATIENTS ON ART: EXPERIENCES USING INNOVATIVE APPROACHES FOR ART DELIVERY IN LAGOS STATE, NIGERIA

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BACKGROUND: Nigeria's first COVID 19 case was identified late February in Lagos State and increased to 3093 by May 22, 2020. Lockdown imposed from late March to early May resulted in business closures/movement restrictions. Centre for Integrated health Programs (CIHP), with funding from PEPFAR/CDC provides comprehensive treatment services to 32,484 Persons living with HIV (PLHIV) across the state. We describe innovative experiences providing ARV refills to PLHIV during this period.
DESCRIPTION: Health facilities service disruption, fear of contracting the virus, harassment of patients/health providers by duty security operatives during lockdown, scarce transportation and funds paucity became critical challenges that affected program implementation. CIHP developed 5 key mitigation strategies for ART retention (novel drug-pickup modalities): i) activating CIHP satellite offices as temporary drug pick up centers to reduce the risk of COVID-19 transmission; ii) essential duty passes from the Health Ministry/AIDS Agency to facilitate movement and operations of health providers; iii) partnerships with community pharmacies and civil society organizations including Network of People living with HIV/AIDS and PATA, Positive Action for Treatment Access, for peer led deliveries iv) private logistics company for direct home deliveries as alternate channels for ART delivery in the communities v) palliative support. Call centers were established to reach PLHIV for preferred mode of delivery, assess quality of service and track those missed.
LESSONS LEARNED: Drug pick up rates for the different service delivery models accounted for 97% for all eligible patients for the intervention period. 95% of patients were satisfied with the drug delivery model using a Private Logistics Company. For all models, 100% confidentiality was maintained.
CONCLUSIONS/NEXT STEPS: Novel differentiated care models can improve access during lockdowns. Structured planning/ implementation of alternate ART delivery models will facilitate PLHIV retention, protect gains of HIV response and sustain progress towards achievement of the second/third 95% targets of UNAIDS.

LBPED39

FINANCIAL INSECURITY AND UNMET NEEDS AMONG PEOPLE LIVING WITH HIV DUE TO THE COVID-19 PANDEMIC: DEVELOPMENT OF A CRISIS RESPONSE MODEL IN A RYAN WHITE HIV/AIDS PROGRAM CLINIC

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BACKGROUND: Social determinants of health (SDH) contribute to health disparities among people living with HIV (PLWH). During the COVID-19 pandemic, record unemployment, economic impacts, and disruptions in healthcare access may exacerbate the impact of SDH on PLWH. We developed a model for a timely proactive crisis response aiming to (1) perform a rapid needs assessment among our clinic's most vulnerable PLWH and (2) address the escalating needs for support services during the initial weeks of the pandemic in April 2020.
DESCRIPTION: The University of Virginia Ryan White HIV/AIDS Program (RWHAP) clinic is located in the Southeastern U.S. and serves 863 PLWH. While our local region has not been overwhelmed by COVID-19 hospitalizations and mortality, many of our patients work in industries quickly impacted by COVID-19. Our model of rapid response included a needs assessment evaluating access to food, medications and care, assessment of mental health, and change in work. Patients at high risk for financial insecurity and increased needs were prioritized for assessment, including patients previously assigned a medical case manager or with income under 100% of the Federal Poverty Level. Additionally, we monitored changes in housing and food services provided by the clinic.
LESSONS LEARNED: During the 6-week period from mid-March through the end of April 2020, case managers performed needs assessments for 219 patients (25% of clinic patients). Among these patients at risk for financial insecurity, 66 of 90(73%) patients employed prior to COVID-19 reported their work was affected by COVID-19. During April 2020, food services and emergency housing support provided by the clinic increased 66% and 68%, respectively, compared to the prior monthly average.
CONCLUSIONS/NEXT STEPS: Among a group of patients suspected to be at high risk for being impacted by the COVID-19 pandemic, unmet needs were substantial. Given the ongoing pandemic and prolonged shelter-in-place orders, increased needs will persist over the coming months and will recur with second or third waves of COVID-19 infections. In the setting of large-scale crisis, preparation facilitates rapid response. For RWHAP, a proactive plan for urgent needs assessments could be included as part of the HRSA continuity of operations plan already required for RWHAP clinics.

LBPED40

USING DIFFERENTIATED MODELS OF CARE TO MAINTAIN GAINS IN ART RETENTION DURING THE COVID-19 PANDEMIC: LESSONS FROM A LARGE TREATMENT FACILITY IN TRINIDAD AND TOBAGO

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BACKGROUND: The Medical Research Foundation (MRF) is the largest HIV treatment facility in Trinidad and Tobago reporting over 9,000 patients ever linked to care. Beginning in 2017, the MRF achieved clinical success and expanded ART coverage, accounting for 75% of all persons on ART nationally. During the third week of March, the MRF implemented five complementary models of differentiated care to ensure the continuity of ART services during stay-at-home measures mandated by government to avert community spread of COVID-19 infections.
DESCRIPTION: By the third week in March (2020), the MRF implemented five complementary models of differentiated care to include (1) Modified appointment spacing facilitated through multi-month ART prescriptions; (2) ART delivery services facilitated by community groups (3) A rapid clinic triage offering fast track refills; (4) Expanded patient tracing to track missed ART pick-ups and; (5) a dedicated

phone line to provide psycho-social support for ART adherence. Data extracted from electronic patient records, call logs, and ART registries were collated and analysed to identify specific program gaps and barriers to patient retention on ART. Data was dis-aggregated to identify outcomes for sub populations.

LESSONS LEARNED: Data for January to March quarter showed 4,922 patients retained on ART, a 5% decrease from previous quarter (Sept –Dec 2019) . There was a 29% decrease in ART retention among Men who have sex with men (MSM) during January to March compared to the previous quarter. Data extracted from call logs showed an increase in missed appointments and patients reporting fears of the spread of COVID-19 infections and their HIV status. Other barriers included, transportation costs of attending clinic, and being too busy to attend scheduled ART picks. This data was subsequently used to develop and tailor five complementary models of differentiated care to address program gaps and patient specific barriers. Early program data results show a 15% increase in the number of prescriptions dispensed, and an increase in scheduled ART visits in April (once month after program implementation).

CONCLUSIONS/NEXT STEPS: The use of data to plan, implement, and monitor innovative models of differentiated care provide important lessons for HIV programs in maintaining gains in ART retention during the COVID-19 pandemic.

LBPED41

PSYCHOBEHAVIORAL CHANGES AND ALCOHOL USE DURING THE COVID-19 PANDEMIC AMONG PEOPLE LIVING WITH HIV

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BACKGROUND: Alcohol misuse to cope with stress and anxiety may be increasing during the COVID-19 pandemic. Heightened psychosocial and physiological stress is associated with poorer immune status, loss of viral suppression, and resulting chronic antigenic stress and immune activation associated with increased risk of comorbidities in PLWH. Our objective was to determine if PLWH who experience increased stress during COVID-19 will have had a statistically significant increased prevalence of alcohol and substance use.

METHODS: The New Orleans Alcohol use in HIV (NOAH) Study is a prospective follow up study of a clinic-based sample of in-care PLWH and HIV negative adults aged ≥18 years matched by age and sex under care recruited from clinic in New Orleans, Louisiana. Self-reported survey measures were obtained by phone interviews conducted among the current NOAH cohort participants and compared to baseline measures collected prior to the epidemic. Participants were asked about changes of lifestyle during the COVID-19 pandemic (i.e. living arrangement, job, and childcare), emotional response, perceived control and fatalism due to COVID-19, anxiety and depression.

RESULTS: Preliminary results of a subset of the NOAH cohort (n=201) during the current COVID-19 public health crisis, show that 18% of participants report using more alcohol, 27% more cigarettes, and 7% more drugs than prior. These early data also reveal that 47% are moderately to very much worried about the COIVD-19 pandemic, 32% are moderately to very much upset, and 39% are moderately to very much tense. Borderline to abnormal anxiety levels are being experienced in 45%. In addition, NOAH participants are reporting experiencing job loss (38%), worrying about having enough to eat (27%), and worrying about having a regular place to live (20%) due to COVID-19.

CONCLUSIONS: Stressful factors negatively impact pre-existing symptoms of stress, anxiety, and depression and may have unwanted consequences that contribute to morbidity and mortality of vulnerable populations during this COVID-19 pandemic. It is essential that we further examine these growing physical psychosocial stressors on the impact of AUD and recovery from COVID-19. Further data collection is and analyses are underway.

TRACK E

LBPEE42

PERCEIVED IMPLEMENTATION BARRIERS DECREASE DURING INITIAL STAGES OF THE FIRST IMPLEMENTATION SCIENCE HYBRID III STUDY (CUSTOMIZE) OF CABOTEGRAVIR AND RILPIVIRINE LONG-ACTING (CAB+RPV LA) IN US HEALTHCARE SETTINGS: HEALTHCARE TEAM PERSPECTIVE

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BACKGROUND: CAB+RPV LA administered monthly for HIV treatment can eliminate daily oral ART for some patients, but will require a paradigm shift in HIV care delivery with more frequent clinic appointments and resourcing/logistic changes. CUSTOMIZE, a novel prospective implementation science study, examined US provider perspectives of LA injectable ART prior to regulatory approval.

METHODS: Staff from diverse HIV care settings participated including Federally Qualified Healthcare Centers, universities, private practices, AIDS Healthcare Foundation, integrated managed-care consortium. Three providers from each site (physicians, injectors, administrators) completed surveys at Baseline (N=26) and Month 4 (M4) (N=24) evaluating acceptability (AIM), appropriateness (IAM), feasibility (FIM), and barriers to CAB+RPV LA implementation. Proportions and mean scores (higher scores more positive) were calculated for AIM, IAM, FIM.

RESULTS: Most staff (>84%) agreed/completely agreed that CAB+RPV LA was acceptable, appropriate and feasible at Baseline and M4 (Table 1) with some variability by provider type.

	All Staff Agreed/Completely Agreed % (Mean Score)		Physicians Agreed/Completely Agreed % (Mean Score)		Injectors Agreed/Completely Agreed % (Mean Score)		Administrators Agreed/Completely Agreed % (Mean Score)	
	Baseline N=26	M4 N=24	Baseline N=9	M4 N=8	Baseline N=9	M4 N=8	Baseline N=8	M4 N=8
AIM	91.4% (4.43)	91.6% (4.39)	86.1% (4.36)	96.9% (4.47)	94.5% (4.50)	90.6% (4.44)	93.8% (4.44)	87.5% (4.25)
IAM	99.1% (4.52)	94.8% (4.45)	100% (4.44)	93.8% (4.44)	100% (4.64)	100% (4.50)	96.8% (4.47)	90.6% (4.41)
FIM	90.4% (4.38)	84.4% (4.32)	91.6% (4.44)	84.4% (4.31)	94.4% (4.56)	84.4% (4.34)	84.4% (4.13)	84.4% (4.31)

AIM, IAM, FIM utilized a Likert Scale (1-5): 1=Completely Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Completely Agree

[Table 1. Acceptability, Appropriateness, and Feasibility of the Intervention]

	Perceived Barrier at Baseline N=26, %*	Actual Barrier at Month 4 N=24, %*
Patient ability to keep monthly appointments	80.8	37.5
Patient transportation for monthly appointments	76.9	37.5
Flagging/awareness of missed injection visits	73.1	45.8
Staff Resourcing for clinic flow	53.8	37.5
Rescheduling missed injections	50.0	20.9
Patients failing CAB+RPV LA due to missed doses/injection visits	50.0	16.6
Management of patients presenting to injection visits with other care needs	50.0	33.4
Patient injection pain/soreness	46.1	41.7
*Proportion of clinic staff who Agreed or Completely Agreed, using a 1-5 rating scale where 1=Completely Disagree and 5=Completely Agree		

[Table 2. Top Rated Barriers to Implementation- All Staff]

CONCLUSIONS: CAB+RPV LA was highly acceptable, appropriate, and feasible for a large majority of staff across HIV care settings. Top rated perceived barriers at Baseline were patient ability to keep monthly appointments, transportation, and awareness of missed injection visits. At M4, a smaller proportion of staff reported these barriers, suggesting CAB+RPV LA implementation concerns notably decrease after an initial implementation phase.

LBPEE43

ADAPTING AND OVERCOMING TO THE CHALLENGES OF HIV PREVENTION AND TREATMENT ACTIVITIES UNDER THE THREAT OF SARS-COV-2 IN MYANMAR

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BACKGROUND: Myanmar is a resource-limited country in South-East-Asia with 54 million people. HIV is concentrated in key populations of people who inject drugs (PWID), men who have sex with men and female sex workers, with respective prevalence of 19.0%, 6.4%, and 5.6% while the general population is below 1%. The first COVID-19 case was confirmed on 23rd March. Although the number of confirmed cases remained low in Myanmar, it leads to an outbreak of fear and threatened routine health care services. Medical Action Myanmar is a non-profit medical organization working for primary health care integrated with HIV prevention and treatment services with support of PEPFAR and other donors. The total general clinic visits and the new HIV testing uptake dramatically reduced to 40% and 15% respectively of what we have achieved before. HIV patients experienced a surge of fear, stigma, and virus-shaming and avoided routine care. It is critical to explore the possible ways to maintain HIV care activities under pandemic.

DESCRIPTION: The clinic team is transformed into Covid-19 triage team, equipped with personal protection, continues HIV care especially for life threatening opportunistic infections while the stable patients are on multi-month ART dosing. The outreach prevention activities continue either with small team or individual visits. Many activities are adapted into e-communications including online platforms, one-to-one health education, individual condoms delivering, phone-based compliance monitoring. The trained community volunteers based the needle and syringe dispensing model helps PWIDs to get the continuous supply of sterile needles and syringes during pandemic.

LESSONS LEARNED: Consequently, the similar ART patients' consultations were maintained as in non-COVID-19 period (6,009 in April 2019 vs. 6,630 in April 2020). No additional ART drop-out cases were seen during the pandemic. For HIV prevention, 98% of the sterile needle and syringe supply (55,379 in January 2020 vs. 54,098 in April 2020) and 60% of condoms distribution achievement (49,354 in January 2020 vs. 29,612 in April 2020) were maintained in compare with the period before the pandemic.

CONCLUSIONS/NEXT STEPS: Our results highlighted that we can continue HIV prevention and treatment activities under the COVID-19 pandemic threat and should be copied in many other similar settings.

LBPEE44

RAPID ADAPTATION OF HIV DIFFERENTIATED SERVICE DELIVERY PROGRAM DESIGN IN RESPONSE TO COVID-19: RESULTS FROM 14 COUNTRIES IN SUB-SAHARAN AFRICA

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BACKGROUND: Countries around the world have launched less-intensive treatment models for people living with HIV (PLHIV) doing well on antiretroviral therapy (ART). These differentiated service delivery (DSD) approaches include both facility and community-based individual and group models. The HIV Coverage, Quality, and Impact Network (CQUIN) is a south-to-south learning network of 14 countries in sub-Saharan Africa (SSA) designed to foster the implementation of high quality DSD at scale. In April 2020, CQUIN conducted a rapid survey to understand the impact of the COVID-19 pandemic on DSD policy and implementation in the first weeks of the pandemic response.

DESCRIPTION: CQUIN supports a community of practice of National DSD Coordinators from each network country. These 14 experts, situated at Ministries of Health, communicate regularly, virtually and in person. On April 3, we circulated questions about changes to the national HIV-DSD program response. The Coordinators reviewed and confirmed the policy changes the week of April 13 and updated results the week of May 4.

LESSONS LEARNED: Within weeks of the first reports of COVID-19 in SSA, all 14 countries made substantive changes to their national DSD programs. Aiming to protect PLHIV and health care workers and enhance program resilience, the most common adaptation was the expansion of multi-month dispensing (MMD) to decrease health facility visit frequency. Ten countries expanded MMD eligibility, including four that waived requirements for HIV viral load suppression

for people on ART, six that newly permitted MMD for people initiating ART, and three that newly included pregnant/breast-feeding women and virally suppressed children above 2 years. Seven countries increased the amount of ART dispensed via MMD and nine enabled MMD of tuberculosis preventive treatment. Other changes included canceling or redesigning group models to enhance social distancing. Eight countries canceled > 1 model, including facility-based groups and Teen Clubs. Countries also expanded clinic hours, enhanced Fast Track service, and expanded community- and home-based drug delivery.

CONCLUSIONS/NEXT STEPS: COVID-19 spurred rapid changes in the design and delivery of HIV treatment amongst countries in the CQUIN network, which were able to leverage experience with less-intensive DSD models, MMD, and community-based treatment strategies to swiftly adapt their HIV treatment programs.

LBPEE45

DELIVERING PREP TO HOMELESS PEOPLE WHO USE DRUGS: INNOVATIONS IN LOW-THRESHOLD PREP PROGRAMMING

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BACKGROUND: New HIV clusters are being identified among homeless people who use drugs (PWUD) in the U.S. Northeast and other regions. Antiretroviral pre-exposure prophylaxis (PrEP) is efficacious and recommended for HIV prevention in all at-risk populations; however, uptake remains low. Among numerous structural barriers to PrEP implementation is the widespread belief that homeless PWUD are not good candidates for PrEP.

DESCRIPTION: Boston Health Care for the Homeless Program (BHCHP) is a federally-qualified health center serving >10,000 individuals experiencing homelessness. On the front-lines of the statewide response to HIV transmission among PWUD, BHCHP implemented innovative "low threshold" services to increase PrEP uptake and retention, including intensive PrEP navigation to engage homeless PWUD, a dedicated PrEP nurse, same-day PrEP evaluations and prescribing without face-to-face physician consultations, short-term prescribing, and on-site medication storage. Descriptive statistics summarize linkage, prescription, and appointment data from electronic medical records in the first 18 months of this program.

LESSONS LEARNED: From 10/2018-2/2020, BHCHP linked 239 homeless PWUD to PrEP services. Median age was 37, 41% identified as female, nearly one-quarter were Latinx, 19% Black, and 7% had a primary language other than English. Nearly three-quarters had a history of injection drug use. Of 239 linked to PrEP services, 152 (64%) were prescribed PrEP, more than three-fold higher than the number of PrEP prescriptions (n=48) in the year prior to the roll-out of the low threshold PrEP program. Of those prescribed PrEP, 85% picked up their prescriptions. Among those prescribed PrEP, 67% were still on PrEP at 3 weeks, 40% at 3 months, and 25% at 6 months.

CONCLUSIONS/NEXT STEPS: PrEP linkage and retention rates in BHCHP's "low threshold" PrEP program are comparable to those documented among other populations, including among men who have sex with men attending sexual health clinics, a group for which PrEP has been targeted for nearly a decade. Innovative, culturally-competent strategies to engage and retain homeless PWUD can be successfully implemented in a community setting. These approaches should be considered in a range of service settings, possibly including syringe service programs and shelters, to increase PrEP access in at-risk homeless populations to avoid future outbreaks.

LBPEE46

IDENTIFYING HIGH RISK POPULATIONS FOR TARGETED TESTING AND RAPID TREATMENT RESPONSE FROM A COVID-19 SCREENING AND TESTING COHORT IN SOUTH AFRICA: AN OBSERVATIONAL DATA ANALYSIS

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BACKGROUND: Globally, health systems have demonstrated limited testing and treatment capacity to manage critically ill patients in the current COVID-19 pandemic. Older people and people with uncontrolled pre-existing conditions are at high risk of adverse outcomes. Early identification of high-risk populations with targeted testing and rapid treatment response could contribute to curbing the burden on the health system. A cohort of data from Mpumalanga Province was analysed to observe the frequency of co-morbidity and age distribution during the national screening and testing campaign in South Africa.

DESCRIPTION: Community Healthcare Workers in the Mpumalanga Province of South Africa conducted community screenings to identify people with presumptive COVID-19 infection in the province. The screening tool used was designed to identify co-morbidities that included HIV, TB, COPD, obesity, cardiac disease, asthma, diabetes and hypertension. An analysis was then conducted to observe the co-morbidity frequency within the cohort of 549,662 screenings. Age and gender distribution were also analysed.

LESSONS LEARNED: We observed that the two most prevalent co-morbidities within the cohort were HIV and hypertension. However, comparing presumptive versus non-presumptive cases in each co-morbidity as a percentage; COPD and TB had the highest prevalence within presumptive cases. The age and gender distribution demonstrated that more females than males were screened and that the highest number of screenings were ranged from 5 and 14 years and 25 to 34 years. Most presumptive cases were aged 80 years and above amongst both males and females.

Co-morbidity	Presumptive	Non-presumptive	Ratio
COPD (Chronic obstructive pulmonary disease)	8.9%	2.0%	4.37
TB	8.0%	2.7%	2.91
Obesity	9.9%	3.8%	2.57
Cardiac disease	6.1%	3.3%	1.84
Asthma	9.4%	6.7%	1.39
Diabetes	10.8%	11.2%	0.97
HIV	25.8%	33.0%	0.78
Hypertension	21.1%	37.1%	0.57

[Table 1 – Co-morbidities reported for presumptive COVID-19 cases]

CONCLUSIONS/NEXT STEPS: A high prevalence of HIV and hypertension in people with suspected COVID-19 infection underscores the importance of continuously monitoring this population to ensure treatment adherence. However, the observational data further indicated that the highest risk populations remains with COPD, TB and elderly populations. This information can better inform Departments of Health to proactively activate targeted testing and treatment triage within their province.

LBPEE47

TELEHEALTH FOR THE CONTINUATION OF SAME-DAY ANTIRETROVIRAL THERAPY DURING THE COVID-19 OUTBREAK AND BEYOND

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BACKGROUND: During the COVID-19 pandemic, antiretroviral therapy (ART) initiation and maintenance practices have significantly adapted to resource constraints in overwhelmed public health systems. Travel restrictions and lockdown have affected access to ART facilities. Same-Day ART initiation (SDART) has been implemented at the Thai Red Cross Anonymous Clinic (TRCAC) in Bangkok since 2017. Telehealth was added to continue service delivery while maintaining social distancing during COVID-19. As part of the USAID/PEPFAR-funded LINKAGES project, we report feasibility and safety of telehealth to assist SDART follow-up at TRCAC.

METHODS: TRCAC continued SDART service during COVID-19. Telehealth with ART consultation and targeted physical examination conducted by doctors through LINE application video call was rapidly incorporated into follow-up visits the last week of March 2020. ART-naïve clients who agreed to SDART at TRCAC were clinically assessed. If eligible, clients received a four-week ART supply the same day as HIV diagnosis. Follow-up was scheduled two weeks thereafter using telehealth. Clients who tolerated ART well were referred to long-term ART facilities according to their health insurance scheme and another six-week ART supply was mailed to ensure ART continuation during the transition.

RESULTS: Sixty-nine clients (93.2% of those who accepted SDART) initiated SDART March 30–May 15, 2020. Median (IQR) time from HIV diagnosis to ART initiation was 1 (0–2) day. Of these, 68 (98.5%) accepted telehealth follow-up. Of 47 clients who reached the two-week follow-up, 37 (78.7%) used telehealth. Among the 10 (21.3%) who came for in-clinic follow-up, two had rashes, three needed syphilis injectable treatment, and five wanted face-to-face consultations. No one discontinued ART. Rashes were identified in four clients, and two (50%) were managed through telemedicine. Overall, follow-up visits were successfully conducted in 100% of 47 clients, compared to 97.2% of 105 clients from the same period last year.

CONCLUSIONS: Incorporating telehealth follow-up for SDART was highly acceptable and feasible in an HIV testing center in Bangkok. Telehealth is a safe and promising differentiated ART service delivery method, even for clients who just started on ART. Equity, economic, and sustainability aspects of SDART telehealth should be explored beyond its application during the COVID-19 pandemic.

LBPEE48

HEALTH CARE DISRUPTION AND MENTAL HEALTH AMONG PEOPLE LIVING WITH HIV DURING COVID LOCKDOWN IN ARGENTINA

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BACKGROUND: To mitigate the rapid spread of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the coronavirus that is the causative agent of the Corona Virus Disease 2019 (COVID-19), enforced lockdown (quarantine) began in Argentina on March 20 with 158 confirmed cases. Lockdown is especially important for high-risk individuals such as older adults (>60 years) and persons with underlying medical conditions, including people living with HIV (PLWH). PLWH may be at higher risk for severe illness from COVID-19, and also for mental health complications. This cohort study examines the impact of COVID-related stress and enforced lockdown on mental health and treatment adherence among PLWH in Argentina.

METHODS: Participants were PLWH enrolled in a private/social security clinic network, the largest provider for HIV healthcare in Argentina. Participants completed an anonymous online survey assessing adherence to HIV treatment, COVID-19 prevention behavior, disruptions to resources, psychosocial factors, and substance use.

RESULTS: A total of 1336 participants (892 men and 444 women), aged between 18-82 years, residing mostly in Buenos Aires Metropolitan Area (94.1%) completed the online survey. Participants reported high adherence to lockdown (96.8%); difficulty in obtaining basic necessities such as food or clothing (41%) and 35% reported challenges in utilizing telehealth or internet-delivered medical services. Similarly, 10% reported disruption in obtaining non-HIV medication, and 4% reported HIV medication disruption; 33% reported suboptimal adherence. Discontinuation of mental health treatment was reported by 10%, though only 1% reported substance use treatment disruption. Mental health challenges were frequent: depression (16%), loneliness (18%), anxiety (20%), stress (35%) or irritability (10%). Abuse (sexual, emotional or physical) was reported by 7%.

CONCLUSIONS: High adherence to prevention measures was reported among PLHV. The impact of COVID-stress and enforced lockdown in Argentina on emotional health is apparent and may be impacting medication adherence. Challenges to provision of telehealth services, though more likely to be accessible to those with private insurance, were common. Results highlight the importance of providing support for health care services that can reach all PLWH during lockdown, to promote health and adherence to treatment and to empower PLWH with strategies to cope with stress and adversity during the pandemic and beyond.

LBPEE49

VULNERABILITY, TRAUMA AND RESILIENCY IN THE FACE OF CORONAVIRUS ADVERSITY: PRELIMINARY RESULTS AMONG A COHORT OF PEOPLE LIVING WITH HIV IN ONTARIO, CANADA

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BACKGROUND: Resilience, or positive adaptation to challenging situations, has potential to improve health outcomes for people living with HIV (PLWH), particularly during periods of crisis. The objective of this study was to assess the psychosocial impact of the coronavirus crisis on PLWH's resiliency beliefs and behaviours.
METHODS: The Ontario HIV Treatment Network Cohort Study (OCS) is a community-driven longitudinal, clinic-based cohort of over 9000 PLWH who have received care in Ontario, Canada. On March 17, 2020, the province declared a public health crisis and introduced physical distancing measures to minimize the spread of COVID-19. On April 30, 2020, a new 35-item COVID-19-specific module was added to the interviewer-administered questionnaire. Interviews were conducted virtually. Experiences of self-isolation, perceptions of vulnerability, trauma and resiliency beliefs and behaviours are described.
RESULTS: Preliminary results are included for 52 responses collected by May 22, 2020, including 25 women and 27 men (median age: 51 years), 56% White, 42% Black and 48% identified as gay/lesbian/bisexual/queer. 85% reported self-isolation (stayed home all/nearly/most of the time). A majority felt that HIV made them more vulnerable to COVID-19: 57% believed that PLWH had increased chances of catching COVID-19, and 79% believed PLWH were more likely to get seriously ill with COVID-19. Some believed that PLWH are more likely to be denied a ventilator (29%) and that PLWH would not receive equivalent care (13%). Participants exhibited high levels of traumatic recurring thoughts (at least once a week) about the loss of family/friends (58%), past experiences of isolation (31%), dying (31%), people lost due to HIV/AIDS (28%) and/or flashbacks of the AIDS crisis (23%). Conversely, participants exhibited resiliency beliefs and behaviours including, employed creative ways to alter difficult situations (73%), controlled their reactions (92%) and believed they could grow in positive ways by dealing with difficult situations (85%).
CONCLUSIONS: Despite PLWH feeling more vulnerable, perceiving stigma in healthcare if they were to acquire SARS-CoV-2, and experiencing traumatic recurring thoughts, they exhibited strong resiliency beliefs and behaviours. During this period of crisis, resiliency has the potential to be a powerful resource in fostering positive adaption among PLWH and could be essential for effective psychosocial interventions.

LBPEE50

ENSURING ACCESS TO SOCIAL PROTECTION BENEFITS FOR KEY POPULATIONS (KPS) AND PEOPLE LIVING WITH HIV (PLHIV) BY NATIONAL AIDS CONTROL ORGANISATION (NACO) UNDER THE COVID-19 SITUATION

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BACKGROUND: India is estimated to have 2.2 million PLHIV and the national programme is covering over 1.2 million key population (KP) belonging to MSM, FSW, IDU, Hijra/TG community. The recent COVID-19 pandemic has impacted the lives of KPs and PLHIV in terms of livelihood, nutrition and access to services. It was important for NACO to respond to this pandemic situation and ensure Social Protection (SP) benefits to KPs and PLHIV to mitigate the impact of COVID 19.
DESCRIPTION: NACO acted swiftly by engaging key ministries, development partners, community and Civil Society Organizations to ensure access of SP benefits to KPs and PLHIV. NACO organized a national level virtual consultation involving key stakeholders to work out strategies and based on the outcomes of the consultation, the following process was adopted: 1) Key ministries with whom NACO has signed MoU were mobilized for providing SP benefits to KPs and PLHIVs, 2) States were geared up through letters received from NACO to map the population and reach out to beneficiaries, 3) SoP was issued to States to scale up efforts for providing SP benefits, 4) responsibilities were given to partners and mobilize their resources, 5) Communication materials on COVID 19 and HIV were developed and shared with States; 6) Hand-holding of States through virtual meetings and 7) Information through Helpline.
LESSONS LEARNED: 18 key ministries were mobilized to extend SP benefits to KPs and PLHIV. All 37 States/UTs mobilized the line departments for extending support for PLHIV and KPs. More than 0.2 million KPs and PLHIV were provided with minimum package of SP benefits namely nutrition, pension and medical services apart from grocery, sanitizers and masks. Financial assistance was also released to over 20,000 beneficiaries and special permissions were obtained for home delivery of ARV drugs to PLHIV.
CONCLUSIONS/NEXT STEPS: Providing the KPs and PLHIV with SP benefits is not a responsibility of one department but is a collective response of various departments. In this pandemic situation, it is crucial to work closely with the departments, partners, community, private sector and NGOs to provide social security benefits to KPs and PLHIV and build capacity of the community for resilience.

LBPEE51

ESTIMATED COSTS OF COMMUNITY-BASED ANTIRETROVIRAL THERAPY DELIVERY AMIDST COVID-19 LOCKDOWN IN MID-WESTERN UGANDA

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BACKGROUND: People living with HIV/AIDS (PLHA) in Uganda have had challenges accessing antiretroviral therapy (ART) following a national lockdown to mitigate COVID-19. In response to these chal-

lenges, Baylor College of Medicine Children's Foundation-Uganda (Baylor-Uganda) implemented a community-based ART delivery (CBAD) strategy to sustain continuity of ART for PLHA in mid-western Uganda. Before the lockdown, PLHA used public transport at their own cost to come to health facilities. We estimated additional costs to Baylor-Uganda in supporting this approach amidst the lockdown.

METHODS: To sustain the new CBAD strategy in which health workers deliver ART to homes of clients missing clinic appointments, Baylor-Uganda incurs additional costs including staff transport and allowance, motorcycle repairs, purchase of delivery envelopes, airtime. Based on financial records for the period 9th - 26th April 2020, we computed the unit cost to deliver ART to one client by dividing total direct cost by number of clients who received HIV medicines at home. We estimated the regional cost of delivering ART by multiplying unit cost (USD) by total patients who will miss their appointments within 1st April - 30th May 2020.

RESULTS: Between 9th and 26th April 2020, $1,638 were spent on staff transport, allowance, airtime, motorcycle repairs and envelopes to reach 586 clients who had missed their clinic appointment in Kasese district. This is equivalent to a unit cost of $2.80 per patient delivered ART. With an estimated 15,000 clients scheduled between 1st April and 30th May 2020 and 27% of clients currently missing their appointments, we estimated a total $11,319 would be required to sustain the CBAD initiative for two months in the nine districts of Rwenzori region (table1). A total of $33,957 would be needed if CBAD strategy continues for the next 6 months and $28,861 factoring in a 15% proportion receiving multi-month refills. An estimated 3,395 new HIV positive clients would have been identified using the same $28,861 under assisted partner notification modality ($8.5).

Staff transport, allowance & Airtime	Envelopes	# clients delivered ART	Unit cost	Clients to miss appointments (1st April - 30th May 2020)	Total cost (UGX)	Total cost in 2 months (USD)	Total cost in next 6 months (USD)
5989036	234400	586	10620	4050	43,011,801	11319	33957

CONCLUSIONS: HIV service providers will require extra planning and budgetary support in order to maintain continuity ART for PHLA during epidemics and other emergencies.

LBPEE52

ASSESSING THE PREVALENCE OF DEPRESSIVE SYMPTOMS AMONG PREP USERS DURING THE COVID-19 OUTBREAK IN MEXICO. A LATENT CLASS ANALYSIS

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BACKGROUND: Recent reports alert about increasing levels of depression and other mental health problems resulting from the COVID-19 pandemic. However, the impact of the COVID-19 outbreak on the mental health of populations at high risk for HIV has not been documented. We assess the prevalence of depressive symptoms (DS) among Mexican men who have sex with men (MSM) and explore the association with consequences of the COVID-19 pandemic.

METHODS: We conducted an online survey among 595 MSM assessing DS using the Center for Epidemiological Studies Depression Scale (CESD-10). We compared the results to previously self-reported DS among the same population and to national data. We applied latent class analysis (LCA) to identify groups with similar burdens resulting from the COVID-19 pandemic and their association with DS using logistic and quantile regression models.

RESULTS: The prevalence of significant DS was 53%; six-fold higher than DS reported before the outbreak (8.6%). Younger participants, those without social support and with high risk of acquiring COVID-19 reported higher DS. By LCA posterior probabilities we identified three classes: (1) minimally impacted by COVID-19 (54% of the population), (2) objective risk factors for COVID-19 (41%), and anxiety and economic stress caused by COVID-19 (5%). The prevalence of DS was 45%, 60%, and 80% for class one, two, and three respectively. Compared to those in class one, the odds to have significant DS increased with factor 5 for those in class three (OR 5.0, 95% CI 1.8-14.1). Among the most depressed, COVID-19 related variables were not associated with their CESD-10-score.

CONCLUSIONS: To our knowledge, this is the first study to assess the relationship between DS COVID-19 consequences among MSM. Our findings suggest high levels of depression among PrEP users in Mexico during the COVID-19 pandemic associated with the objective perception of risk for COVID-19 infection and with economic stress caused by the preventive measures adopted in Mexico. Given the characteristics of this population our results also highlight the need for targeted psychological interventions.

LBPEE53

COVID-19 PANDEMIC INCREASES SOCIOECONOMIC VULNERABILITY OF LGBTI+ COMMUNITIES AND THEIR SUSCEPTIBILITY TO HIV

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BACKGROUND: The COVID-19 pandemic and its public health response are causing an historical crisis that has exacerbated prevailing inequalities. It may worsen economic circumstances of LGBTI+ people, which might increase their exposure to HIV. This study's purpose is to estimate the effect of COVID-19 on economic vulnerabilities among LGBTI+ globally and their subsequent susceptibility to HIV infection.

METHODS: We conducted a cross-sectional online survey from 16/04 to 18/05/2020, combining established instruments with questions related to COVID-19. LGBTI+ community members were involved in each step of the survey development. The survey covers access to HIV services, employment, economic vulnerability, behavioural economics, health, sex work and drug use. The questionnaire was available in 10 languages and broadcasted online among LGBTI+ social networks.

RESULTS: We collected responses from a convenience sample of 13,562 LGBTI+ participants from 138 countries/territories. About 91% of respondents were partly or entirely confined, leading to impacts on their economic situation. For example, among participants living with HIV (n=1,140), a quarter (26%) have experienced interrupted or restricted access to refills of ART medication. Out of this group, over half (55%) have a month's stock supply or less or ART available.

Half (47%) of those currently working (n=9,478) are expecting to lose their employment in the wake of the COVID-19 crisis and 12.6% already lost it. This has immediate consequences for 45% of the respondents facing economic difficulty; 73% could not meet their basic needs; 37% had to skip meals or reduce meal sizes. The crisis pushed 1% of the respondents to start engaging into sex work. Among those engaged in sex work (n=1,532), the economic situation induced by COVID-19 has reduced their capacity to negotiate safe sex practices, resulting in more condomless relations (3%), or taking more risks (7%), increasing their exposure to HIV. Finally, the COVID-19 crisis reduced access to safe injection equipment for 36% of those injecting drugs (n=224). It also limited the access to opioid substitution therapy for 26% of those who need it.

CONCLUSIONS: The COVID-19 and its responses has increased the socioeconomic vulnerability among the LGBTI+ community, threatened their health and increased their susceptibility to HIV infection.

TRACK F

LBPEF54

LESSONS LEARNT ON THE FRONTLINE: IMPACT OF COVID-19 ON LGBT COMMUNITIES AND COMMUNITY-LED RESPONSE MECHANISMS IN AFRICA AND THE CARIBBEAN

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BACKGROUND: The Frontline AIDS Rapid Response Fund provides LGBT people across Africa and the Caribbean with small grants to continue accessing HIV services and address human rights barriers in emergency situations. The Fund has managed a threefold increase in application numbers since the outbreak of COVID-19.

DESCRIPTION: 35% of all grants have addressed housing and related livelihood needs, highlighting that precarious living situations exacerbate LGBT people's vulnerability to HIV and limit access to effective treatment. Analysis of 300 applications since March 2020 and rapid research with grantees in April 2020, evidences how COVID-19 has further restricted social and economic rights for LGBT people, many of whom are migrants and sex workers. Loss of income; exclusion from social protection schemes; exclusion from national COVID-19 responses; interruption of HIV services, have increased LGBT communities' vulnerability to COVID-19, interruptions of ART and hormone therapy, and exposure to targeted human rights abuses.

LESSONS LEARNED: Resilient community-led responses have proven vital for supporting LGBT people vis-a-vis COVID-19. Mechanisms include, firstly, knowledge of human rights apparatuses and the ability to utilize them; and, secondly, adaptability of services to new challenges. Adaptations have included home delivery of medication; remote adherence groups; cash transfers; food supplements; and rent support. Supporting LGBT organisations' functionality has proven an importance outcome for maintaining trust with clients in environments hostile to LGBT rights. Strong political leadership and resources are required to sustain the resilience of community-led responses for the COVID-19 outbreak and aftermath.

CONCLUSIONS/NEXT STEPS: Rapid responses and prioritising the socio-economic determinants of health are key for effectively supporting LGBT communities within COVID-19 responses in Africa and the Caribbean. Community-led response mechanisms working collaboratively with the governments and donors are best placed to address the needs of LGBT people. This analysis informs decision-making among national governments and donors about key priorities and effective methods for mitigating the negative impact of COVID-19 on LGBT communities. The analysis evidences the need for health planners and donors to address the social and economic rights of LGBT people as a key determinant of health outcomes-both in relation to COVID-19 and HIV.

LBPEF55

CALL FOR LIFE; SUPPORTING PEOPLE LIVING WITH HIV (PLHIV) WITH AN INTERACTIVE VOICE RESPONSE TOOL DURING THE COVID-19 LOCKDOWN IN UGANDA

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BACKGROUND: During the COVID-19 outbreak, Uganda's government issued a "lockdown" preventing all public (22nd March 2020) and private transport (28th March 2020), causing challenges for PLHIV and health care workers. We have been using Call for Life (CFL), web-based mHealth Interactive Voice Response tool, since December 2016 to support ART adherence. We present an evaluation of lockdown and COVID-19 related issues reported through CFL.

METHODS: CFL sends weekly automated calls to registered PLHIV attending three health facilities in 3 languages. CFL records self-reported ART adherence, and gives health information. PLHIV can report symptoms/concerns; CFL nurses receive alerts and phone PLHIV to give telephone advice. Alerts generated, concerns raised and responses to patients were analysed. Health facility patient records were used for demographics. Descriptive statistics used frequency and percentages for categorical variables and median and interquartile range for continuous variables.

RESULTS: Between 31.3.2020-11.05.2020, CFL initiated 38,588 calls, with 12,628 (32.7%) completed successfully, to 3421 PLHIV. 478 alerts from 367 PLHIV were generated, 329 (68.8%) from females among 566 patients. 382 alerts (79.9%) were true alerts, while 96 (21.1%) were unverified for reasons such as failure to contact the patient and mistaken reporting. 566 symptoms/concerns (some alerts produced

more than one concern) were reported (Table 1). 143 were COVID lockdown related; 126 concerned access to ART, 5 had food insecurity and 12 were concerned about access to medical care for other conditions. Two PLHIV had direct COVID related queries.

CATEGORY OF ALERTS	SYMPTOMS/CONCERNS REPORTED IN ALERTS	Infectious Diseases Institute Frequency	Kasangati Frequency	Kisenyi Frequency	Total Frequency	%
HIV related	ART drug related	4	2	5	11	1.9
	Non ART drug related	7	2	1	10	1.7
General Medical complaints	Respiratory symptoms	32	15	3	50	8.3
	Symptoms of febrile illness	25	73	4	102	18.0
	Other symptoms	151	78	19	248	43.8
COVID-19 related alerts	Anxiety/request for information	0	0	2	2	0.1
Lockdown related alerts	Guidance on access to general health care	11	1	0	12	2.14
	Food insecurity	4	1	0	5	0.8
	Inquiry on ART refills and access	92	14	20	126	22.3

[Table 1: Showing frequency and symptoms/concerns of alerts.]

CONCLUSIONS: During lockdown, CFL has provided key support to PLHIV through connection to nurses who provided information on ways of accessing ART such as alternative facilities. Simple phone based adherence tools can support continuity of HIV care during the oubreak, by allowing triage of PLHIV concerns. Lessons from COVID-19 can support differentiated care once the pandemic is controlled.

LBPEF56

COSTS SAVINGS TO PATIENTS WHO RECEIVED ANTIRETROVIRAL THERAPY DELIVERED AT HOME BY COMMUNITY ART MANAGEMENT (CAM) TEAMS DURING THE COVID-19 PANDEMIC IN CROSS RIVER STATE NIGERIA: A CROSS-SECTIONAL STUDY

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BACKGROUND: The SARS-COV-2 (COVID- 19) pandemic has exposed weaknesses in the health and economic systems of almost all countries. Nigeria with a weak health infrastructure and high poverty rates could be more vulnerable to the impact of the pandemic. The USAID funded Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project adopted the CAM initiative which extends HIV services into the community. The purpose of this study was to assess the CAM approach as a cost-saving model for alleviating the economic impact of COVID-19 for clients on antiretroviral therapy (ART) in Cross River State.

METHODS: CAM teams (composed of medical doctors, pharmacists, medical laboratory scientists, partner notification officers, data entry clerks, case identification experts and case managers) provided home-based ART and COVID-19 awareness information to patients amidst movement restrictions in the state. We estimated cost savings to patients in terms of transportation costs to health facilities and accounted for COVID-19-related escalations in transportation fare by multiplying pre-COVID 19 fare rates by a factor of 1.5 for all categories.

RESULTS: A total of 1461 HIV patients were provided with ART refills, screened for; TB, gender-based violence (GBV), hypertension and diabetes. They were provided with information on COVID-19 and preventive measures. Of the 1461, 999 (68.4%) were female, 1249 (85.5%) were served in rural but accessible areas while 216 (17.9%) were served in hard-to-reach areas. Furthermore, 417 (77.7%) of the 537 clients eligible for viral load assessment had their blood samples taken. The total estimated economic cost for transportation was $170.36-$8,305.85), comprising 151(10.3%) at $0.26 – $1.28 cost, 245(16.8%) at $1.28 - $2.56 cost, 574 (39.3%) at $2.56 - $5.13 cost, 367(25.1%) at $5.13 - $12.82 cost, 84(5.7%) at $12.82 - $25.64 cost and 40 (2.7%) persons at >$25.64 cost.

CONCLUSIONS: Patients who received antiretroviral therapy at home had substantial cost savings. Those savings could be used to address other livelihood needs, particularly for rural dwellers. While these costs come at the expense of the program, CAM teams ensured refills, provided adherence support and delivered COVID-19 related information.

LBPEF57

ADVANCING ETHICAL HIV/CO-INFECTIONS RESEARCH IN PREGNANCY: GUIDANCE FROM THE PHASES WORKING GROUP

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BACKGROUND: Numerous barriers to the inclusion of pregnant women in biomedical research have resulted in profound evidence gaps about how to safely and effectively treat and prevent HIV and co-infections during pregnancy and ethically address new threats to their health. Pregnant women deserve a robust and timely evidence base to better protect them and their offspring from undue risks and ensure timely access to new medicines. Yet a complex set of challenges - regulatory, oversight, and funding patterns, and confusion about ethical principles that should frame such research - have made adequate progress difficult.

DESCRIPTION: To address this pressing need and advance responsible research with pregnant women, the Pregnancy and HIV/AIDS Seeking Equitable Study (PHASES) Working Group – an international and interdisciplinary group from across the HIV research and advocacy community – has worked since 2017 to develop and finalize ethics Guidance. Recommendations are directed to multiple stakeholders and aim to secure better, earlier, and more systematic evidence on safely and effectively treating and preventing HIV and co-infections during pregnancy.

LESSONS LEARNED: These 12 final recommendations aim to decrease the likelihood that drugs used in pregnancy carry undue risks; to increase pregnant women's timely access to needed drugs; and to advance equitable representation of pregnant women's own health outcomes in studies: 1) affirm the need for research with pregnant women; 2) formalize a global network for advocacy and resources;

3) enhance training; 4) design for inclusion; 5) review for inclusion; 6) ensure equitable attention to pregnant women's own health; 7) integrate PK studies; 8) enhance post-approval safety assessments; 9) address legacy evidence gaps; 10) respect and support women's decisional authority; 11) ensure fair access to life-saving experimental drugs, and 12) contextualize risk findings.

CONCLUSIONS/NEXT STEPS: The global HIV research community has long been an exemplar of finding pathways to address complex and underserved communities, and has demonstrated that ethical and impactful research with pregnant women *is* possible. As we continue to work together to end HIV and co-infections and face emergent pathogens, adoption of these recommendations will critically advance equitable attention to a centrally affected population, pregnant women and the children they bear.

LBPEF58

THE AFFORDABLE CARE ACT AND HIV PRE-EXPOSURE PROPHYLAXIS: REGIONAL DISPARITIES IN QUALIFIED HEALTH PLAN COVERAGE AND PRIOR AUTHORIZATION REQUIREMENTS, 2018-2020

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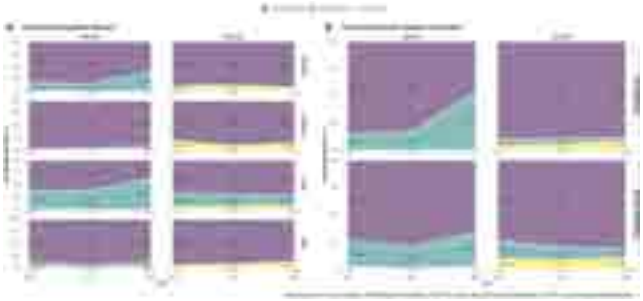
BACKGROUND: In October 2019, tenofovir alafenamide/emtricitabine (TAF/FTC) joined tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) as an approved formulation for HIV Pre-exposure Prophylaxis (PrEP). PrEP is a key component of the Ending the HIV Epidemic (ETE) Initiative to curb new HIV diagnoses. We aimed to assess if there were differences in Qualified Health Plans' (QHPs) coverage and prior authorization (PA) requirements.

METHODS: Using chi-square tests, we compared coverage and PA requirements for TDF/FTC and TAF/FTC by region and ETE Phase 1 jurisdiction status among all QHPs offered in the Affordable Care Act Marketplace for 2018-2020.

RESULTS: QHPs (2018: n=19444, 2019: n=17003, 2020: n=20650) covered TDF/FTC at a higher rate than TAF/FTC (99.0% vs 92.4%, 100.0% vs. 92.8%, 98.9% vs. 91.2%, in 2018-2020, respectively, p<0.001). Southern and Midwestern QHPs required PA for TDF/FTC at higher rates for 2018-2020; from 2019 to 2020, the rates of PA for TDF/FTC approximately doubled in the South and Midwest (Figure 1A, p<0.001). Northeastern and Western QHPs had lower coverage of TAF/FTC, and Southern QHPs required PA for TAF/FTC at the highest rates for 2018-2020 (p<0.001). Coverage of TDF/FTC and TAF/FTC were higher in ETE jurisdictions (Figure 1B, p<0.001). PA for TDF/FTC was higher in ETE jurisdictions whereas PA for TAF/FTC was lower (p<0.001).



[Figure 1. Coverage and prior authorization requirements for TDF/FTC and TAF/FTC with affordable care act qualified health plans 2018-2019]

CONCLUSIONS: Despite both including indications for treatment and biomedical prevention in 2020, there are differences in coverage and PA between the two formulations in 2020. The differences could reflect differences in clinical indication or manufacturer discounted pricing; or anticipation of changing regulatory environment and emerging generic options. It is concerning to find high rates of PA for TDF/FTC in areas of the United States where HIV transmission occurs more frequently (South and ETE jurisdictions). The South already lags behind other regions for PrEP uptake. Regional disparities in PrEP PA may result in differential uptake and impede the ETE Initiative.

LBPEF59

CRIMINALIZATION OF CONSENSUAL SEX BETWEEN MEN ASSOCIATED WITH POOR ACCESS TO HIV-SERVICES FOR GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN WORLDWIDE: FINDINGS FROM GMHR 2019-2020

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BACKGROUND: Gay, bisexual men, and other men who have sex with men (GBMSM) are disproportionately impacted by HIV worldwide. Previous research has documented associations between sexual stigma (homophobia), health provider discrimination and poor access to health services. Less is known about the impacts of criminalization of consensual sex between men on access to HIV services.

METHODS: Using data from the Global Men's Health and Rights Study (n=1,825 from criminalizing & 4,361 from non-criminalizing countries), we conducted bivariate and multivariate analyses to compare GBMSM from criminalizing and non-criminalizing countries (drawing from ILGA World's 2019 State-Sponsored Homophobia report). We used chi-square test or Fisher's exact test to test bivariate differences in structural violence, community engagement, and HIV-service access. Multivariate analysis was conducted using variables that had a p<0.05 significance in bivariate analysis.

RESULTS: Globally, GBMSM had poor access to most HIV and other health services (Table 1). Compared to GBMSM from non-criminalizing countries, those from criminalizing countries were significantly more likely to be: younger, members of racial/ethnic minority groups, unemployed, sex-workers, unaware of their HIV-status; unable to financially meet needs, and uninsured. In addition, GBMSM in criminalizing countries were more likely to report provider-stigma and to have poor access to HIV-prevention, PrEP, HIV-Care and HIV-ART. Conversely, they were significantly less likely to have post-secondary education or community engagement (Table 2). Multivariable analysis revealed that GBMSM from criminalizing countries had higher odds of being under age 30, sex-workers and having unknown HIV-status; were more likely to report not having enough money to meet their needs; and more likely to report poor access to HIV-prevention, PrEP, and HIV-Care (Table 3).

CONCLUSIONS: Criminalization worsens access to HIV services and creates financial instability for GBMSM. As recommended by WHO, comprehensive HIV responses, inclusive of decriminalization and structural-level interventions, are essential to address the specific needs of GBMSM.

[Table 1: Overall access to health services]

LBPEF60

HOME-BASED ARV DELIVERY DURING COVID-19: FROM POLICY TO PRACTICE IN JAKARTA, INDONESIA

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BACKGROUND: Providing home delivery of antiretroviral medications is a promising option to ensure safe and sustained access to lifesaving HIV treatment among people living with HIV (PLHIV) where COVID-19-related lockdowns, quarantines, and physical distancing restrictions may impose substantial barriers to treatment retention. In Jakarta, Indonesia, the Provincial Health Office (PHO) incorporated home-delivery into official policy and is working with the USAID and PEPFAR-supported LINKAGES project to scale the practice through the Jak-Anter home-based ARV delivery system.

DESCRIPTION: In March 2020, the PHO introduced home-based ARV delivery into emergency regulations, setting in motion parameters for differentiated service delivery options. Social distancing measures limited the ability for community-based HIV service personnel to deliver ARVs to PLHIV, and the LINKAGES project was mobilized to create the Jak-Anter home-based ARV delivery system which utilizes ride-based apps and transport courier services to expedite implementation. Site-level performance incentives have also been introduced to quickly move the policy into practice. As of May 4, 2020, more than 1,300 PLHIV at 45 facilities in Jakarta were able to maintain access to HIV treatment through home delivery – 9% of all eligible PLHIV in 60 highest burden HIV treatment facilities.

LESSONS LEARNED: Advocacy emphasizing the safeguarding benefits of home delivery for both PLHIV beneficiaries and providers under COVID-19 was instrumental in securing implementation support. In Jakarta, Indonesia, branding and promotion, as well as site-based performance incentives for patient retention, is helping support rapid adoption.

CONCLUSIONS/NEXT STEPS: Jak-Anter is now being scaled across all HIV treatment facilities in Jakarta, and the surrounding metropolitan area, potentially serving up to 30,000 PLHIV in the coming months.

LBPEF61

BIOPOLITICS AND GOVERNMENTALITY IN THE AGE OF COVID-19: BIOLOGICAL CITIZENSHIP (OR LACK THEREOF) OF KEY POPULATIONS IN THE RESPONSE AGAINST HIV, HEPC & OTHER STIS DURING A NATIONAL LOCKDOWN

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BACKGROUND: Until now, 334 cases of COVID-19 have been detected in Mauritius with 10 fatalities. The enforcement of a national lockdown – which included closing the border, enforcing curfews, and closing all non-essential activities until 2nd June 2020 is among the many public health measures undertaken to contain the current epidemic. Left out of consideration and without dedicated resources to weather the lockdown are key populations (KP) living with HIV, Hep C, and other STIs. Biological citizenship allows to understand the exclusions faced by KPs these populations and their experiences of disproportionate hardships during the pandemic.

METHODS: The present work is based on 1) over 120 hours of individual ethnographic fieldwork as well as collective reports by KP individuals, 2) cleaned, coded, and disaggregated quantitative data and 3) policy analysis.

RESULTS: Data indicate that KPs in Mauritius are facing marginalization, exclusion, and a lack of resources at a disproportionate rate as compared to the public. Many KPs struggle to access proper existing medical services, address urgent medical needs, and obtain access to lifesaving help due to being barred from existing national social support systems like Social and Disability Aid and various pension systems. Methadone patients are being regularly deprived of their treatment, and national needle and syringe programs (NSPs) have been cut off at lockdown. In addition, due to increased surveillance during the pandemic, there is some evidence of human rights violations as PCs (e.g., sex workers) are being targeted under the law and order efforts by the State, through the Mauritius Police Force and Special Mobile Force (SMF).

CONCLUSIONS: PCs, disproportionately affected by a syndemic of diseases and social conditions, are still being left out of the national health care system in Mauritius due to their existing status as abject bodies. They are perceived as disposable at the hands of the State as sole decider of who is worthy of protection and who can be excluded without recourse. Initial data from the field suggest that KPs in Mauritius may be facing human rights violations at an alarming rate as they are targeted as causes and perpetrators, and in need of stricter policing and surveillance.

AUTHOR INDEX

A

A, M. OAB0507
A. Adusei-Poku, M. PEA0015
Aaron, L. OAB0505
Aba, J.C.A. PEE1594
Abad, A. PEB0127, PEB0225, PEB0237
Abad, C. PEA0007
Abadie, M. OAB0106, PEB0298
Abagiu, A.O. LBPEC26
Abah, I. LBPEF56
Abala, A. PEB0164, PEE1361
Abang, R. PEC0609
Abate, E. PEE1721
Abatta, E. PED1083
Abayneh, S.A. PEE1513
Abbamonte, J.M. PEB0098, LBPEE48
Abbar, B. OAB0203
Abbate, M.C. PEC0565, PEF1797
Abbey, D. **PED1000**
Abdella, S. PEE1721
Abdel-Mohsen, M. PDA0207
Abdelraheem, E. **PEF1868**
Abdi, B. PEA0016
Abdool Karim, Q. PDA0202, PEA0043, PEA0050
Abdool Karim, S.S. PDA0202, PEA0043, PEA0050, PEE1372
Abdoulaye Fougnigue, O. **PED1306**
Abdul, R. **PEE1621**
Abdulghani, N. PDB0105
Abdullah, F. PEC0398, PED1016
Abdul Rahman, Y.A. PEE1461
Abe, O. LBPED38
Abebe, A. LBPEE44
Abedinzadeh, N. PEE1583
Abela, H. PED0915
Aberg, J. OABLB0104
Aberg, J.A. PEB0181
Abesiga, L. **PEE1528**
Abidi, S.H. OACLB0102
Abie, A. PEE1348
Abimiku, B.A. PEB0158
Abirami Balasubramaniapandian, C. PEB0198, PEB0199
Abi Zaki, S. **PEC0392**, **PEC0401**
Ablona, A. PEC0451, PEC0454
Abo, D. PEF1804
Abo, K. PEE1379
Aboki, H. **PEC0390**
Abong Bwenda, T. OAB0402
Aborisade, S. **PEF1748**
Abou Abbas, D. PEC0392, PEC0401
Aboubacar, A. PEF1740
Aboudaram, I. PEF1829
Abraham, D. PEE1439
Abrahams, N. OAD0203
Abrahão Ribeiro, R. PEC0393
Abramovitz, D. PEC0431, PEC0433, PED1277, PEF1741
Abrams, E. OAB0103, OAD0802
Abrams, E.J. PED0852, OAD0804, PEB0290, PEB0326, PED0817, PED0822, PED0826, PED0871, PEE1387, PEE1407
Abudiore, O. PEB0202
Abuga, S. PEE1682
Abuk, A. PEE1503, PEE1615
Abuna, F. PED1173, PEE1546
Abuogi, L. PDD0405, PEB0338, PEC0701, PED0828, **LBPEB08**
Abuya, K. PEE1596
Abwola, M. PEE1649, PEE1655
Accelerate Hub Team, T. PEC0748
Achakzai, B. OACLB0102
Achalapong, J. PEB0192
Acharya, S. PEC0547, PDE0406, PED1316
Achieng, A. PED1274
Achom Okwero, M. **PED1294**
Achut, V. PEC0410, PEC0475
Achwoka, D. PED0895, PEE1535
Ackerman, B. OAELB0104, LBPEE53
Ackerman, M.E. OAA0307
Ackerman, P. PEB0291
Acosta, E. OAB0706, PDB0102, PEB0293
Acosta, R. PEB0254, **PEB0257**
Adachi, E. PEB0154
Adah, P. PEC0569
Adam, B.D. PEC0533
Adam, O. **PEF1795**
Adams, D. PEC0405
Adamson, J. PEA0047
Adamson, T. LBPEE53
Adamu, S. PED0765, PEE1680
Adamu, Y. PED1005
Adamy, P. PEE1450
Adaszko, A. PED1139
Addison, W. PEE1374
Addisu, M. PED1070
Adeagbo, O. **PEC0689**, **PED1192**, LBPED34
Adebajo, S. PED1005
Adebanjo, O. **PEE1326**
Adedeji, O. PEE1478
Adedimeji, A. **PDD0404**, **PEA0073**, PEC0736, PED0854, PEF1879, PEF1881
Adegbite-Johnson, A. PEC0608
Adegoke, A. PEF1790
Adegoke, D. **PEB0301**
Adekunjo, F.O. **PEE1350**
Adeleke, M. LBPED38
Adeleye, T. PEC0569
Adell, Z. OAE0506
Adeola, J. **PEB0268**
Aderibigbe, A. PED1260
Adeshina, A. PEC0677
Adesina, A. PEE1507, PED1260
Adesina, M. PEC0666
Adesue, G.A. PEC0570
Adetinuke Boyd, M. PEB0114
Adetosoye, A. PEE1565, PEE1568
Adetunji, A. PED1130
Adewole, A. PEC0569
Adeyemi, A. PEC0404, PED1083
Adeyemi, O. **OAD0902**
Adeyemo, A. PEE1699
Adeyemo, O. PEC0666
Adeyeye, A. PDC0105, OACLB0101, OAXLB0101
Adeyinka, D. OAE0306, PED1251, PEE1423
Adhikari, R. PEC0598, PED1253
Adhin, M.R. PEE1441
Adia, A. PEC0422, PEF1799, PEF1854
Adiedo, B. PEE1551
Adiibokah, E. PEF1805
Adimora, A. PED0854, PEF1881
Adingra, N. PEF1804
Adirieje, C. PEE1604
Aditya, E.R. PEF1898, LBPEF60
Aditya, G. PEE1480
Adjordor, E.R. PED0803
Adjordor- van de Beek, J. PED0803
Adland, E. OAA0105
Adler, M. PEA0033, PEB0300, PEB0358, PED1294, PEE1394, PEE1676
Adolescent Advisory Group, T. PEC0748
Adolescent Medicine Trials Network for HIV/AIDS Interventions, * PED0946
Aduda, D. PED0768
Adu-Sarkodie, Y. PEC0464
Aeno, H. PEC0500
Afani Saud, A. OAB0305
Afari Asare, R. PED0995
Afifi, R. PED1262
Afonso, J. PEE1613
Afsar Kazerooni, P. PEC0579, PED0863, PED1171, PEE1583
Aga, E. PDB0102
Agaara, M. PEE1699
Agaba, P. OAB0504, PEC0728
Agada, P. LBPEF56
Agallo, M. PDC0206
Agarwal, N. PEB0166
Agarwal, R. PED1128
Agarwal, S. PEE1669
Agbaji, O. PEB0202
Agbakwuru, C. PEC0486
Agbim, W. **PED1276**
Agbolagorite, R. LBPED38
Aggrey, A. PEB0294
Aghaizu, A. PEC0480, PEC0481
Agher, R. PEC0498
Agnew-Brune, C. **PED1057**
Agolory, S. PDE0302, PEE1478
Agot, K. OAC0106, PEC0616, **PED0791**, PED0824, PED0888, **PED1147**, PED1220, **PED1322**, PEF1850, OACLB0105, OADLB0103
Aguais, J. PED0910
Aguais, L. **PED1297**
Agudile, E.P. PED1234
Agueci, V. PEE1360
Aguilar, G. **PEC0379**
Aguirre, L. **PEC0543**, PED0956
Agunga, C. PEE1556
Aguolu, R. **PEC0700**, PEE1326
Agustí, C. **PEC0568**
Agutu, C.A. **PEC0365**
Aguvaveedi, M. PEC0754
Aguze, G. **PEE1433**
Agwang, J. PED0829
Agwu, A. PEB0312
Agyarko Poku, T. PEC0464
Agyarko-Poku, T. PED0876
Agyei, Y. OAC0204
Agyemang, E. PEB0137
Ahagon, C.M. **PEB0090**
Ahamd, F. **PED1323**
Ahenakew, L. PEE1386
Aher, A. PEC0684, PED0949, **PED0996**, PED1109
Ahern, J. PEC0524
Ahimbisibwe, A. **PDD0403**
Ahimbisidwe, A. PEB0304
Ahlenstiel, C.L. PEA0062
Ahmar, M. PEF1763, **PEF1875**
Ahmed, A. PED1260
Ahmed, B. LBPEB08
Ahmed, I.N. PEE1381
Ahmed, J. PEE1721
Ahmed, K. OAC0105
Ahmed, S. PEE1389, PED1191
Ahoba, I. PEE1379
Ahurra, R. PEB0310
Aidala, A. PED1265
Airhihenbuwa, C. PEE1607
Airoje, O. PEF1851
Ait-Khaled, M. OAB0606, PEB0238
Ait Moha, D. PEB0223
Aivadyan, C. **PED0979**
Ajaja, L. PEE1445
Ajana, F. OAB0606
Ajayi, O.M. **PEB0319**
Ajeh, R. PEA0073
Ajiboye, M. PED0800
Ajiboye, O. PED1132
Ajiboye, T. PEE1445
Ajidagba, B.E. PED1230
Ajidahun, A. PED0755
Ajok, S. PED1200
Ajulong, C. PEE1599
Akabwai, G.P. PEB0314
Akamike, I. PEB0141
Akande, M. OAD0203, PED1282
Akande, P. PEB0268
Akanmu, S. PEB0202
Akao, D.J. PEE1667
Akao, G. PEE1448
Akao, J. PED1317, PEE1391, PEE1448, PEE1589
Akbar, M. **PDC0104**
Akbarpour, S. PED0863, **PED1171**
Akbirova, V. PEF1785

Ake, J. **OAB0602**
Ake, J.A. PEC0720
Akello, E. PEE1675, PEE1699
Akello, L. PEE1433
Akinjobi, G. PEE1386
Akinosoglou, K. **PEB0099**
Akite, L. PEE1665
Akiyama, M.J. OABLB0102
Aklilu, A. PEE1721
Akobye, W. **PEB0310**, **PED1229**, PEE1528
Akoku, D.A. PEE1593
Akolo, C. PDC0202, PEC0462, PEC0598, PEC0625, PED0977, PEE1432, PEE1530, PEE1556, PEC0575, PED0843, PEE1458, PEE1677
Akolo, M. **PDC0205**, **PEC0642**
Akolo3, C.,. PEC0634
Akolo3,, C. PEC0634
Akom, E. PEC0602, PEE1565, PEE1568
Akom, E.E. PED1005
Akoth, S. PEE1535
Akoto, C. PDA0106, PEA0046
Akoua-Koffi, C. PEE1593
Akpan, U. PEB0139
Akstin, M. **PED1225**
Aku, F.Y. PEB0279
Akuffo, J. PEF1780
Akuju, F. **PEC0587**
Akullian, A.N. PEC0541
Al, M. PED1012
Alabi, A. **PED1132**
Aladesanmi, L. PDD0503, PED1236, PED1319, PEE1502
AlAfifi, M. **PED1262**
Alagi, M. PEC0484, PEC0486
Al-Ajlouni, Y.A. PED0985
Alam, M.S. OAA0307
Alamo, S. PEE1599, PEE1712
Alamo-Talisuna, S. PEC0664
Alamu, T. **PEF1851**
Alaniz, M.G. PDD0105
Alaniz Gatius, G. **PDF0204**
Alaoui, I. PEF1765, **PEF1826**
Alarcon Gutierrez, M. **PEC0662**
Alary, M. PEC0426
Alash'le, A. PEB0301
Alawamlh, O.A.H. PEB0294
Alawode, G. PEE1359
Alayon, S. PEF1745
Albarran Sanchez, A. LBPEB14
Alberny Iglesias, M. PEC0662
Albertini, J. OAB0705, OAC0803
Alberto Cunha Mendes Ferreira, A. **PDB0407**, PDE0407
Albrecht, S. PEC0725, PED1088, PED1279
Alcaide, M. PED1092
Alcaide, M.L. LBPEE48
Alcamí, J. OAA0204, PEA0064
Alcenat, N. **PEB0121**
Al-Dairi, A. PEB0198, PEB0199
Aldridge, S. PEE1550, PEE1587, PEE1685
Aldrige, S. PEC0605
Alejos, B. PEB0212
Alemayehu, S. PEE1721
Alemnji, G. **PDB0106**, **PEB0113**
Alencar, R. PEC0368, PEF1797
Alera, M. OAE0403, PED1167
Alexander, C. PEA0065
Alexander, L. PEF1887
Alexandrova, Y. PEA0031
Alexeeff, S. OAB0603, OAC0807
Alger, S. **PED0814**, PED0823
Alghamdi, A. PEC0714
Ali, D. PEE1583
Ali, H. PEE1721
Ali, J. PEA0085
Ali, S. PEC0413, PEC0477, OAE0403
Alias, H. PEC0590
Ali Mahdi, M. PED1135
A Lippman, S. PEB0209
Aliu Djaló, M. PEF1844
Aliy, J. PEE1721
Aliyu, G. PEC0404, PEC0486
Allan, B. PED0808
Allard, S. PEB0263
Allavena, C. PEB0355
Allen, A. PED0786, PED0859, LBPED37
Allen, B. PED0773
Allen, S. PEC0445, PED1058
Allen, S.A. PEA0020
Allen, Z. PED1213
Allgeier, D. PEC0517
Alliluev, V. **PED0994**
Allison, S. PEB0309
Allston, A. PEC0366, PEC0530
Ally, A. PEC0382, PEE1654
Allyala, N. PEE1323, PEF1882
Al Mamun Siddiqui, Q. PEE1393
Almeida, C.P. PEF1828
Almirol, E. OAC0702, PEC0678
Almonte, A. PEC0617
Almonte, D. PED0778
AlMossawi, D.H. PEE1667
AlMossawi, H. PED1317
Aloo, L. PEF1886
Al-Samarrai, T. OAB0504, OAB0703, PDC0306, PEE1617, PEE1619
Alt, K. PEA0060
Althoff, K. PEB0171, LBPEC23
Althoff, K.N. PEB0354, PEE1564
Altice, F. PEC0538, PEC0632, PEC0721, PED0786, PED0859, PED1042
Altice, F.L. PEC0590, PED1056
Altoff, K. PEC0452
Altosole, T. PEA0025
Aluda, M. PDC0206
Aluoch, J. PEB0308
Alupo, L. PED0776
Alvarenga, C. PEC0687
Alvarenga Pinto, F.K. PEC0383
Alvarez, J. PEE1526
Alvarez, M OAF0104
Alvarez, M. PEC0451, PEC0454
Alvaro, C. PEB0293
Alve-Gavor, E. PEE1461
Alvero, C. OAB0706
Alves-Bradford, J.-M. PEE1463
Alves-da-Silva, N. PEC0612
Alwang'a, H. **PEC0713**, **PEE1682**, PEE1551
Alwano, M.G. PEE1371
Aly, D. LBPEE44
Alzamora, D. OAC0703, PEB0180
Alzate-Ángel, J.C. OAC0703, PEB0180
Amadi, E. PEE1573, PEE1596, PEE1622, PEE1650
A. Mahdi, M. PEE1515, PEE1618
Amaiza, C. **PEF1800**
Amakobe, H. PEE1660
Amamilo, I. PEB0202
Amane, G. PDE0405, **PEB0108**, PEC0743, PEE1714
Amano, K. PEB0156
Amanze, O. **PEC0486**, PED0927
Amara, R.R. OAA0305
Amarista, M. PED0921
Amatavete, S. PDB0204, PEB0325, **LBPEE47**
Amatsombat, T. PEB0346, PEC0444, PEC0659, PEE1485, LBPED33
Amaya-Tapia, G. PED0861
Ambaraghassi, G. **PEB0227**
Amberbir, A. OAE0503, PEB0178, PED0858, PED1150, PED1223, **PEE1652**
Ambrosioni, J. PEA0064, LBPEB15
Ambrozak, D.R. OAALB0101
Ameh, S. PED0952
Amendah (PhD), D. PEF1793
Amenyeiwe, U. OAD0102
Ameyan, W. PEE1541
Amico, K.R. PDC0408, PEE1642, PEE1703, LBPEC27
Amin, J. PEC0627
Amirault, M. PEC0749
Amiri, T. PEC0579, PEE1583
Amiri Salehe, I. OAC0202
Amiri Sani, N. **PED0805**
Amisi, C. PEE1674
Ammann, A.J. PEE1674
Amole, C. PEB0202, PEE1517
Amolo, S. PEF1897
Amon, J. **PDF0202**, PEF1886
Amongin, H. OAF0302
Amoo, B. PEE1680
Amoo, O.E. **PED0765**
Amorim, G. PDE0104, PED0881
Amra, A.Q. **PEE1717**
Amstutz, A. PEE1595, **LBPEB11**
Amuge, P.M. **PEE1394**
Amulega, V. **PEC0487**, **PEE1691**
Amulen, C. PEE1424
Amuri, M. PEC0605
Amutuhaire, W. PEE1574
Amzel, A. PEB0289
Anabwani, F. OAB0106
Anaedobe, C.G. **PEB0158**
Anam, F. OAD0102
Anand, S. PED0890, PED1037
Anand, V. PEC0665, PED1232, PEE1658, PEF1821
Anand, V.R. PED1224, PED1235, PED1249, PEF1825, PEF1867
Anangi, B. PEA0054
Anangwe, S PEE1472
Anangwe, S. PED1245
Anankeu, P. PEB0106
Ananworanich, J. OAB0104, OAD0704, PED0761, PED0770, PED1198
Anastase, D. PEF1879
Anastos, K. PEA0053, PEA0073, OABLB0102
Anazco Villarreal, D. PED0900
A. Naz-McLean, S. PEF1853
Ancuta, P. PEA0031
Andela, H.V. PDB0305, PEB0125
Andersen, L. PDB0203, PED0832
Anderson, A. OAB0603
Anderson, D. PDB0202
Anderson, F. PEA0047
Anderson, J. OADLB0101
Anderson, K.M. OAF0304, **PEF1849**
Anderson, M. PEA0077
Anderson, P. PDC0203, PEC0604, OAXLB0101
Anderson, P.L. PEC0724
Andkhoie, M. PEE1386
Andrade Forero, L. **PED0907**
Andrade-Pérez, J.S. PED0861
Andrade-Romo, Z. **PED0861**
Andrasik, M. PEC0718
Andrea, S. PEE1480
Andreani, G. OAA0402
Andreatta, K. **PEB0254**
Andreoni, M. PEB0253
Andrews, R. PED1240
Andriamamonjisoa, J. PEC0496
Andriananja, V. PEC0496
Andrianasolo, R.L. PEC0496
Andrinopoulos, K. OAD0205, PDD0407, PEC0734
Andriyani, L. **PED1068**
Andrushchenko, M. PEF1859
Andualem, H. PEB0116
Anenih, J. PEC0493
Angela, O. PEC0729
Angella Kigongo, N. PED0947
Anglaret, X. OAB0303
Angopian, A. PEC0530
Anguzu, G. PEC0587, PEE1396
Anh, N.H. PDE0303
Anh Nguyen, P. PEC0601
Ankrah, D. PEF1777
Ankrah, E.O. PED1000
Anna-Tine, J. OAB0203
Anok, A. PEE1642, PEE1703
Anoma, C. PEC0629, PEF1823

Anosike, A. PEC0493, **PED0927**
Anoubissi, J.d.D. PEA0076, PED1185
Ansari, M.A. PEE1653
Ansa Urroz, U. PEB0237
Antela, A. PEB0216
Antelman, G. PEB0292, PEB0295, PEB0303, PEC0722
Anteneh, A. PEE1476
Ante-Testard, P.A. **PED0885**
Anthony, P. PEB0293
Antinori, A. PEB0092, **PEB0201**, PEB0253
Antoniak, S. PEB0151, PEB0152
Antonio, M.B. **PEB0339**
Antonyak, S. PEB0151, PEB0152
Antony Joseph, J.E.M. **PED0812**
Antunez, E. PEC0466
Anugha-Ugochukwu, E. **LBPEF56**
Anugulruengkitt, S. PEC0673
Anweh, D. PEB0202
Anyene, I. **PED1293**
Anyoti, V. **PED1135**
Anzurez, A. PDA0207
Ao, T. PEE1387
Ao, T.T. PEE1467
Aoko, A. PDC0206, PEE1573, LBPEC19
Aoun-Barakat, L. LBPEC23
Apagu, D. **PEC0545**
Apea, V. LBPEB16
Apelian, H. OAD0602
Apicella, L. PEE1672
Apiputthipan, R. PEF1856
Apire, J.B. PEE1667
Apollo, T. OAD0104, PEE1392, PEE1631
Apollon, A. PEB0121, PEB0142, PEB0258, PEE1519
Apolot, M. PEE1574
Apondi, E. PEB0307
Apondi, R. **PEC0663**, **PEC0664**
Apornpong, T. PEB0182, **PEB0245**
Appa, A. **PEC0399**
Appay, V. PEA0016
Appenroth, M. PED1088, PED1089, **PED1093**
Applegate, T. PEE1510
Applewhite, S. PEC0371
Apte, N. PED1316
Aracena, B. PEE1481
Aragaw, S. PEE1521
Arakaki, L. **PEE1728**
Aralis, H. OAD0404
Aramburo-Muro, T. PED0861
Arana, F.E. PEE1518
Arasteh, K. PEB0351
Arathoon, E. PEC0543, PED0956
Araujo, D. PED0784
Araujo, T. PEC0557, PED1303
Araújo, N.D. PEF1889
Araújo de Freitas, M. OAD0605, PDB0407, PDE0407, PEC0383, PEE1450
Araya, R. LBPED37
Arayasirikul, S. PDC0203, PEC0402, PEC0676, PED0924, PED0953, PED1081
Arazi Caillaud, S. PEA0014
Arbuckle, D. PEE1339
Arca Lafuente, S. PEB0150
Archer, N. PED1239
Ard, K. PEC0364
Ard, K.L. LBPEB13
Arduino, R. PEA0041
Areeyolwattana, S. PEB0103
Arends, J.E. PDB0306
Arends, M. OAF0104
Arendse, J. OAE0203
Arendse, K.D. LBPED31
Arendt, V. LBPEC26
Arévalo, L. OAC0703
Arévalo Mora, L. PEB0180
Argueta, S. PEC0731
Arhel, N. PEA0055
Aribowo, A. LBPEF60
Arif, M.S. **PDA0206**
Arina, A. PED1068
Arinaitwe, A. PEB0112, PEB0262
Arinaitwe, M. PEE1550
Ario, A.R. PEE1529
Aristegui, I. **PED1094**, PED1095, **PED1100**, **PED1106**, PED1092, PED1107
Arkangelo, G.C. PEC0410
Armas, J. PEE1674
Armenia, D. PEB0253
Armon, C. PEB0148, PEC0358
Armstrong, A. PDE0304
Armstrong, H.L. PEC0533
Armstrong-Hough, M. PEC0549
Arnalich, F. PEB0212
Arning, E. PEA0041
Arnold, E. **PEC0709**, PED1087, PEF1866, **PEF1891**
Arnold, R. PED1014, PEE1459
Arnold, T. **PED0772**
Arons, M. **PEE1687**, LBPEC21
Aronson, I.D. **PED1244**
Arora, A. PEC0547
Arpadi, S.M. PEB0326
Arredondo, J. PED1277, PEF1741, PEA0049
Arreola, S. **PED0988**, LBPEE53, **LBPEF59**
Arribas, J.R. PEB0212
Arrington-Sanders, R. PED1021
Arsaman, C. PDB0304, PEB0103
Arscott-Mills, T. PED1269
Arsienko, R. LBPEA02
Artamonova, I. PED1277
Artières, P. PEC0448
Arulogun, O. PEF1872
Arum, C. PEC0426
Arumugam, V. PDD0206, PEC0684, PED0996, PED1053, PED0949
Arunmanakul, A. PED1206, PEE1469
Arustamyan, G. OAF0402, PDF0202
Asamoah-Adu, C. PED0995, PED1072
Asampong, E. PED0983
Asante-Appiah, E. **PDB0406**
Asboe, D. PEC0367
Ase, S. PEC0500
Asfaw, M. PEB0140
Asfaw, Y. PEE1339
Ashanda, B. PEC0510
Ashano, E. **PEE1680**
Ashare, R. PEB0224, LBPEB10
Asharyadi, T. PED0857
Ashburn, K. PDD0205
Ashefor, G. PEC0486, PEC0677, **PEC0404**, PEC0493, PEC0700
Ashimosi, C. PEB0308
Ashipala, L. PDE0404, PEE1577, PEE1709
Asia, N. PEF1853
Asiago-Reddy, E. PEC0603
Asiedu, K. PDD0503
Asif, S.F. OABLB0103, **OABLB0105**
Asiimwe, A. PDD0407, PEC0734
Asiimwe, F. PEB0137
Asiimwe, S. PEE1375
Asiimwe Kamugisha, A. **PEE1448**
Asiimwe-Kateera, B. PEB0185
Asmal, Y. PEB0208
Asmelash, A. OAXLB0101
Asomaning Obeng, L. **PED0995**
Asongwe, M.E. PEC0512
Asowata, O.E. **PEA0047**
Aspin, C. PDC0204
Assal, F. PEB0172
Assefa, H. PEE1348
Assefa, T. PEE1625
Asselin, J. OAC0205, PEC0441, PEC0639
Assi, A. PEC0392, PEC0401
A. S. Silva, A. **PED0954**
Assis Brasil, S. PED0764, PED1304
Assoa, P.H. PEE1593
Assoumou, L. OAB0203, PEC0498, PED0865
Asthmus, D. PEB0094
Atarud, A.A. PEC0375, PEC0495
Ategeka, G. PEB0310
Atem, C. **PEA0082**
Athman, A. **PEE1735**
Atim, H.R. PEE1433
A. Tique, J. **PDE0104**
Atkinson, D. **PEE1410**
ATN_CARES, _ PED1031
Atobatele, A. PEC0586
Atta, I. PED1276
Atuahene, K. PEC0464, PEC0469
Atuhura, S. **PEE1599**, PEE1712
Atujuna, M. **PEB0321**, PED1282
Atukunda, E. PED0867
Atukunda, M. OAC0203, OAC0805
Atun, R. PEE1343
Atwiine, M. PEB0112
Aubrey Kang'oma, A. PED1150
Audet, C. PED0881
Auerbach, J. PED1176
Auger, P. PEA0083
August, E. PEC0567
Augusta Ngozi, O. **PED1309**
Augustin, S. PED1305
Augustinavicius, J. PED0945
Augusto, O. PEC0432, PEE1570, PEE1593
Aulakh, D. **PEE1536**
Auld, A. PDD0205, PEB0304, PED0932, PEE1475, LBPEC21
Aulicino, P.C. **PEA0014**
Aung, A. **OAC0806**, PEB0088, **PEC0732**
Aung, M. LBPEE53
Aung, T.S. PEC0564, PED1061
Aung, Y.K. **PED1193**
Aungo Bwonderi, J. **PEF1770**
Aunon, F.M. PED1084
Aupokolo, M. PEE1489
Aurpibul, L. OAB0104, PDB0206, PEB0317, PEB0318, **PED0815**, PED0893, **PED1123**
Auslander, W. PED0820
Austin, A. PED0974, PEE1591
Autran, B. OAB0203, PEA0016
Avelino-Silva, T.J. PEC0668
Avelino-Silva, V. **PEC0612**, **PEC0669**, **PEC0687**, PED1241
Avelino-Silva, V.I. PED1091, PEB0339
Avery, M. OAE0702, PDB0204, PDB0304, PDE0106, PEB0346, PEC0659, PEC0757, PEE1469, PEE1542, PEE1732
Avettand-Fenoel, V. **OAA0103**, **PEA0004**
Avignon, V. PEE1720
Avihingsanon, A. **OAB0404**, PEB0123, **PEB0182**, PEB0191, PEB0204, PEB0353, PEC0397
Avila, S. PEB0121, PEB0258
Avila-Rios, S. PEB0120
Awadh, A. PEE1633
Awanakam, H. PEA0052
Awet, M. PEE1503, PEE1615
Awino, E. PEC0582
Awolude, O. PED1130
Awor, A.C. PEC0663, OAE0106
Awori, Q. PEB0294
Awotwi, E. OAF0206
Awunor, C.E. PEB0115, PEC0570, PED1183
Awuoche, H. PED0768
Awuonda, B. OAC0805
Axame, W.K. **PEB0279**
Ayachi, L. PEC0448

Ayala, G. PED0988, LBPEE53, LBPEF59
Ayalneh, H. **PEE1521**
Ayankoya, J. PEC0676
Ayaya, S. PEB0308
Aye, H. **PEC0698**
Aye, N.N. PEC0564
Aye, P.P. OAA0307
Ayele, S. PEC0387
Ayieko, J. OAB0702, OAC0203, OAC0805, **PEC0655**, PEC0708
Ayles, H. OAC0204, OAE0504, PEC0580, PEC0679, PEE1628
Aynie, T. PEC0375
Aynie, T.B. PEC0495
Ayo, I. LBPED38
Ayodele Kayode, G. OAE0402
Ayon, S. **PEF1786**
Azah A., K. PED0911
Azeez, F. PED1005
Azihaiwe, A.N. PED1183
Azimi, A. PED0805
Azmery Rifat, I. PEE1393
Azurunwa, O. LBPED38
Azwa, I. PDC0104, PEB0191, PEB0213
Azzoni, L. PDA0207

Á

Álvarez-Moreno, C. PEB0180
Ávila, S. PED0907
Ávila Mira, S. PEE1697

B

Ba, I. OAF0403
Baadio, F. PEE1464
Babakazo, P PDD0404
Babalola, C. PEB0244
Babalola, T.K. **PEE1701**
Babaye, Y. PEC0474, LBPEC21
Babikhina, K. PEE1354
Babirye, J.A. OAB0105
Babu Ndyabahika, E. **PED0827**
Bacani, N. PEC0494, OAD0602
Bacchetti, P. PEC0724, PED0854
Bacha, J. **PEB0297**, PEB0316, PEE1363
Bachanas, P. PEE1371
Bachelard, A. PEB0122
Bachmann, M. PEE1487
Bachmann, N. PEC0675
Bacon, O. PEC0482, PEC0483
Badal, K. PEE1324
Badal-Faesen, S. PEB0094, PEB0245
Badawi, M. PEC0485
Badgujar, S. PED1090, **PED1310**
Badhrus, A. **PED1043**
Badia, J. PED0824, PED0888, PEF1850
Badiane, K. PEE1638
Badman, S.G. PEC0500
Badolato, R. PEB0340
Badralmaa, Y. OAA0404
Badru, T. PEB0139, LBPEF56
Badu Ofori, S. PEA0015
Baeten, J. OAC0105, PEC0686, PED1173, PEE1375
Baeten, J.M. PEC0600, PEC0611, PEE1546, PEA0030, PED1285
Bagambe, V. PEE1327
Bagasol, E. **PED1160**
Baggaley, R. PDE0202, PED0885, PEE1479
Bagiire, D. PED1064, PED1136, PED1325, PEE1388
Bagnulo, R. PEB0347
Baguma, C. **PEF1754**
Bahati, N. PED1135
Bahemana, E. OAB0602, PEC0720
Bahizi, G. **PEE1529**
Bahramnejad, A. PED1301
Bahru, E. PEE1476
Bahtout, Z. **PEE1346**, PEF1789
Bai, F. PEB0173
Bailey, C. **OAD0503**, PED1233
Bailey, J. **PED0792**
Bailey, L. PEE1639
Bailey, V. OAC0105
Bain, R. PEE1727
Bainter, S. PDB0203
Bair, E. PEC0616, OACLB0105
Baishya, J. PDE0406, PEC0532, PEC0754
Baisley, K. OAC0104, PDE0306, PEE1611
Bajracharya, A. PED0778
Bakare, R.A. PEB0158
Bakari, S. PEB0307
Baker, E. PEE1514
Baker, M. OAB0706
Baker, P. **PED1277**
Baker, S. OAE0206, PEE1349, PEE1638
Bakobye, B. PEF1800
Balaba, J. PEE1676
Balagopal, A. PEB0094
Balakasi, K. OAE0503, PED1223, PEE1652
Balakrishnan, P. PEA0054
Balan, J.G. PEE1728
Balani, M. PEE1494
Balasubramaniam, V PEE1494
Balcha, A. PEE1339
Balcha, T.T. PEB0288
Baldisserotto, I. PEB0173
Baleeta, K. PEE1385, **PEE1639**
Baleke, C. **PED1029**
Baligobye, J. **PEE1719**
Balinda, S.N. **PEA0017**
Ball, J. OAE0304
Ballard, R. PEB0168
Balle, C. PEA0030, PEA0050
Ballena, J. PEB0159
Ballesca, M. OAC0502
Ballin, G. OAA0406
Ballivian, J. **LBPEE48**
Ballot, D. PEB0319
Balogh, A. PEB0242
Balogun, S. PEC0569, PEE1446, **PEE1495**
Balthazar, C. LBPEC29
Balu, V. PEC0665
Baluku, H. PEE1396
Baluku, J. PEE1562, PEE1645
Baluku, J.B. **PEB0144**, PEE1403
Balungi, J. PDD0502
Balzer, L. OAB0702, OAC0203
Balzer, L.B. OAC0805
Bam, K. OAD0505, PDE0206, **PEC0560**, PEC0598, PED1253
Bambo, E. PEE1713
Bamigboye, F. **PDF0104**, PED1230
Bamrotiya, M. PEC0754, PEE1555
Banda, B.A. PEB0178, PED0858, PED1150
Banda, C. PEE1406, PEE1431, PEE1440, PEE1447
Banda, G. PEE1571
Banda, J. PDD0503, PEB0161
Banda, L. PED0843
Banda, T. PED1211, PEE1569
Bandawe, C. PED1188
Bandera, A. PEA0025
Bandoh, D. PEF1852
Bandola, A. OAF0105
Banerjee, S. PED0964, PED0965, PED1034
Bang, H. PEB0142
Bangar, S. PDD0406, **PEC0671**
Bangara, F. **PEC0474**
Bangirana, P. PEB0322
Bangs, A.C. PDE0504
Bangsberg, D.R. PEC0600, PED1285
Banigbe, B. PEE1680
Banik, S. PEC0402, PED0924, PED0953
Banjade Shahi, S. **PEF1735**
Bannar-Martin, S. PEC0648
Banonya, H. PED1314
Bansal, Y. PEC0661, PEE1702
Bansi-Matharu, L. PEC0477
Banuelos, A. PED1277
Baptista, A. PED1017
Baptiste, S. PDE0402
Baqar, S. PED1024
Baquero, L. PEA0040
Bar, K. OAA0202
Bar, L. PDB0102
Barakji, S. PEC0401
Baral, S. OAD0803, OAF0403, PDD0306, PEC0387, PEC0407, PEC0445, PEC0533, PED0976, PED1076, PEE1643, PEF1844, OAELB0104, LBPEE53
Baral, S.D. PED0945, OAD0102, PED1086
Barankena, A. **PEC0382**, PEC0756, PED1324, PEE1654, PEE1735, PEE1736
Baranovsky, S. LBPEA02
Baraq, K. PEE1453
Barath, J. PEC0434
Barber, M. **PDE0502**
Barber, M.J. OAELB0105
Barbi, H. **PEB0247**
Barbosa, B.C. **PEF1797**
Barbosa, D. **PEF1819**
Barchi, E. PEB0255
Barchin, V. PED1138
Bardon, A. **PEE1623**
Bareng, O. **PEA0002**
Barillas, E. PEE1347, **PEF1874**
Barker, J. PEE1472
Barlow, J. PEC0418
Barlow-Mosha, L. PEB0328
Barnabas, R. PEE1375
Barnabas, R.V. OAE0505, PEE1554
Barnabas, S. PEB0315
Barnard, T. PEB0151, PEB0152
Barnes, J. OAD0902
Barnhart, S. PEC0653
Barnighausen, T. PEC0723
Bärnighausen, T. OAE0105, PED1184, PEE1343, LBPED34
Baron, D. OAC0105
Baron, M. **OAB0203**
Barone, M. PEB0294
Barquín, D. PEA0005
Barr, E. **PEB0338**
Barr, L. **PEB0272**
Barratt, M.J. PED1050
Barraza, A. PEC0622
Barreras, J. PEF1760
Barresi, P. PED1168
Barreto Campos, G. PEC0624
Barrientos-Casarrubias, V. PED0860
Barrington, C. PED0959
Barrios, R. OAC0302, PEC0494
Barros, C. PEE1515
Barros, D. **PED1138**
Barros, D.A.C. PED1091
Barros, H. PEC0463, PEC0468, PEC0508
Barros, T.D. PEB0274, PEC0519
Barry, J. PDD0207
Barsham, A. PED1301
Bartlett, M. OAB0706, PEB0293
Baruah, D. PEC0628, **PEC0690**, PED1224, PED1249
Baruch, R. **PEF1877**
Baruti, K. PEA0077
Basasibwaki, B. PEE1693
Basenko, A. **PEF1859**
Basgoz, N. LBPEB13
Basiima, J. **PEE1646**
Basri, S PDC0104
Bass, E. PEF1893
Bassa, A. PEB0260
Bassett, I. PEC0364, OADLB0102
Bassey, O. PEC0484
Bassichetto, K. PEB0209
Bassichetto, K.C. **PEC0416**
Bastian, W. PEE1696
Bastida, J. PEB0205
Bastos, E. PED1308
Bastos Cabral, G. PEB0090
Basu, S. **PEB0266**
Batagenya, M. PEC0362
Batchelder, A. **PED0901**

Bateganya, M. PEB0139, LBPEF56
Batey, D.S. PED0797, PED0987
Bath, N. OACLB0103
Batina Agasa, S. PEC0592
Batista, C. PEB0222
Batista, C.J.B. PEB0220, PEB0274
Batrouney, C. PEC0548, OACLB0103
Battala, M. PED1238
Battalora, L. PEC0358
Battegay, M. LBPEB11
Battey, K. OAB0703, OAB0504
Battey, K.A. PEC0704, PEE1727
Batting, J. OAC0105
Batumbula, M.-L. PEE1527
Batur, S. LBPED38
Baudry, A. PEF1829
Bauer, R. PDB0302, **PEE1472**
Bauermeister, J.A. PDD0202, PED1312
Baugh, B. PEB0263, **PEB0264**
Baugher, A. **PEF1737**
Baum, M. PEB0205, PEB0206, PEB0350
Baum, M.K. PEB0349
Bauman, L. PEC0391
Bauman, S. PED0974, PEE1591
Bautista, G. OAA0204
Bautista-Arredondo, S. OAC0505, PED0861, PED1291, PEE1330, PEE1724, LBPEE52
Baveewo, S. PEE1699
Bavinton, B. OAC0802, PEC0627, PED0975, OACLB0103
Bavinton, B.R. OAC0205, **PEC0430**, **PEC0636**
Bavor, K. **PED0803**
Baxevanidi, E. OABLB0103, OABLB0105
Baxter, C. PEA0032
Bayiah, A. **PEE1464**
Bayigga, J. PEC0613
Bayoa, F. PEE1521
Bazarova, N. PEE1352
Bazeyo, W. PEE1675
Bazira, D. PEF1897
Bazzi, A. LBPEE45
Bazzill, J. OAALB0104
Bazzo, M.L. PEF1855
Bbaale, D. PEE1646
BDBI MTA Evaluation Team, O.b.o. PDF0202
Beach, M.C. PDD0107
Beachy, S. PED1079
Beamon, T. PED0932
Beard, R.S. **PEE1709**
Beauchamp, G. PED0987
Beauchamp, J. PEE1464
Beber, A. PEB0222
Beber, A.M.B. PEB0274, PEC0519
Beck, I. PEB0120
Beck, L. **PEC0556**
Beck, S. **PEC0454**
Beck, S.M. **PEC0451**
Beck-Engeser, G.B. PEB0352
Becker, M. PDA0206
Becker, T. PED1269
Beckerle, G. PEA0067
Beckett, A. PEB0232, PED1305
Beckham, S.W. PED1086, PED1281
Becknell, S. PEE1513
Becquet, R. PEB0174, PEC0741
Bedoya, C.A. PEC0665
Beebe, D.J. OAB0506
Beech, P. PEA0060
Beer, L. **PED0941**, **PED1124**
Beesham, I. OAC0105, **PEC0611**
Begley, R. **PEB0265**
Begnel, E. PEE1546
Behel, S. PEE1527
Behrends, C. PEC0529, PEE1376
Behrends, C.N. PEE1368
Behuhuma, N.O. PEB0315
Beil, R. OABLB0102
Beima-Sofie, K. PED0824, PED0888, PEF1850
Beingana Borobya, A. PEE1690
Bekelynck, A. PED0885, PED1255
Bekishev, D. OAE0805, PEE1436
Bekker, L.-g. PEB0321
Bekker, L.-G. PDE0504, PEA0030, PEC0672, PED1282, LBPEC24, LBPEC25
Beksinska, M. OAB0105, OAC0105, PEC0611, PED1059
Belaunzarán-Zamudio, F. PEA0027
Belayneh, M. PEE1723
Bélec, L. PEC0592
Belemu, S. PEC0580
Belenky, N. PEF1881
Beletel, W. PEE1721
Beletsky, L. PEC0712, PED1277, PEF1741, PEF1780
Bélizaire, M.E. PEE1519
Bell, A.J. **PED0876**
Bell, C. PEC0639
Bell, E. PED1155, PEF1894
Bell, T. PEA0041
Bell, T.G. PEA0077
Bella, M. PED0884
Belle Fleur, C. PEC0574
Bellet, J. PED0865
Bellino, A. PEB0214
Bello, G. PDD0403, PEC0474, PEE1687, LBPEC21
Bello, J.A. **PEA0007**
Bello, N. PEA0044
Bellot, C. PEB0203, PEB0258
Belo, B. PEE1418
Beloglazov, A. PED0994
Belsan, A. PED1300, PEE1665
Beltran, O. PED0925, PED1079
Beltrán, M. OAB0304
Beltrán-Pavez, C. PEB0296, PEB0299, PEB0337
Beltrán-Rodrgíuez, C. PEB0180
Belyakov, N. PED0835
Bembalkar, S. PEB0287, PEE1555
Bena, J. OAC0503, PEB0267
Ben Azouz, H. PEE1429
Ben Charif, A. OAC0305
Bendall, M. PEA0067
Bendiks, S. PEB0348, PED1036
Benedetti, M. OAC0505, PEC0692, PEC0715, LBPED35, LBPED36
Benet, L. PEA0084
Benevides, B. PED1017
Beniguel, L. PED0865
Benites, C. PEC0738
Benito, J.M. PEB0273
Benito, S. PEC0458
Benjamin, M. PEC0709
Benjamin-Damons, N. PED0755
Benjapornpong, K. PED0761
Benmadid-Laktout, G. OAA0402, PEA0026
Benmarhnia, T. PED0885
Ben Moussa, A. OAF0306, PEF1842
Benn, P.D. PEB0261
Bennet, K. PEC0600
Bennett, A.S. PED1244
Bennett, C. **PEC0424**
Bennett, K. PED1285
Bennett, M. PED1274
Benoni, C. **PED0936**
Benson, A. PEE1597
Benson, P. LBPEE42
Benson, S. PED1300, PEE1665
Benti, T.M. PED1269
Benzerga, W. PEE1576
Beo, B. PEE1705
Berendes, S. PEB0094
Beres, L. OAE0102
Beres, L.K. OAD0306, **PED1179**
Beretta, M. PEA0021
Berg, J. OAD0604, **PED1302**, PEE1543
Berko, J. PED0849
Berkowitz, A. OAD0203
Berman, C. PEB0309
Berman, R. PEB0142
Bermudes Aza, E. PEE1582
Bermudez, J.V. PEB0160
Bernadin, G. PEB0121
Bernadin, J. PEB0258
Bernard, C. PEB0284, **PEB0285**, **PEB0286**, PEC0394
Bernard, J. PEB0232
Bernard, N. PEA0031, PEB0145
Bernardino, J.I. PEB0212, PEB0282
Bernardo, E. PEE1570
Bernasconi, E. PEB0239, PEC0596
Berner-Rodoreda, A. **PED1184**
Berrie, L. PEE1499
Berruti, M. PEA0025
Berry, S. OAB0506
Berry, S.A. PEB0218
Bershteyn, A. PEC0541, PEE1372
Bertoli, A. PEB0253
Bertolini, I. **PEC0638**
Berzins, B. PEB0244, PED1130
Besa, A. PDE0404, PEE1577
Besa, S. PEE1584
Besong, M. PEA0052
Best, A. PEB0171
Bestman, F.W. **PEE1662**
Betances, B. PEF1874
Bettacchi, C. OAB0305
Betts, A. LBPEE49
Betts, M. PDA0207, PEA0056
Beukes, A. PEE1709
Beyeler, N. OAD0302
Beyer, A. OAB0604
Beyrer, C. OAF0403, PDC0105, PEC0409, PED0797, PED0987, PED1105, OAELB0104, LBPEE53
Bezerra, D. OAD0105, PEC0711, PED1111, PED1308
Bezerra, D.R.B. PDD0507, **PEC0557**, **PED1303**
Bezerra, D.R.d.B. LBPED35, LBPED36
Bezuidenhout, F. PEC0509
Bhaishya, J. PED1099
Bhaisya, J. PDE0204
Bhana, A. PEE1487
Bhandari, D.P. OAD0505, PEC0560, **PEC0598**, PED1253
Bhandari, N. **PEE1337**
Bhange, D. **PEA0054**
Bharat, S. PED1249
Bhardwaj, A. **PDD0306**
Bhardwaj, K. **PEE1340**
Bhardwaj, V. PEE1497, PEE1635
Bhatasara, T. **PED0969**, PEE1460
Bhatia, R. **PEB0343**
Bhatkoti, R. OAB0703, PEE1727
Bhatnagar, T. PEE1555
Bhatt, N. OAB0303
Bhattachan, A. PDE0206, PEC0598, PED1253
Bhattacharjee, P. PEC0487, PED0992, PEE1691
Bhatti, P. PEC0451, PEC0454
Bhavaraju, N. PED1284
Bhavsar, S. PEC0499
Bhavsar, S.P. PEC0661, PEE1653
Bhebhe, L.N. PEA0077
Bhushan, N.L. **PED0886**, **PED1142**, PED1143
Biasin, M. **PEA0023**
Bibohere, J. **PEE1690**
Bickel, M. PEC0518
Bidegain, S.C. PED1091
Bidner, H. PEB0242
Biederstedt, E. PEA0009
Biedron, C. **PEE1656**

Biello, K. PEC0615, PEC0665, PED0966, PED1311, **LBPEE45**
Bien-Gund, C. **PEC0616**, **LBPEB10**
Bighnoli, B. PDD0403
Bigirwa, A. PEB0310
Bignon, P. **PEF1823**
Bigoga, J. PEA0052
Bigolin, A. OAC0403
Bigolin, Á. **PEF1855**
Bii, M. PEC0728
Bii, S. PEC0713
Bijker, R. PEB0191
Bijole, P. PEC0733
Bikinesi, L. **PDE0404**, PEE1577, PEE1709
Bikokye Kafeero, W. **OAE0106**, PEE1676
Bilker, W. PEB0224, LBPEB10
Billong, S.C. PEE1643
Billong, S.-C. PEA0076
BILLONG, S.-C. PED1185
Bimela, J. PEA0008
Bindu, P.G. PEA0054
Bingaman, A. PED0814, PED0823
Bingham, A. PEC0522
Bingo, M. PEB0156
Binka, F.N. PEB0279
Birdthistle, I. OAC0102, OAC0104, PDE0306, PEE1605, PEE1608, PEE1611, PEE1666
Birikorang, A. PEE1360
Biru, M. PEC0387
Birungi, D.J. PEE1574
Birx, D. OAB0705
Bisbal, O. PEB0296
Bishop, A. LBPEE53
Bisi-Adeniyi, T.I. PEE1604
Bisignano, A. PED1228
Bisimba, J. PEE1563, PEE1579
Bisnauth, M. **OAE0404**, **PED1266**
Biswas, k. **PEE1492**, **PEE1575**
Biswas, K. **PED1174**, PED1292
Bitira, D. **PEE1465**
Bivegete, S. PEC0426
Biwot, B. PEC0411
Bize, R. PEC0596
Björkman, P. PEB0288
Black, D. OAB0702, OAC0805
Blackard, J.T. PEA0077
Blackstock, O. PEF1878
Blair, K. PEB0180
Blanchette, C. OACLB0101, OAXLB0101
Blanco, C. PEC0421
Blanco, J.-I. LBPEB15
Blanco, J.L. PDB0105
Blanco, J.R. PEB0296
Blanco, N. PEE1573, **PEE1596**, PEE1622, PEE1688
Blanco-Heredia, J. PEB0273
Blanco Herrera, N. PEE1498
Blandford, J. OAF0305
Blank, M.B. PED1269
Blankenship, K. PED0762, PED0892
Blankenship, K.M. PED1162
Blantari, J. **OAF0206**
Blat, C. PEB0211
Bloch, M. PEC0441
Block, L. PEE1625
Blokhina, E. PEB0348, PED1036
Blondeel, K. PEB0168
Blondel Charles, R. PEB0232
Bloome, J. **PEE1641**
Bloomfield, G.S. PEB0181
Blouws, T. PED1195
Blum, K. PED1164
Boas, P. PEB0097
Bobardt, M. LBPEA03
Boborakhimov, S. PED1120
Bobrow, E. PDD0407, PEC0734
Boccanera, R. OAD0104, PDE0307, PEE1379, PEE1383, PEE1392, PEE1535
Boccher-Lattimore, D. PEE1488
Bock, P. OAC0204
Bodo, C. PEE1682
Boeke, C. **PEE1361**, **PEE1598**
Boesecke, C. PEC0518
Boeseke, C. PEB0242
Boffi El Amari, E. PEC0596
Boffito, M. PDA0105
Bogart, L. OAC0402, PED1273, OADLB0102
Bogere, D. OAE0106, PEE1396
Bogoch, I. **PEC0714**
Boice, J. OAB0205
Boiko, K. **PEE1334**
Boily, M.-C. PEC0370, PEC0497, PEC0525
Boivin, M.J. PEB0328, PEB0170, PEB0214
Bojan, K. OAC0605
Bojorquez, I. LBPEE52
Boka, R. PDE0402
Bokolo, S. **PED1256**, **PED1258**
Bolebantswe, J. PDC0202, PEC0462, PED1069
Boli-Neo, R. PEC0500
Bollinger, L. **PEE1507**, **PEE1711**
Bolo, A. PEC0475
Bologna, R. PEA0014
Bolton, A. PED1002
Bolton, C. PEE1522
Bolton Moore, C. PED1179
Bolton-Moore, C. OAE0102, PDA0104, PEC0752, PEE1443, PEE1636
Bonanno, L. **PEE1451**
Bond, K. OAD0606
Bonde, C. PEE1682
Bondo, P. PEC0485
Bonell, C. OAD0504
Bonghaseh, D.M. **PEB0177**
Bonhomme, J. PEE1519
Boni, A. PED0800
Bonilla, O. PEC0543, **PED0956**
Bonnecwe, C. PEC0650, PEE1710
Bonnet, F. PEE1351
Bonora, S. PEB0340
Bonou, M. PEE1383
Boone, C.A. PED0923, PED0973
Boonyaratavej, S. PEB0182
Boore, A. PEE1699
Boothe, M. PEC0743
Boraud, F. LBPEE44
Borges Moreira da Rocha, A. PEC0694, **PED1011**
Borghetti, A. PEB0255
Borghi, V. PEB0253
Borgman, M. PED0932
Borkowsky, W. PEB0188
Borne, D. PED1014
Boroumandfar, Z. PEC0579, PEE1583
Borowsky, L. PEB0187
Borquez, A. PEC0431, PEC0433, PEC0527, **PEC0538**, PEC0539, PEC0712
Bortolani, A. OAC0202
Bosch, A. LBPEC26
Bosch, R. PDB0102
Bosche, M. OAA0404
Boscia, V. PEB0119
Bose, A. PED1028, PEE1494
Bose, D.L. **PED1134**
Bosede Avong, E. OAE0402
Bosinger, S. PEA0056
Bosire, R. PED0791, PED0824, PED0888, PEF1850, PEE1505, PEE1557, PEE1678
Bosworth, H. OAE0305
Botero, M.L. PEB0180
Botes, W. PED0891, PEE1329
Botha, P. PED0993
Botha, W. PDE0506
Bothma, R. PED1074
Boti, M. PEE1704
Bottiglieri, T. PEA0041
Bouacha, N. PEF1851
Bouaré, S. PED1255
Boucher, M. PEB0334, PEB0335
Boucoiran, I. PEB0334, PEB0335
Boufassa, F. OAA0103
Boulle, A. OAC0705, PEE1390
Boullosa Alonso Neto, J. OAC0403, PEF1855
Boulos, M.-I. PEC0669
Boumendil, N. PEF1792
Bourne, A. OAC0506, PED1177, PED1219, OACLB0103
Bourrelly, M. PEC0629
Bousleiman, S. PEB0142
Bouvin-Pley, M. PEA0021
Bouwmeester, S. **PDD0304**
Bouzas, M.B. PEB0276
Bowen, D. PEB0226
Bowleg, L. PED0923
Bowler, S. PDE0202, PEE1479
Bowman, N. PEC0439
Bowring, A.L. PEE1643
Boyce, C. PEB0320
Boyd, A. OAC0303, **PDB0306**, PED0950
Boyd, C. PEC0452
Boyd, M. PEB0091
Boyd, M.A. PDE0307
Boye, S. PED1255
Boyer, C. PED1280
Boyer, S. PED0957
Boylan, A. PEB0176
Boyle, D. OAB0506
Bradford, S. OAB0505
Bradshaw, D. OAA0106, PEC0480, PDC0303, PEC0509
Bradshaw, P. OAD0702
Brady, K.A. OAC0504, PEC0721
Brady, M. PED1290
Brady, N. PED0974, PEE1591
Braga Ceccato, M.d.G. PDE0506
Brahni, T. PEF1842
Braibant, M. PEA0021
Brainard, D.M. OAB0205, PDB0303, PEB0165, OABLB0101
Braithwaite, R.S. PEC0541
Brambilla, D. PEB0129
Branas, C. PED0985
Branas, F. PEB0216
Brand, E.M. **PEB0143**
Brandão Beber, A.M. **PEC0393**
Brander, C. **PED1062**, **PED1063**, PED1071, OAA0105
Brännström, J. PEB0275
Brar, I. PDB0303, PEB0118
Braschel, M. PDD0307, PEC0418, PED0877, PED1165
Brasil, S. PED1122
Bräu, N. LBPEC23
Brault, M. PED1210
Braun, D. PEB0239, PEB0240, PEC0596
Braun, R. **OAE0703**
Bravo, N. PDE0305
Bravo-García, E. **PEC0361**
Bravo-García, J.S. PEC0361
Brawley, S. **OADLB0101**
Brawner, B. OAD0606, PED1286
Brazier, E. **PEE1564**
Brecht, M.-L. PEC0573
Bremer, J. PEA0007
Bremer, V. PEC0725, PED1088, PED1279
Bremner, R. LBPEB10
Brennan, A. OAE0203
Brennan, D.J. LBPEE49
Bresciani, E. PEB0173
Bress, J. PEE1674
Breton, G. **PEC0703**, **PEE1588**
Brett, A. **PED0757**
Briceno, A. PED1301
Briedé, M. PEE1664
Briedenhann, E. **PED1204**, **PED1288**
Brigand, T. PEF1826, **PEF1827**
Briggs-Hagan, M. PEE1523
Briggs-Hagen, M. PEE1520, PEE1656
Brinkman, K. PDB0306, PEB0223
Brinson, C. OAB0205, OAB0403
Bristow, C.C. PEB0169
Bristow, W. PED0800
Brito, A.M. PEC0377

Brittain, K. PED0817, PED0822, PED0826, PED0852
Briz, V. PEA0064, PEB0150
Broadwell, C. PEB0313
Brockman, M.A. PEA0020
Brockmeyer, N. PEC0518
Brody, C. OAD0204
Brody, J. LBPEE45
Brokenshire-Scott, C. **PEE1339**
Brokus, C. **PEC0733**
Bronson, M. PEC0484
Brooks, D. **PED1021**
Brooks, K.M. PEC0724
Brooks, R. **PEB0153**
Brothers, C. OAB0706
Brotto, L.A. PED0873
Brou, H. PEE1379
Brouahrd, K. PEE1489
Brough, G. PED0773, PED0808, **PED0841**
Broussard, J. **OAC0503**, PEB0267, **PEE1526**
Brouwer, K.C. PEC0431, PEC0433
Broverman, S.A. PEE1671
Brown, A. **PDC0207**, **PEC0369**, PEC0481, **PEC0507**
Brown, B. PED1030, PEF1848
Brown, C. PEE1338, PEC0543, OAA0106
Brown, J. PED0835, PEE1595, **PDC0402**, PEC0658
Brown, K. PDB0202
Brown, L. PED1225, **LBPED30**
Brown, L.B. OAC0805
Brown, S. PED0790, PEB0307
Brown, S.-E. PEF1781
Brown, S.T. LBPEC23
Brown, T.T. OAB0105
Browne, E.N. OADLB0103
Browning, R. OAB0505
Brown, Jr, A. PED0944
Broz, D. PEC0421, PED1057
Bruce, E. PEE1461, **PEF1805**
Brumme, Z. PEB0231
Brumme, Z.L. PEA0020
Brummel, S. PEB0188, PEB0320
Brummel, S.S. PEB0312
Brundrett, M. PEB0280
Bruneau, J. PEC0539
Brunet, L. OAB0604, PEB0217, PEB0234
Brunetta, J. PEB0229
Bruno, C. **OAC0502**
Bruno, G. PEB0119
Bruno, R. PEB0119
Brutrat, P. PDE0106
Bruxvoort, K. PEC0619, **PEC0621**
Bryant, D. PEE1386
Bryant, K. PEB0320
B Simões, C. PEB0207
B Tanui, S. PEB0246
Bua, G.M. PEE1646, PEE1547
Bucala, R. PEA0040
Buchacz, K. PEB0148, **PEC0358**
Buchanan, A. OAB0706, PEB0293, PEB0233
Buchanan, K. PEE1635
Buchbinder, S. OAC0605, PDC0203, PEC0483, PEE1493
Buchmann, J.P. PEA0009
Budhathoki, C. OAE0804
Budhwani, H. OAB0102, **PED0946**, PED1116
Buenz Makulec, A. **PEE1712**
Buerkert, T. OAA0404
Bugaighis, M. PED1244
Bugos, E. PEE1703
Bui, Q. PED0850
Bui, T.T.H. PEC0511
Buisson, S. LBPED30
Buitron, M. **PEE1378**
Bukassa Kazadi, G. PEE1386
Bukenya, J. PDC0403
Bukowski, L.A. PED0944
Bukuru, A. OAB0404
Bukusi, D. PED1164
Bukusi, E. OAC0105, PEC0655, PEC0701
Bukusi, ,.E. PEE1630
Bukusi, E.A. PDC0206, OAC0805, OAD0302, PED0903, PED1148, PED1164, PEC0708
Bulamba Malyabe, R. PED1029
Bulls, Z. PEF1815, PEF1880
Bulstra, C.A. **PEE1343**
Bulterys, M. PEC0582, PED1250
Bulti, A.B. **PEB0131**, PEB0132
Bumrongkhiri, A. PEE1732
Bunainso, W. PEC0757
Bunda, B. PEC0364, OADLB0102
Bunga, S. PDB0106
Bunjun, R. PEA0030
Bunpo, P. PEB0192
Bunsirithanarot, V. PEF1856
Buono, N. PDD0205, PEB0304, PEE1475
Burchell, A. PEC0454
Burchell, A.N. PEC0451, PEC0533, LBPEE49
Burdock, T. PEE1362, PEE1382
Buregyeya, E. PEC0553
Burger, D. OAALB0103
Burger, H. PEA0053
Burger, R. PED1148
Burger, R.L. **PED0903**
Burgess, J. **PEE1700**, **PEC0555**
Burke, M. **PEB0290**, PEB0326, PEB0327
Burkholder, G. PEC0450
Burks, C. PED1087
Burnett, J. **PEC0421**
Burnett, N. OAALB0103
Burns, D.N. PEC0707
Burns, F. PEB0096
Burns, F.M. OAD0504
Burress, R. PDB0202
Burrows, D. PEE1524
Burtt, F. PEC0706, PED0844, PED1295, **PED1296**, PEE1602, PEE1651
Burure, B. OAE0704
Busà, B. PEB0119
Busby, B. PEA0009
Busca, C. PEB0216
Busch, M. PEC0483, PEC0488
Buseyne, F. PEA0016
Bush, A. PEE1323, PEE1344, PEE1345, PEE1356, **PEF1751**, PEF1882
Bushara, N. PED1036
Bushen, J. **PDB0202**
Bushman, L. PEC0604
Busi, A. PEE1427
Businelle, M. PEC0716
Busingye, P. PEE1403
Buskin, S. LBPEC26
Busobozi, H. PEE1424
Bustamante, M. PED0901
Bustillo, M. PEB0299
Bustinduy, M.J. PEB0216
Busza, J. OAC0102
Butame, S. PED1116, PEE1408
Butame, S.A. **PEF1860**
Buthelezi, F. PED1248
Buthelezi, S. PEB0131
Butler, C. PEE1620
Butts, V.A. OAC0504
Buumba, L. PEC0578
Buwembo Luyera, M.P. **PED0811**
Buzaalirwa, L. PEE1457, PEE1708
Buzón, M.J. PEA0029
Buzwell, S. PED0795
Buzzi, M. PEB0239
Bvumbwe, M. **PEE1597**
Bwakura-Dangarembizi, M. PEB0328
Bwalya, J. OAC0204
Bwana, M. PED0867
Bwanika, J.M. **PED1314**
Bwayo, D. **PDE0403**, PED1317, PEE1391, PEE1448, **PEE1589**, PEE1667
Byamukama, D. PEE1341
Byansi, W. PEE1365
Byonanebye, D. PEE1639

C

Caballero, M. PDE0305
Caballero-Suárez, N.P. **PED0860**
Cabello, A. PEB0216
Cabello, R. OACLB0101, OAXLB0101
Cabezas, M OAF0104
Cabié, A. PEB0355
Cabral, A. **PED1030**
Cabral, H. PED0899
Cabral, J. PEE1468
Cabrera, A. **OAC0406**
Cabrera, N. PED1094
Cabrerizo, G. PEA0044
Cabsela, C. **PEE1533**
Caccia, R. PEB0250
Caceres, C. PEC0715, PEE1462
Caceres, C.F. PEC0692, **PEC0738**
Cáceres, C. OAC0505, OAD0706, PEC0694, PEE1644
Cáceres, C.F. PEC0538, PED0962, PED0963
Cacopardo, B. PEB0119
Cadelina, J. **PDD0505**
Cadet, M. PEE1519
Cadigan, R.J. OAD0704, PED0761, PED0770, PED1198
Cadiñanos, J. PEB0212
Cadranel, J. OAB0203
Caesar, G. PEC0475
Cahill, S. PED1141
Cahn, P. OAB0202, PEB0098, PEB0344, PED1095, PED1100, PED1106, PED1107
Cai, C. PDD0402
Cai, L. **PED1110**
Cai, W. PEB0146
Caires, P. PEC0643
Calabrese, S.K. **PED0973**
Calcagno, A. PEB0173
Calcutt, N. PEA0088
Calderón, M. **PEF1756**
Caldwell, S. LBPEE44
Caldwell, S.C. PEE1449
Cali, J. PEE1347
Caliche, H. PEE1383
Calin, R. PEB0342
Calixto, D.A. **PEF1889**
Callahan, T. PEC0384, PEE1387
Callander, D. OAC0205
Callau, P. LBPEB15
Callebaut, C. PDB0404
Calmy, A. OAB0402, PEB0088, PEB0172, PEB0239, PEC0596
Calnan, J. PEE1537, OAE0106, PEE1676
Calva, J.J. PEB0259
Calvar, C.E. PED1094
Calvo, G. PEC0738, PEE1462
Calvo, K.d.S. PEB0143
Calvo, L. PED0881
Calvo Moreno, G. PEE1644
Calza, S. PEB0340
Cama, A. PEB0221
Camara, Y. PEC0703
Cambey, C. PEE1480
Cambiano, V. PEC0367
Cambou, M.C. **PDC0404**
Cambule, A. PDD0102
Camelo Madeira de Moura, M. PEE1450, PDB0407, PDE0407
Cameron, A. OAD0902
Cameron, M. PEC0628
Camiro-Zuñiga, A. **PEA0027**
Camlin, C.S. OAC0805
Camp, D. **PED0980**
Camp, N. PEC0721
Campa, A. PEB0205, PEB0206, PEB0349, PEB0350
Campbell, B. PED1087
Campbell, D. PEC0755
Campbell, J.C. PED0934
Campbell, J. **PEB0202**, **PEE1517**
Campbell, L. PEB0297, PEB0316
Campbell, T. PEB0094

Campos, N.C. PEB0090
Cañada, J. PEC0458
Canagasabey, D. **OAE0606**, PEE1471
Canetti, D. PEB0201
Canjura, C. PED1006, PED1018
Cano, A. OAF0104
Cantelmo, C. **PEE1328**
Cantera, J. OAB0506
Cantero-Pérez, J. PEA0029
Cantrell-Warren, T. PEE1378
Cao, W. PED0961, **PED0997**, **PED1234**, **PEB0197**, PEB0230
Cao, Y. PEB0146
Capasso, A. **PED0835**, PEE1365
Capitant, C. PDB0302
Carballo-Jimenez, P.P. PEC0439
Carbone, N. PEE1571, PEE1572
Card, K. PEC0536
Cárdenas-Ochoa, A. PEA0027
Cardinal, H. PEB0227
Cardoso, S. PED1308
Cardoso, S.W. OAB0404, LBPED35, LBPED36
Cardoso, S.w. PEC0557, PED1303
Cardozo, N. PED1092, PED1095, PED1106, **PED1107**, OACLB0101
Cardozo, N.F. PED1100
Carette, D. PDB0302
Carey, A. PEA0060
Carey, M. PEC0424
Carey, S. **OAD0804**
Carfi, A. OAALB0101
Carias, A.M. PDA0206
Carl, G. PEF1856
Carlos, I.C. PED0881
Carlos, S. PEA0005, PEB0117
Carlson, D. LBPEC26
Carlson, K. PEC0358
Carmona, S. PEC0502, PEE1487
Carneiro, P. **PEC0492**
Carnes, N. LBPEC22
Caro, Y. PEE1564
Carol, S. PEE1667
Carol, T. PED1229
Caro-Vega, Y. OAB0202, PEC0542
Carpenter, D. PEE1727
Carrasco, I. PEB0282
Carrasco, M. PED1318
Carrasco, M.A. PED1321
Carrasco, R. PDE0305
Carrieri, P. OAC0305
Carter, A. **PED0873**
Carter, C.C. PDB0303, PEB0165
Carter, D. PED1014
Carter, J. PED0923
Carton, T. PDD0407, PEC0734
Caruso, F.C. PEA0062
Carvalheira, E. PEC0557, PEC0604, PEC0711, PED1303, PED1308
Carvalho, A. PEB0235
Carveth-Johnson, T. PEB0163
Casabona, J. PEC0568, PEC0694, PED0962, PED0963
Casado, J. PED1051
Casado, J.L. PEB0189, PEB0225, PEB0237, **PEB0127**
Casalini, C. PEC0407, LBPEC18
Casas, R. PEB0273
Casey, E. **PED0951**
Caskey, M. PEA0060
Cassel, M. PEC0598, PED1253
Cassell, M. OAD0505
Cassetti, I. PEB0098, LBPEE48
Cassidy, T. PEE1497, PEE1635, **OAELB0102**, LBPED31
Cassidy-Matthews, C. **PDC0204**, PEC0536
Cassim, N. PEC0502, PEE1499
Cassolato, M. **PEC0574**, PEF1859
Castagna, A. PEB0250
Castañeda, H. LBPEF61
Castellanos, E. PED0773, PED0808
Castellanos, M. PED0764, PED1140, PED1304
Castelli, F. PEB0173, PEB0340
Castellví, J. PEA0029
Castelnuovo, B. PEB0112, PEB0256, PEB0283
Castillo, M. PEE1347, PED1121
Castillo, R. PEB0159
Castillo-Mancilla, J.R. PEC0724
Castle, P.E. PEA0073
Castor, D. PEB0289
Castro, C. PEC0604, PEC0711, PEF1838, PEF1839
Castro, C.V. OAD0105
Castro, I. PEB0296
Castro, J.M. PEB0212
Castro Álvarez, J.M. PEB0150
Castro Avila, J. **PED0942**
Castro de Albuquerque, R. PDB0407, PDE0407, PEC0383
Castro-Granell, V PED1051
Castro-León, L. PED0861
Catrambone, J. OAD0902
Cattani, V. PEC0604
Causey, S. **PED1178**
Cavalieri, F. PEA0062
Cavallin, F. OAC0202
Cavanaugh, C. PEB0152
Cavanaugh, J.S. PEE1619
Cavanaugh, S. PDB0106, PDC0306, PEE1617
Cavassini, M. PEB0172, PEB0239, PEC0596
Cavenaugh, C. PEB0151
Cazeia, M. PEE1618
Cazier, C. OAB0705
Cazorla, G. PEC0742
Ceballos, A. PEA0044
Ceccarelli, M. **PEB0119**
Ceccherini-Silberstein, F. PEB0253
Cecchini, D. PEB0098, **PEB0276**, LBPEE48
Cecula, P. **PEE1364**
Cele, R. PEE1500, PEE1626
Celentano, D. PED1021
Celentano, D.D. PED0890, PED1037
Celesia, B.M. PEB0119
Celotti, A. **PEB0340**
Celse, M. **PEC0448**
Celum, C. PED1250, PEE1372, PEE1375, PEE1554
Celum, C.L. OAE0505
Cenderello, G. PED0833
Cenoz, S PED1051
Centeno-Mediavilla, C. PEA0029
Cepeda, J. **PEC0527**, PEC0538, **PEC0539**, PEC0712, **PEF1741**
Cepeda, J.A. PED1277
Ceranto, A.L. PED0851
Cerasuolo, D. LBPEE53
Cerecero, D. **LBPEE52**
Cerecero Garcia, D. PEE1330
Cerecero-García, D. **PED1291**
Cerqueira, C. PEC0557, PED1303
Cerqueira, N.B. PED1091
Cerrón, D. PEB0159
Cervantes, E. PEB0296
Cervero, M. PEA0064
Cesar, C. PEB0344
Ceus, G. PEB0203
Céus, G. PEE1519
Cezaretto, A. PEC0417
Chabata, N. PEE1460
Chabata, S. PEC0477, PEC0682
Chabata, S.T. **OAC0102**
Chabria, S. PEB0291
Chacha, A.A. **PEF1845**
Chachage, M. PEC0425
Chagomerana, M.B. OAB0404
Chahin Anania, C. OAB0305
Chahlin Anania, C. OAB0302
Chahroudi, A. OAA0202
Chai, B. PEC0723
Chaila, M.J. **PEB0161**
Chaiprakobwiriya, N. **PED0920**
Chairat, S. PED1123
Chaisalee, T. PEF1856
Chaitiamras, S. PEE1732
Chaiwarith, R. PEB0191, PEC0397, PED1123
Chakare, T. **OAD0604**, OAE0704, PEE1543, PEE1544, **PEE1545**
Chakezha, T. **PEC0520**
Chakhtoura, N. OAB0505, PED0817
Chakraborty, S. PED1028
Chakrapani, V. PEC0628, PEC0690, PED1249
Chakravarty, D. PED0986, PED1097, PED1152
Chakravarty, J. **PEB0166**
Chakuvinga, P. PDD0304
Chalal, S. PEB0122
Challenger, E PEA0086
Chalon, J. PEF1792
Chaloner, C. PEB0096
Cham, B. OAF0403, PEF1844
Chamanga Kanyenda, R. **PEB0304**
Chamba, E. PEB0125
Chamie, G. OAC0203, OAC0805, PEC0708
Champiat, S. PEA0067
Chan, C. PDA0106, PEA0046, PEC0636
Chan, D.P. **PEC0443**
Chan, P. PEC0617
Chan, P.A. PED0772
Chan, R. PEC0422
Chan, S. PEC0691, PEE1531
Chan, Y. **PEF1736**
Chan, Y.-J. PEB0191, PEC0397
Chancham, A. PEB0346, PEC0444, PEC0659, PEE1485, LBPED33
Chanda, D. PEB0161
Chanda, M. PEE1578, PEE1632
Chanda, S. PEB0161
Chander, G. PDD0107, PED0850
Chandiwana, N. OABLB0103
Chandler, C.J. PED0944
Chandramaulika, R. **PED1028**
Chandramohan, D. PEC0705
Chandrasekaran, E. PEB0191
Chang, C. PED1234, OAE0506
Chang, C.Y. PED0783
Chang, E. PDE0103
Chang, H.Y. PEB0219
Chang, J. PEE1349, PEC0710
Chang, L. PED0882, **PEE1642**, PEE1646, **PEE1703**
Chang, L.W. PEE1547
Chang, M. PEC0667, PED1035
Chang, S. PEB0254
Chang, W.-T. PEB0184
Chang, W. OAA0404
Chang, X. **OAALB0103**
Changalucha, J. LBPEC18
Chanlearn, P. OAE0702, PEE1542, PEF1856
Chann, N. OAD0403, PED1040, PED1047, PED1048, PED1067, PED1098
Chanos, S. PEC0727
Chao, A. **PEC0723**
Chapin-Bardales, J. **OAC0504**, PEC0421
Chapman, J. **PED1213**
Charalambous, S. PEE1477
Chareka, G. PDC0402, PEC0658
Chariyalestak, S. OACLB0101, OAXLB0101
Charlebois, E. OAB0702, OAC0203, PEC0655, PEC0708
Charlebois, E.D. OAC0805
Charles, B. PEB0142
Charles, J. PEC0382, PEC0756, PED1324, **PEE1654**, PEE1735, PEE1736
Charpentier, C. **PEB0122**
Charreau, I. PDB0302
Charurat, M. PEC0484
Chasakara, C. PDC0402, PEC0658

Chase, R. PEC0626
Chasela, C. **PEB0151**, **PEB0152**, PEE1626, PEE1631
Chatikobo, S. PEE1700
Chatora, K. **OAE0506**, **PEE1548**
Chattranukilchai, P. PEB0182
Chauca, A. PEC0737
Chauvin, C. PEB0342
Chauvin, P. PEB0342
Chavan, A. PED0813
Chaves, A. PED1111
Chavez, M. OAC0503, PEE1526
Chavez, P. PEC0359, PEC0567
Chavira-Razo, L. PED0861
Chawilai, A. **PEE1679**
Chawinga, K. PDE0103
Chawla, U. PEC0661, PEE1702
Chayama, K.L. **PED1044**
Chazallon, C. OAB0303
Chebet, J. **PEC0626**
Chechi, T. PEC0514
Chechotkina, Y. PEF1747
Cheema, J. PED0831
Cheever, L. PEE1374
Chege, W. PEC0365
Che Gilbert, A. **PEE1594**
Chehab, J. OAB0507
Chemnasiri, T. PDC0105, PEC0409, **PED1105**
Chemtob, D. LBPEC26
chen, J. PEB0243
Chen, A.P.-L. **PEC0640**
Chen, A. PEB0101
Chen, C.-H. PEC0403
Chen, C.L. **PED0796**
Chen, D. PEB0155, OAC0706
Chen, I. PDC0406, PEC0389, PED0882
Chen, J. PEB0188, **PED0818**, PEC0385, PEB0205
Chen, L. PEC0440, PEE1353
Chen, L.-F. OAD0705
Chen, L.Y. **PEB0219**
Chen, M.I-C. PED0964, PED0965, PED1034, PED1298
Chen, M. PEC0482, **PEC0501**, PDE0203
Chen, R. **PEB0243**
Chen, S. **PEB0230**, PEC0516
Chen, T. PEA0086
Chen, W.-P. PEB0184, PED0830
Chen, W. PEB0146
Chen, W.-L. PEE1616
Chen, X. PED0837, OAALB0101
Chen, Y.-H. PEC0522, **PEC0403**, PEE1366
Chen, Y.M. PEA0034
Chen, Y. PED1290, **PEA0006**
Chen, Y.-W. PEE1616
Chen, Y.-F. OAD0705
Chen, Z.-C. PEB0184
Chen, Z. PEA0061
Cheng, A. **PEE1539**, PEE1540
Cheng, D. PEB0348
Cheng, Y.-C. PEC0403
Cheptoris, J. PEC0664, PEE1606, PEE1675
Cherchiglia, M.L. PEC0412
Cherem Morelli, T. PDB0407, PDE0407, **PEC0383**, PEE1450
Chernick, L. PED1244
Chernoff, M. PEB0328, LBPED30
Chernova, O. PED1042
Cheron, M. PED1077
Chéron, A.-C. PEF1792
Cherop, S. **PEE1649**
Chesson, R. PEE1449
Chete, B. OAF0104
Chettra, K. OAB0104
Chetty, L. **PED0782**
Chetty, V. PED0782
Chew, K. PEB0151, PEB0152
Cheyip, M. PDC0303, PEC0509
Cheynier, R. PEA0055
Chhagan, U. PEB0208
Chhetri, S. PEC0402, PED0924, PED0953
Chhim, S. PED1098
Chhoun, P. **OAD0204**, OAD0403, **PED1040**, PED1047, PED1048, PED1067, **PED1098**, PED1151
Chiang, L. PED1145
Chiao, E. PEC0440
Chiasson, M.A. PEC0730
Chibanda, D. PED0834
Chicuecue, N. OAB0507, PDE0405, PEB0108, PEC0743, PEE1714
Chidiac, C. PDB0302
Chidozie, A. PEE1359
Chidrawar, S. **PEE1555**
Chihana, M.L. PEC0485
Chihumela, B. OADLB0104
Chih-Wei Chang, J. PEC0500
Chikaka, E. PEC0396
Chikalogwe, V. LBPEF54
Chikanya, W. **PED1169**
Chikasawa, Y. PEB0156
Chikoti, C. PEE1694
Chikuba-McLeod, M. OAC0606, **OAD0202**, PEC0645, PEC0735, PEE1411, PEE1580
Chikuse, E. PED1223
Chilangwa, C. PEE1437
Childs, K. LBPEB12
Chileshe, K. PEE1628
Chiliade, P. PEE1656
Chilinya, M. OAC0405
Chiliza, B. PEB0208
Chiliza, J. **OAE0203**
Chilombe, M. PDD0205
Chilongosi, R. PEE1380
Chilongozi, D. PEC0575, PEC0634, PED0843, PED0977
Chilton, D. PEB0263
Chilukutu, L. PEB0135
Chimanpure, V. PEA0001
Chimbindi, N. OAC0104, PDE0306, PEC0689, PED1192, PEE1608, PEE1666
Chimbiri, A. PEF1742
Chimelwane, K. PEC0717
Chimenya, R. PDE0103
Chimezie, A. PEC0633
Chimhamhiwa, D. PEE1499
Chimpandule, T. OAE0502
Chimulwa, T. PEE1537
Chin, C.-S. PEA0009
Chin, J. PEC0466
Chinbuchorn, T. PEC0757
Chinbunchorn, T. **OAE0702**, PDB0204, PDC0106, PEB0325, **PEE1542**, LBPEE47
chinele, j. **PEC0634**
Chingombe, I. PEC0447, PED0998, PED1231, PEE1392
Chingono, A. OAD0703
Chingono, R. PEB0175
Chingumbe, L. PEE1426
Chinhengo, T. OADLB0104
Chinkonda, B. PED1188
Chinnawong, C. LBPED33
Chinyandura, C. **PED1248**
Chipato, T. OAB0505
Chipepera, M. PED0969
Chipeta, E. PED1127
Chipukuma, A. OAC0606
Chipukuma, J. PEC0578
Chipungu, J. PED1211
Chira, S.M. PEC0365
Chirenda, T. PDC0402, PEC0658
Chirenje, M. PEC0658
Chirenje, Z.M. PDC0402
Chirro, O. PEE1397
Chirwa, L. PDB0403, LBPEB07
Chirwa, T. PEB0319
Chisanga, W. PEE1584
Chisashi, M. OAD0202
Chisenga, T. PEC0651
Chishala, S. PDC0202, PEC0462, PED1069
Chit, P.T. **PED1039**
Chithenga, S. PEE1466
Chiti, B. PEC0679
Chitimbire, V. PEC0653
Chittenden, L. PED1005
Chitukuta, M. PEC0693
Chituwo, O. PDA0104, PDD0503, PEC0651, PED1236, PED1319, PEE1502, **PEE1522**
Chiu, A. PEB0265
Chiu, C. **PEE1581**
Chiu, Y.C. **PEF1841**
Chiururwi, B. PED1203
Chivafa, A. PEC0706, PEE1602
Chivwara, M. PEE1652
Chiwandira, B. OAE0502
Chiwara, D. PEE1709
Chiwarengo, N. PEC0425
Chiyaka, T. OAC0102, PEC0477
Chiyenu, K. PEC0578
Choga, W.T. **PEA0077**
Chohan, B. PEB0179
Choi, J.Y. PEB0091, PEB0191, PEC0397, PED1275
Choi, S.K. **PDD0202**, **PED1312**
Choida, N. PEC0566
Choka, N. PED1062, PED1063, **PED1071**
Chokephaibulkit, K. PEC0753
Choko, A.T. PEE1380
Chomont, N. OAA0403
Chong, M. PDC0104
Chong, M.L. **PED0783**
Chonwanarat, N. PED1278
Chopade, T. PED1232, **PEF1821**, PEF1825
Chor, D. PED0954
Chory, A. PEB0308
Chotirosniramit, N. PEB0245
Choto, R. PEE1631
Choub, S.C. OAD0403, PED1098, PEF1871
Choudhary, S. **PEE1416**
Choudhry, M.K.A. **PDF0103**
Choudhury, P. PDD0305
Choudhury, P.K. **PEC0696**
Choun, K. PEC0436
Chounta, V. **PEB0261**
Chow, W. **PEB0194**
Chowdagudda, S. PEC0702
Chowdhury, A.J.A. **PEE1509**
Chowdhury, A. PEA0056
Choy, M. PEE1387, PEE1407
Chris, A. PEC0648
Chrisman, B.S. PEA0009
Christensen, A. OAE0704, PEB0294, PED1318, LBPEC18
Christenson, A. PEE1539, PEE1540
Christenson, C. PED1030
Christian, B. PEE1563, PEE1579
Christian, W.M. PDD0106
Christie, S. **PED1172**, **PED1210**
Christinet, V. PEC0596
Christopher-Izere, P. LBPED38
Christopoulos, K.A. **PEB0267**, **PED0809**
Chu, C. PEC0617
Chu, F.-Y. PEC0403, PEE1373
Chu, I.Y.-H. PEC0640
Chu, J.T. LBPEB13
Chu, V.A. PEC0707
Chu, Y. **PEA0085**
Chu, Y.-T. PDC0103, PEC0640
Chuang, Y.C. PED0796, PEB0219
Chudasama, K. PEE1653
Chukwu, E.O. **PEB0115**, **PEC0570**, **PED1183**
Chukwurah, E.F. PED1243
Chumnanwet, P. LBPED33
Chumseng, S. PDB0304
Chun, H. PDB0106
Chung, A.-C. PDC0103, PEE1616
Chung, C. PEF1894
Chung, M.C. PEA0063
Chung, M. PEB0120
Chung, S.Y. LBPEE53
Chungu, G. **PEE1610**
Chungulo, P. OAD0202, PEC0735
Churchyard, G. OAB0503
Churi, E. PEE1565, PEE1568
Chuster, R. PED1166, PEF1797
Chuy, R. PEE1527
Chuy, R.I. LBPEE44
Cianci, G.C. PDA0206

Ciaranello, A.L. PDE0504
Cicalini, S. PEB0201, PEB0253
Ciccacci, F. PEB0129, PED0902, PED1126
Cicciò, L. OAD0202, PEC0645, PEC0735, PEE1411
Ciccullo, A. PEB0340
Cicero, T. PED1054
Cichowitz, C. PED0869
Ciglenecki, I. OAC0806, PDB0305, PEB0088, PEB0125, PEC0732
Cikobe, V. OAE0606
Cinque, P. PEB0250
Cinthia, B. PEB0357
Cioppa, L. PED0800
Cislaghi, B. PED0917, PED1146
Cisse, M. PEC0703
Claassen, C. PEC0571, PEC0641
Claassen, C.W. OAC0405, PEC0578
Clackett, S. PEC0627
Clain, J. OAA0402, **PEA0026**
Clairgue, E. PED1277
Clara Lehmann, C. PEC0518
Clark, E. PEB0356, **PEC0440**
Clark, J. PEC0374
Clark, M. PEC0424
Clark, T.D. OAC0805
Clarke, A. PEC0367
Clarke, B. PEC0648
Claude, K. PED1133
Claude, N. PEC0512
Clavel, F. PEA0055, PEA0057
Clayden, P. OAXLB0104
Clayton, A. PEC0719
Clement, K. **PEF1901**
Clement, M. PEC0597, OACLB0101, OAXLB0101
Clement, N.F. PEE1449, PEE1458, PEE1662, PEE1677
Clemente, T. PEB0250
Clemenzi-Allen, A. OAE0103, OAE0406
Clerici, M. PEA0023
Clervil, A. PEB0203
Click, E. OAB0504
Clifford, D.B. PEA0088
Clifford-Rashotte, M. PEC0714
Cloete, A. PEC0405
Cloete, J. PED1320
Closson, K. **PEC0536**, **PED0767**
Cluver, L. OAD0506, **PDE0304**, PEC0748, PED0818, PED1025, PEE1382, PEE1601
Clynes, C. PED1097
C. McGowan, C. PEC0393
C. Moreira, R. PED0954
Coates, T. LBPEC24, LBPEC25
Coats, C.S. PED0772
Cobbing, S.E. PED0782
Cockburn, D. PDE0404, PEE1577
Cocohoba, J. PEC0633
Coelho, L. **PED0884**, PED1308, OACLB0101, OAXLB0101
Coelho, L.E. PEC0557, PEC0715, PED1303, LBPED35, LBPED36
Coetzee, J. PEC0398, PED1016
Coetzer, M. PEB0308
Coffey, S. PEC0483, PED0809, PEE1641
Coffin, P. **PEB0347**, PEC0399
Coffin, P.O. PEB0352
Cohen, C. PEC0701, PEE1630
Cohen, C.R. PDC0206, OAC0805, OAD0302, PED0903, PED1148, PED1164
Cohen, M. PED0854, PEF1881, OACLB0101, OAXLB0101
Cohen, M.S. PEC0370
Cohen, S. **PEE1374**, PEC0466, PEC0482, PEC0483
Cohen, S.E. PEC0501
Cohn, J. PEB0341
Coiras, M. OAA0204, **PEA0064**, PEB0150
Colbers, A. PEA0086
Colby, D. OAD0704, PED0761, PED0770
Colchero-Aragonés, A. PED1291
Cole, S.R. PEB0218
Colella, E. PEB0190
Coleman, J. PED0869
Coleman, K. OAC0605
Coleman, R. PEC0755
colizzi, V. PEB0251
Coll, J. PDB0303
Coll, P. PEA0028
Collaco Moraes, Y. OAD0504
Collier, A. PEB0245, PEC0450
Collier, A.C. OAB0404, PEA0088
Collin, G. PEB0122
Collins, I.J. PEC0388
Collins, J.A. **PEB0159**
Collins, S. OAB0403, PEB0254, PEB0257, PEB0096, PEC0367
Colomb, F. PDA0207
Columpsi, P. PEB0190
Combs, B. LBPEC26
Combs, T. PEE1466, PEE1480
Comegna, A. PEC0408
Comegna, M. **PEC0360**, **PEC0408**
Comins, C. PDD0306, PEC0387, **PED1076**
Comley-White, N. PED0755
Comulada, S. PEB0169
Conan, N. **PEC0485**
Conkling, M. PED1145
Connochie, D. PED1312
Connolly, E. PEE1704
Conradie, F. OAB0502
Conroy, A. PED0879, **PED1149**, **PED1159**
Conroy, J. PEB0202, PEE1424
Conserve, D. PEE1607
Conserve, D.F. OAD0806
Constant, G. **PEB0232**
Conte, M. **OAE0103**, OAE0406
Contreras, A. PEC0595
Contreras, R. PEC0619, PEC0621
Conyngham, C. LBPEC26
Cook, A.R. PED1298
Cook, C. PEE1325
Cook, R. PEE1464
Cook, R.L. PED0837
Cooley, N. PEA0009
Coombs, R. PDB0102
Cooney, C. OAC0803, **PED0932**
Cooper, A. PEE1464
Cooper, B. **PEF1815**, **PEF1880**
Cooper, C. PEB0231
Cooper, H. PED0798
Cooper, H.L. PED0926
Cooper, T. PED0889, PED0898
Coovadia, A. PEB0326
Copenhaver, M. PEC0632
Copertino, D. PEA0013
Coppieters, Y. LBPEC20
Corbelli, G.M. PED0773, PED0808
Corbett, E.L. PEC0679, PEE1380
Corbett, L. PDE0505, PEC0689
Corciega, J.O. OAE0706, PDD0103, PEF1864
Cordero, L. PED0868
Cordes, C. PEC0518
Cordioli, M. PEB0168
Corino, E. PEB0299
Cormack, I. PED0862
Cornell, M. PEC0672, PEE1454
Corpus, J. PEB0265
Correia, D. PEE1514
Correia, R. **PEB0235**
Correll, T. OAB0302, OAB0305
Corritori, S. LBPEA02
Cortegano, I. PEB0150
Cortes, C.P. OAB0202
Cortes, C. LBPEE53
Cortes, R. PED1102, **PED1103**, **PED1104**
Cortez-Jugo, C. PEA0062
Cortez-Pinto, H. PEB0207
Cosentino, F. PEB0119
Cosimi, L. PED1264, PEF1853
Cosmas Kwezi, E. OAC0202
Costa, M.C.B. PED0856
Costa, P.R. PED1304
Costa de Menezes, A.I. PEE1450
Costagliola, D. OAB0203, PED0865
Costigan, K. PEE1621
Costiniuk, C. PEA0031
Cote, G. PEE1386
Côté-Sergent, A. PEB0194
Cotnam, J. PED0800
Cotrim Segurado, A.A. PEC0565
Cotten, M. PEA0017
Cottle, L. OACLB0101, OAXLB0101
Cotton, M. OAE0304
Cotton, M.F. PEB0328
Cotugno, N. PEA0024, PEB0315
Coulaud, P.-j. **PEC0741**
Coulaud, P.-J. PED1287
Coulibaly, K.D. **PEB0109**
Courey, M. PEC0695
Cournos, F. PEE1463, PEE1488, PEF1891
Coutinho Ribeiro, I. PEB0090
Couto, A. PDB0305, PDE0405, PEB0108, PEC0743, **PEE1714**
Couto, M.T. PED1122
Cover, A. PEC0733
Cover, J. **PED1290**
Cowan, F. PEB0175, PEC0413, PEC0477, **PEC0682**, PEC0689, PED0816, PED1293
Cowan, F.M. OAC0102, PEC0660
Cowan, J. OAB0507
Cox, J. OAD0602
Cox, S. **PDB0404**
Coyle, K. PEF1860
Cozzi-Lepri, A. PEB0201
C. P. Mendicino, C. **PEA0078**
Crabtree-Ramirez, B. OAB0202, PEA0027
Crabtree-Ramírez, B. **PEC0542**, LBPEB14
Cracium, A. PEB0207
Crandall, B. PEE1682
Crane, H. PEC0450
Crane, H.M. PEC0452
Crauwels, H. PEB0264
Crawford, A. PED0851
Crawford, B. PEB0236
Creal, L. **PED0851**
Creel, D. PEC0427
Crehan, P. LBPEE53
Cremieux, P. OAB0405, PEB0121, PEB0203
Crémieux, P. PEB0258, PEE1519
Crepaz, N. **OAC0206**, **PEC0740**
Crespo Bermejo, C. PEB0150
Cressey, R. PEB0192
Cressey, T.R. PDC0106, PEC0657
Cresswell, F. PEB0262
Crim, L. PEB0280
Crisostomo, V. **PED0784**
Cristina Abbate, M. PEF1869
Cristina dos Santos, M. PEF1869
Crompton, T. PEE1499
Crook, A. OAB0502
Cropper-Williams, D. PEC0719
Crosland Guimarães, M.D. PEA0078, PEC0449
Cross, C. PEB0200
Crouch, P. PEC0483
Crouch, P.-C. OAC0503, PEB0267, PEE1526
Crowell, C. PED0814, PED0823, PED1131
Crowell, T. OAB0602, OAF0403
Crowell, T.A. **PEC0518**, PEC0720
Crowley, K. PED1128
Crowley, M. PEE1456
Croxford, S. PEC0369
cruz, A. **PEE1613**
Cruz, A.B. PEA0007

Cruz, A. PEE1515
Cruz-Camacho, C. **PEF1761**
Crystal, S. PEF1891
Csete, J. OAF0402
Cua, E. PDB0302
Cuadra, A. PEB0320
Cuamba, I. PEE1570
Cuello, L. PEC0669
Cuervo, J. PEB0180
Cui, Z. OAD0602, PEC0434
Culuze, S. PDD0102
Cumbe, V. OAE0803
Cummings, B. PEC0555
Cummins, J. PED1128
Cunha, M. PDE0405
Cunha Mendes Ferreira, A.A. PEC0383, PEE1450
Cunningham, L. PED1225
Curado, A. OAC0305
Curanovic, D. **PDB0402**
Curran, K. PEC0474, PEE1687, PEE1713, LBPEC21, PEC0511, OAE0704, PEC0407, LBPEC18
Currier, J.S. PEB0181
Curry, L. PED1210
Curtis, K. OAA0203
Curtis, L. PEB0233
Curty, G. **PEA0067**
Cusick, S. PEB0322
Cust, H. PEC0413
Custer, B. PEC0427
Cutrell, A. PEB0263
Cu-Uvin, S. PEC0422
Cuzin, L. **PEB0355**
Cynthia Piaplah, A. PEC0512
Cyr, C. PEE1386
Cyril, K. PED1229
Cyrus, E. PDD0104
Cyrus, PhD, MPH, E. PED1096
Czarnogorski, M. **LBPEE42**
Czernikier, A. PEA0040
Czuba-Wojnilowicz, E.I. PEA0062

D

Daans, C. PED1101
Daar, E. OAXLB0101
Dabee, S. PEA0030
Da Costa, V. PEC0363, PEE1520
da Costa Galvão, R. PED1166
Dada, A. PEE1483
Dada, S. PEC0555
Dadirai, T. PEB0105
D'Agostino, R. PEB0187
Dagur, R.S. PEA0072
Dah, E. PEC0629
Dahal, D.K. PEC0537
Dahlui, M. PEE1350
Dahrug Barros, T. PDB0407
Dai, A. PEB0203, PEE1519
Dai, W. PEC0584, PEE1369
Dai, X. **PED1199**
Daka, G. PEC0571
Daka, M. PEE1522, OAC0806
Dakshina, S. **LBPEB16**
Dakum, P. OAE0402
Dala, N. PEC0500
Dalhatu, I. PEB0301, PEC0484
Dallabetta, G. PEE1531
Daly, M. **OAA0203**
Dalzini, A. OAA0406
Damara, D. PEC0532
Damas, J. **PEB0172**
D'Amato, S. PEB0138
Damba, D. PEE1574
Dambaya, B. PEB0251
Dambe, R. PED1127, PED1184
D'Amico, R. **PEB0263**, LBPEE42
Damond, F. PEB0122
Damulira, C. PEE1365
Danaviah, S. PDE0306, PEB0315
Dande, C. PDC0206
Dandekar, S. PEA0049
Dane, S. PEE1614
Dange, A. PEC0665, PED1224, PED1249, PEF1836
Dang Thi Nhat, V. PED1264
Daniel, F. PEE1351
Daniel, M. **PEB0147**
Danilovic, A. PEA0007
D'Anna, L. PED1006, **PED1018**
Dantas, M.C.S. PED1091
D'Antoni, M.L. PEB0254
Dapremont, L.M. PEE1594
Dara, M. LBPEE53
Darawuttimaprakorn, N. PED1078
Darbes, L. **PED0986**, PED1149, PED1152, PED1159
Darisheva, M. OAE0805, PED1035, **PEE1436**
Darling, K. PEB0172
Darlington, C. OAD0606
d'Arminio Monforte, A. PEB0173, PEB0201
D'Arminio Monforte, A. PEB0092
Daruwalla, P. PEE1658
Darvishian, M. PEC0451, PEC0454
Das, B. OAA0302, PEA0054
Das, C. PEE1555
Das, G.C. PEA0011
Das, M. PDB0303, PDB0404, PEB0165
Das, S. **PEC0366**, **PEC0530**
Das, U. PED0831, **LBPEE50**
Dasgupta, S. PEC0442, PED1124
Dashti, A. **OAA0202**
da Silva, G.J. PEA0078, PEC0449
da Silva, G.C. PEF1889
da Silva, L. PED1140
da Silva, L.C. PEB0143
da Silva, L.A.V. PEC0552
Da Silva, G. PED0780, PED0800
Da Silva, T.P. PDA0103
Da Silva Brandao, R.R. **PED1161**
da Silveira, L.N. **OAC0704**, **PEB0220**
Daskalakis, D. **PEF1878**
Daubert, E. OAC0603
Daud, J. OAE0704
Dauda, D.S. PED0807
Daughtridge, G. PEE1670
Davey, S. OAXLB0102
David, A. PEA0004, PEA0059
David, S. LBPEC17
David-Gnahoui, B. PEC0406
Davidovich, U. PED0950
Davidson, L. PED1129
Davies, A. PEC0726, PEE1423
Davies, M.-A. PEC0438, PEC0753
Davies, N. OAE0404, PED1266
Davila-Caballero, R.N. PEC0439
Davis, A. PED1038, PED1213, OAD0606, PED1286, PEC0733
Davis, J. PEB0228
Davis, S. PED0878, PED1197
Davis, S.M. LBPEC19
Davis-Plourde, K. PED0899
Davy-Mendez, T. **PEB0218**
Dawit, R. PEC0460
Dawson, A. **PED0762**, PED1162
Dawson, L. **PEF1884**, PEF1891
Dawson, R. OAB0503
Dawson Rose, C. PED1168
Day, N. PEB0342
Day, S. **OAD0806**
Dayton, R. OAF0103
Daza, E. PED0884
D. Baral, S. PEC0459
Ddaaki, W. **PEE1547**
Ddungu, A. PEB0112
De Angelis, D. PEC0507
Dear, N. OAB0602, **PEC0720**
de Assis Acurcio, F. PDE0506
de Azevedo, V. PEE1635
DeBeck, K. PEC0426
Debem, H. PEB0301
de Bree, G.J. PEB0271
de Camargo, R.F. PEF1797
De Castro, N. OAB0303
De Castro Conde Toscano, A..L. **PEB0160**
Decker, M. PED1078, PED1105
Decker, NP, A. PEE1549
Decosterd, L. PEB0239
Dedes, N. PEC0755
Deeklum, P. PEB0325
Deeks, S. OAA0102, OAA0403, OAA0405, PDB0102, PEC0483
Deeks, S.G. OAB0205, PEA0051
Deemer, J. **PED0790**
Deering, K. PEC0418, PED0877, PED1165
Deese, J. **PEA0022**
de Faria Romero Soldi, G. PEB0090
Defechereux, P. PEB0267
de Freitas, M.A. OAC0704, PEB0220
Degenhardt, L. PEC0538, PEC0539, OACLB0103
Deguma, D. PEE1625
Dehlendorf, C. PED0878, PED1197
Deihl, W. **PEF1781**
Deisher, A. PED0955
de Jesus, B. PED1166, PEF1797
DeJesus, E. OAB0205, OAB0302, **OAB0305**
de Klerk, J. PED0775
Dekova, R. **OAXLB0103**
Delabre, R. PED0942
Delabre, R.M. **OAF0306**, PED0759
Delacourt, N. PEA0059
Dela Cruz, J.D.M. PEE1518
De La Hoz, A. PEB0180
de la Mora, I. LBPEB15
Delaney, J. PEC0450
Delaney, K. PEC0359, PEC0567
Delaporte, E. OAB0402
de la Tour, R. PEB0088
Delaugerre, C. OAB0303, PDB0302
de Lazzari, E. PDB0105
De Lazzari, E. LBPEB15
d'Elbée, M. **PDE0505**
Delele, K. **PEC0362**, **PEE1561**
de León, A. **PEF1766**
Delgado, E. PEC0458
de Lima, M. PEF1797
de Lind van Wijngaarden, J.W. PED1278, PEF1864
Dell´Isola, E. PEB0098, PEB0344
Delobel, P. PEB0355
DeLong, A.K. PEB0308
DeLorenzo, L. PEE1488
de los Rios, P. PED0773
de Los Rios, P. PED0808
De Los Rios, P. OAD0903, PED0787
de los Santos, I. PEB0150
Delpech, V. PDC0207, PEC0369, PEC0480, **PEC0481**, PEC0507, PED0945
Delpierre, C. PEB0355
Del Rey, J.M. PEB0127
del Rio, C. PED0987, OAXLB0101
Del Rio, C. PEC0529, PED0797, PEE1368, PEE1376
del Romero, J. PEB0296
DeLuca, J.B. PEC0608
Delva, W. PEC0723
Del Valle, A. PED0778
de Macedo Brígido, L.F. PEB0090
DeMaria, A. PEC0721
de Mast, Q. **PEA0042**, PEA0045, PEB0183
Dembélé Keita, B. PEC0629
Demeke, H.B. PED0941
de Melo, L.R. PEC0668
de Melo Machado, H. PEF1855
de Melo Santos, C.J. PEC0552
Demerais, L. PDD0106, PED1227
De Miguel, R. PEB0212
Demke, O. PEE1361
de Mora, D.D. PEE1458, PEE1677
de Mulder Rougvie, M. **PEA0013**, PEA0067
Denarie, M. PEB0196
Denehy, P. PED1014
De Neve, J.-W. OAE0105
Deng, L. PDB0106

Deng, X. **PEE1689**
Deng, Y. PED0997
den Heijer, M. PED1101
Denilse de Araujo, N. OAC0403
Denison, J.A. PED1179
Dennis, A. **PED1026**
Dennis, M. OAALB0102
Denny, T.N. PEA0006
Dentone, C. PEA0025
de Oliveira, T. PEA0050
de Oliveira Costa, J. **PDE0506**
De-Oliveira-Pinto, L.M. PDA0103
Deoraj, P. **PEE1698**
Depallens, M. PEC0624
De Paris, K. OAALB0102
de Paula, I. **PEC0565**
de Paulo Ferreira, J.L. PEB0090
Depmeier, C. PEC0596
de Pokomandy, A. PED0767, PED0873
Derche, N. **PEB0342**
Derese, E. PEC0680
Deressa, T. PEE1721
De Ridder, R. PEF1827
de Rocco, F. PEF1855
De Rossi, A. **OAA0406**, PEA0024
Derrick, C. PEE1434
Derryck Castel, A. PEC0631
de Ruiter, A. PDB0103, PEB0263
Deryabina, A. PEC0695
De Sá, N.B.R. **PDA0103**
Desai, M. PED1172
Descamps, D. PEB0122
De Schacht, C. PDE0104, **PED0881**, PEE1533
Deschamps, M.M. OAB0405, PEB0121, PEB0258, PEE1519, PEE1647
Desclaux, A. PED1255
De Seleme, J. **PDE0405**
des Fontaine, N. **PED1315**
Deshko, T. **PEE1332**, PEE1334
Desinor, O. **OAD0205**
Desjardins, D. PEA0004
Des Jarlais, D. PEB0351, PED1244, **LBPEC26**
Des Jarlais, D.C. PED0926
Desmond, C. PED1129
DeSoto, J. **PED1300**, **PEE1665**
De Sousa, N.C.S. PDA0103
de Souza Silva, L.S. PEC0552
Desvigne-Nickens, P. PEB0181
Dettinger, J. PED1173, PEE1546
Deuba, K. **PEC0537**
Deus, L.F.A. PED1122
Deutsch, M. PEC0595
Devasundaram, S. OAA0304
Devaux, C. PEB0255, PEF1829
Devezin, T. PEE1532
Devieux, J. PEB0142
Dévieux, J. PDD0104
Deviéux, PhD, J. PED1096
Devoto Córdoba, M. PED1139
de Vries, H. PED1101
De Wet, J. PEB0229
Dewi, H. PEF1888
de Wit, J. PED0967
de Wit, J.B.F. PED1007
de Wit, M. PEC0477, PEC0510
Deyounks, F. PEA0087
Dhakal, M. **PEC0402**, **PED0924**, PED0953, PED1090
Dhlamini, R. PED0969, PEE1460
Dhliwayo, R. PED0779, PEE1586
Dhumma, N. PEF1787
Dia, F. PEB0289
Diaba, K. PEC0572
Diaba, K.M. OAC0604
Diallo, A.N. PEB0109
Diallo, K. PEE1499
Diallo, N.A. PEC0703
Diallo, O.H. PEC0703, PEC0703
Diallo, S. PEB0109
Dianatinasab, M. PEC0521
Diangamo, S. PEE1610
Diarra, J. OAE0606
Dias, D. OAXLB0105
Dias, M. PEA0054
Dias-Lalcaca, G. PEB0196
Diayar, A. PEC0465
Diaz, J.E. PUB002
Diaz, M. PEA0088
Diaz, N. PEC0713, PEE1347
Diaz, R. **OAXLB0105**
Díaz, G. PEC0374
Díaz, S. OAC0505
Diaz-Sosa, D. PEC0715
Di Benedetto, C. PEB0172
Di Biagio, A. PEA0025, PEB0173, PEB0201, PEB0340
Dible, J. PEB0151
DiCarlo, M. **PED1077**
Dicko, M. PEC0406
Dicks, K. PEB0228
Dickson-Tetteh, L. PEC0457
DiClemente, R. PED0835
Dideiro, M. PED1030
Di Diego Garcia, F. PEA0044
Didiya, R. PDE0206
DiDomizio, E. **PEC0632**
Dietrich, C. **PEC0363**
Dieye, F. PEB0109
Díez, F. PEB0273
Diez-Romero, C. PEB0296, PEB0337
Di Giambenedetto, S. PEB0255, PEB0340
Dijkstra, M. **PEB0271**, **PEC0470**, PEE1397, PEE1585
Dikobe, W. **PDC0202**, **PEC0462**, PEC0625, PED1069, **PEE1530**
Dilernia, D. PEA0017
Dillingham, R. PED0900, LBPED39
Dima, T. **PEC0625**, PEE1530
DiMeglio, L. PEB0188
Dimitrov, D. PEC0370, PEC0497, PEC0525
Dinaj, V. PED0946
Dinaj-Koci, V. OAB0102
Dinardo, A. PEB0298
Dinarello, C. PEB0183
DiNenno, E. PEC0567
Ding, E. PED0767, PED0873
Ding, S. OAALB0101
Dinger, J. OADLB0101
Dinh, C. OAA0203
Diones, M.L. PEF1745
Dion Ngute, G.A. PEE1594
Diop, A. **PED1022**
Diop, K. PEB0109
Diop, N. PEB0109
Diouf, D. OAD0102, OAF0403, PEF1844
Dioukhane, E. PEC0406
Dique, L. PDE0104
Dirajlal-Fargo, S. **PEB0313**
Dirawo, J. OAC0102, PEC0477, PEC0682
Dirkes, J. PEB0228
Discepola, M. **PED1240**
Diseko, M. OAXLB0102
Dissadidi, A. PEE1618
Ditangco, R. PDC0102, PEB0091, PEC0397
Ditlhako, T. PEA0002
Diwan, V. PED1320
Dixit, P. PEC0423, PEC0546
Dixon, D. PEE1501, PEE1567, PEE1632
Djaló, M.A. OAF0403
Djauzi, S. PEC0707
Djoerban, Z. PEC0707
Djuma, V. PEC0623
D. Klausner, J. PEB0163
Dlamini, L. PED1283, PEB0167
Dlamini, M. PEE1672
Dlamini, N. PEE1672
Dlamini, S. OAB0106, PED1125
Dlamini, T. **PED0825**
Dlamini Ndlovu, C. PEE1634
Dmitrieva, A. PEE1538
Dmitriieva, A. PEF1859
Dmytriiev, S. PEF1876
Do, C.D. PEB0191, PEC0397
Do, D.D. OAF0305
Do, K. OAE0204
Do, N.T. OAF0305
Do, P. **PED1264**
Do, T.H. OAF0305
Doan, A. OAE0802
Doan, H.A. OAD0603, PEC0601
Doan, T. LBPEE53
Doan Thanh, T. PED0988
Dobard, C. PEA0087
Dobbels, E. PEB0315
Dobbs, T. PEC0474, PEE1687, LBPEC21
Dobhal, A. OAA0302
Do Chau, G. OAB0303
Docken, S. PED1217
Do Huu, T. PED1264
Doi, N. OAE0503
Dolezal, C. OAB0103, OAD0802, PED0871
Domanico, P. PEE1517
Dombrowski, J. PEE1376
Dombrowski, J.C. PEE1368
Domercant, J.W. PEC0635, PEE1419, PEE1559
Domingo, P. PDB0105
Domingues, C. PEC0368
Dominguez Islas, C.P. PEC0688
Dominguez-Rodriguez, S. OAA0406, PEA0024
Domínguez-Rodríguez, S. **PEB0315**
Dompreh, A. PEC0464
Donadille, C. OAC0305
Donald, C. PED1256, PED1258
Donald, K.A. PEB0331
Do Nascimento, N. PED1213
Donastorg, Y. PED0959
Donco, R. PED1213
Dong, A. PEC0456
Dong, K. PEA0058
Dong, X. PEB0249, OAC0302
Dong, Y. PEC0440, **PEC0385**
Donga, P. PEB0194
Donggo, P. **PEC0576**, **PEC0581**, PED0933, PED0974, PEE1433, PEE1591
Donini, C.S. **PED1091**
Donnell, D. **OAC0105**, OAC0204, PEC0370, PEC0525, PEE1372, OACLB0101, OAXLB0101
Donovan, B. PEC0441
Do Quang, K. PEC0601
Doré, V. PEB0342
Dorrington, R. PEC0528
Dorsey, S. OAE0803
Dorvil, N. **PEB0142**
Dorward, J. PDE0105, PEE1372, **PEE1620**
Dosekun, O. PEB0165
Dos Santos, J.L. **PEA0063**
Do Thi, N. PEC0505, PEC0601
Dougherty, G. **PDE0307**, PEE1383, **PEE1535**
Douglas, C. PEC0685, PEF1738
Douglas, P.S. PEB0181
Dourado, I. **PEC0552**, PED1140, PEC0377, PEC0624, PEC0643, PED0764, PED1015, PED1122, PED1304, PEF1847
Douraidi, M.A. **PEF1842**
Douthwaite, S.T. LBPEB09
do Vale, C. PEC0465
Dovel, K. **OAE0503**, PED0858, PED1150, PED1223, **PEE1454**, PEE1652
Dovidio, J.F. PED0973
Dow, B. PEE1386
Dow, W. OAD0702
Dowdy, D. PED0850
Dowse, R. PEE1601
Dowsett, G. PED1177, PED1219
Doxey, J. **PED1006**
Doyle, A. PEE1600
Doyle, A.M. PED0818
Doyle, E. **PEE1729**, **PEE1733**
Doyle, J. PEC0441
Dragovic, B. LBPEB16
Drain, P. PDE0105, PED1290, PEE1372
Drain, P.K. OAB0506, PEE1620
Drake, A.L. PEE1546
Drake, M. PEC0407, LBPEC18
Dreyer, J. OAC0104, PDE0306, PEC0689

Dronda, F. PEB0216
Drouin, A. **PEA0021**
Drozd, R. PEE1331
Drückler, S. **PED1101**
Drummond, J. PEC0363
Drury, S. PEB0312
Dsouza, M. PEB0094
D'Souza, A. PEC0452
Duangmung, S. PEE1732
Duarte, F.M. PEC0552
Duarte, H.A. PEC0526
Duarte, M. PED1095, PED1100, PED1106, PED1107
Duarte, O. PEC0687
Dube, F. **PED1010**
Dube, G.S. PEE1532
Dube, L. PEB0088
Dube, S. PEE1425
Dube, Z.B. PEC0691, **PEE1710**
Duberli, F. PDD0104
Dubois-Cauwelaert, N. PEE1588
Duby, Z. PEC0693
Duck, T. OAC0205
Dudoit, Y. PEA0016
Duerr, R. PEA0008
Duff, P. PED0877
Dugas, M. **PED1128**
Dugdale, C.M. PDE0504
Dumchev, K. PED1042, **PEB0210**, PEC0707
Dumicho, A.Y. PEB0131, **PEB0132**
Dumont, E. PEB0121, PEB0258
Dun, C. PDC0105
Dunbar, R. OAC0204
Dunbar, W. **LBPEC20**
Duncan, D. PED0985
Dunin De Skrzynno, S. **PEB0163**, PED0862
Dunlap, S. PDD0302
Dunlevy, H. **PEB0094**, PEB0338
Dunlop, J. **PEC0381**
Dunlop, J.L. PEE1707
Dunn, D.T. OAD0504
Dunn, K. PDB0202, PEB0089
Dunne, E. PEC0409, OACLB0101, OAXLB0101
Dunne, E.F. PDC0105, PEC0376, PED1105
Dunville, R. PED1141
Duong, A.T. OAD0603
Duong Thi, H. PED1264
Du Pasquier, R. PEB0172
du Preez, C. **PEE1490**
Dupuy, F. PEA0031
Durai, S. PED0812
Duran, L.T. PEB0131, PEB0132, PEE1635
Duran, Y. PED1094
Durand, M.-A. PEA0021
Duran-Frigola, M. PDA0104
Durden, E. PEE1609
Durham, M. PEC0358
Durisch, P. PEF1827
Durocher, S. PEF1829
Durojaye, E. PED1153
Dutra, K. **LBPED32**
Dutrieux, J. PEA0055, PEA0057
Dutta, A. PEC0534, PED0807, PEE1328
Dutyulwa, T. LBPED31
Dvoriak, S. PEC0707, PED1042
Dvory-Sobol, H. PEB0265
Dwivedi, S. **PED1254**
Dworkin, S. PED0903
Dworkin, S.L. PED1148
Dworkin, S.S. PEE1454
Dybul, M. PEF1897
Dyer, J. PED0824, PED0888, **PEF1850**
Dymaretskii, O. PEF1859
Dzamatira, F. PEE1470
Dzangare, J. PEB0105
Dzansi, G. **PED0983**
Dzinotyiweyi, E. PEE1577, PEE1709
Dziuban, E. PDE0404, PEE1577, PEE1709
Dzudie, A. PEA0073

E

Eakle, R. OAC0803, OAE0704, PEE1539, **PEE1540**
Earnshaw, V. PEC0373
Eaton, A. PED0780, PED1175
Eaton, J. PEC0429
Eaton, J.W. PEE1470
Eaton, L. PEC0373
Eaton, L.A. PED0944
Ebah, E. PEC0733
Ebenezer, U.U. **PED1156**
Ebrahimi, R. PDB0303, PEB0165
Eckardt, P.A. **PEB0107**
Eckert, L. PEB0176
Eden, J.-S. OAA0403
Edet, B. **PEC0609**
Edmiston, N. PEB0091
Edmond, F. PEB0232
Edmonds, A. **PEF1881**
Edumoh, H. PEE1359
EDWARD, M. **PEE1400**
Edwardes, D. PEC0588, PED1267
Edward Reyes-Diaz, M. PEC0694
Edwards, J. LBPED40, PEC0524
Egan, G. PEA0060
Egemba, M. PED0912
Egessah, B. PEC0558
Egger, M. PEB0239, PEE1564
Egorova, N. PEE1354
Egwumba, P. LBPED38
Egwuonwu, N.J. PED1276
Egwuonwu, N. PEC0493
Ehman, R. PEB0205
Ehoche, A. PEC0484
Eholié, S. OAB0303
Ehrbar, R. PEB0187
Ehsan, E. PEC0375
Eid, G. PED1155
Eigege, W. PEB0202
Eises, A. PEC0680
Ejeckam, C..C. **PEC0677**
Ekali Loni, G. PEA0052
Ekanem, I.E. **PEF1892**
Ekat, M.H. **PEB0174**
Ekott, M. PEC0666
Ekpo, G. PED1300, PEE1665
Ekponimo, S. LBPEF56
Ekstrom, A.M. PEE1547
Ekström, A.M. PED0997, PED1234
Ekström, J. PEB0288
Elangovan, R. PEC0457
Elat Nfetam, J.-B. PEA0076
ELAT NFETAM, J.-B. PED1185
El-Bassel, N. OAE0805, PEC0667, PED0887, PED0968, PED0978, PED0979, PED0984, PED1035, PEE1436, PEF1780
El-Busaidy, H. PED0840
Eldred, L. PEB0171
Elemi Agbo, I. PED0952
Elenes, J.J. PEE1347, PEF1874
El Geddari, A. PEE1346, PEF1789
El Hage, E. PEC0408
El Harrar, M. PEE1346, PEF1789
El-Hayek, C. PEC0441
Elias, J. PEA0007
Elion, R.A. PEB0354
Elisa Gonçalves Gonçalves Pinho, R. PDB0407
Eliya, M. PEE1431, PEE1440
Elizabeth, N. **PED0788**
Elizalde-Peña, J. PEF1761
Elkhammas, M. OAF0306
Ellard, J. OAC0802, PED1007, OACLB0103
Ellenberger, D. PDB0106
Elliott, T. OAA0106
Ellis, A. PEB0312
Ellis, M. **PED1054**
Ellis, R. **PEA0088**, PEB0126
Ellman, T. PDE0103
El-Mallawany, N. PEB0316
Elmes, J. **PEF1843**
El Omrani, O. PEF1870
Elorreaga, O.A. PEC0715
El-Sadr, W. PEE1425
El-Sadr, W.M. PEE1442
Else, L. PEA0086
Eluke, F. **PEE1512**
Elul, B. PEB0307
Elungndelle, M. PEA0082
Elur, B. OAE0106, PEE1676, PEE1699
Eluwa, G. PEC0726, PEE1423
Elyanu, P. PDD0502, PEB0310, PEB0314, PED1229, LBPEE51
Elyanu, P.J. **PEE1420**, **PEE1422**
Emelyne, D. PEB0142
Emerson, B. PEC0359, PEC0567
Emerson, M. PDA0105
Emília Adamy, P. PDE0407
Emmanuel, E. PEC0635, PEE1419, PEE1559
Emmanuel, G. PEC0586, PEC0609
Emmanuel, N. PEC0512
Emmanuel, P. OAC0605
E.M. Moody, E. PEA0078
Emond, B. PEB0194
Emong, P. PEF1794
Emslie, G. LBPED30
Enama, J.P. OAF0403
Enane, L.A. **PEB0307**
Enayat, Q. PEC0481
Enciso, J. OAD0706
Endreny, N. **PEC0603**
Eng, S. OAD0403, PED1040, **PED1047**, **PED1048**, PED1067, PED1098
Englert, N. PED1286
English, D. **PED0923**
Engulu, S. PEC0576, PEC0581, **PED0933**
Engurat, L. **PEC0729**, **PED1247**
Enns, B. PEC0529, PEE1368, PEE1376
Enns, E.A. PEC0526
Enrique-Bruce, E. OAC0605
Enriquez-Bruce, M.E. OAC0605
Ensminger, A. PEB0176
Entaile, P. PED1269
Epakan, J. PEE1438
Epalza, C. PEB0282, **PEB0296**
Epidu, c. PEE1452
Epping, S. PED1019
Eremin, A. PED0808
Erguera, X. PED0809
Erickson, M. **PED0877**, **PED1165**
Erickson Mamane, L. PDE0302, PEE1478
Erku, W. PEB0116
Erlandson, K. PEB0215
Ermane, R. PEE1728
Ernst, A. **PEC0511**, PEE1687, **PEE1713**
Eron, J. OAB0302, PEC0450, OAXLB0101
Eron, J.J. PEB0218, PEB0354
Esber, A. OAB0602, PEC0720
Esbjörnsson, J. PEC0470
Escaleira, F. **PED1241**
Escobar, F. PEE1459
Escobar, J.C. PED1139
Escudero, J. OAB0704
Esemu, L. **PEA0052**
E. Shepherd, B. PEC0393
Eshetu, F. **PEE1721**
Eshiwani, S. PEB0270
Eshleman, S. OACLB0101, OAXLB0101
Eshleman, S.H. PEC0707, PEC0497
Eshun-Wilson, I. OAE0102, OAE0103, **PEE1443**, PEE1640
Eskman, Z.-J. PDC0203
Eskridge, S. PED1168
Esmeili, A. PEE1583
Espejo Ortiz, C. LBPEB14
Espinel, S. OAB0103, OAD0802, PED0871
Espinoza, H. PEF1874
Esra, R. PEC0583
Esser, S. PEB0229, PEC0518
Essex, M PEE1371
Essiet-Gibson, I. PDE0302, PEE1478
Essomeonu, K. PEE1445

Estaquier, J. OAA0402, PEA0026
Estes, J.D. PEA0056
Estigarribia, G. PEC0379
Estill, J. PEC0583
Estrada, R. PEF1760
Estrela, R. PEC0604
Estruch, R. PEB0273
Esubalew, G. PEE1339
Etcheverry, F. PEB0273
Etheredge, G. PEB0289
Etole, M. PEE1633
Etsetowaghan, A. PEE1512
Etshokin, E. LBPEC29
Etukoit, B.M. OAF0302
Etukoit, M. PEE1639
Eubanks, A. **PEC0629**, PEC0741
Eudailey, J. OAALB0102
Eustaquio, P. OAF0105, **PED1217**
Eustórgio-Filho, M. PEC0643
Evans, C. PEA0018
Evans, D. PEC0755
Evans, H. PEB0326
Evans, S. PEC0611
Everett, MHS, M. **PED1112**
Everitt, D. OAB0502
Eves, K. OAB0302, OAB0305
Eveslage, B. PEC0560
Evinger, D. **PED1212**
Ewart, G. LBPEA03
Ewetola, R. PEE1527
Exavery, A. PEC0382, PEC0756, **PED1324**, PEE1654, PEE1735, **PEE1736**
Excellent, M.L. **PEE1419**, **PEE1559**
Eyam, F. LBPEF56
Eyasu, R. PEC0733
Ezajobo, S. PEE1645
Ezeamama, A. **PEB0170**, **PEB0214**
Ezechi, O. PED1202, PED1313, PEE1607
Ezegbe, H. PED0867
Ezekiel, J. PEE1512
Ezekwe, L. PEE1604
Ezeokafor, C. PEC0404, **PEC0493**, PED0927
Ezirim, I. PEC0700, PEE1326, **PEE1445**

F

Fabian, S. PED1095, PED1100, PED1106, PED1107
Fabozzi, F. **PEE1468**
Fadel, W. PEB0285
Faden, R. LBPEF57
Faesen, S. OAB0404
Faessler, D. **PED1115**
Fagan, T. PEE1348
Fahey, C. **OAD0702**, PED0931, PEE1435
Faife, F. PEC0737
Fair, C. PED0814, **PED0823**
Fair, M. PDA0207
Fairall, L. PEE1487
Fairbanks, J. PED1250
Fairley, C. PEC0441
Fairley, C.K. PEB0104
Fairlie, L. **PEB0328**, PEE1421, OAXLB0104
Fajardo, MLIS, MPA, MA, F. PED1096
Fako, G. PEE1643
Fakunle, O. PED1083
Falana, M.-M. PED1230
Falcao, J. OAD0804, **PED0817**, **PED0822**, **PED0826**, PED0852
Falcó, V. PEA0029
Falkenberry, H. **PEE1524**
Fallon, J. PEB0198, PEB0199
Falola-Anoemuah, O. **PEF1798**
Falola-Anoemuah, ,. **PED0912**
Familiar-Lopez, I. PEB0328
Fan, S. PED1137
Fan, Y. PEA0011
Fang, C.-T. PEC0403, PEC0640, PEE1366, PEE1373
Fang, J. PEA0061
Faponle, D. PDF0104, **PED1230**
Fararouei, M. PEC0521
Fardoos, R. PEA0047
Farhad, M. OAB0706, PEB0293
Farias, A. OAC0505
Farlane, L. **PEE1421**
Farley, C. PEE1493
Farley, J. PED0797
Farley, J.E. **OAE0804**, **PED0987**
Farnham, P. PEC0522
Farozar, F. PEC0742
Farquhar, C. PEB0179, PEE1505, PEE1557, PEE1678
Farrell, M. PEC0538, PEC0539
Fasciolo Maschião, L. PEB0209, PEC0416, PEC0694
Fassah, W. PEE1449
Fataha, J. PEE1533
Fathima, S.S.A. PED1108
Fathoni, M.A. PED1066, PED1196
Fatti, G. PEE1626, **PEE1631**
Faul, M. PEB0347
Fauquenoy, S. PEA0059
Faustin, M. PEB0142
Faustine, P. PEB0133
Fauz, I. PED0840
Fawcett, N. PEC0648
Fayçal, A. PEC0498
Faye, A. PEE1360
Faye, S. **PED0760**
Fayorsey, R. PEC0730
Fazzari, M.J. OABLB0102
Fearon, E. PEC0682
Feaster, D. PEC0529, PEE1376
Feaster, D.J. PEE1368
Feelemyer, J. **PEB0351**, LBPEC26
Feeley III, F. OAE0203
Fehr, C. PED0780
Fehr, J. PEC0596
Fei-Ling Go, V. PED0959
Feizaddeh, A. PEC0528
Felber, B.K. OAA0304, **OAA0307**
Feldacker, C. PEC0653
Feldman, M. PED1237
Feleke, A. PEE1721
Felix, D. PEC0512
Félix Pinheiro, T. PEB0209, PEC0694
Felker-Kantor, E. OAD0205
Fellows, T. **PEE1531**
Felsen, U.R. OABLB0102
Felsher, M. LBPED32
Féménias, G. PEF1792
Feng, J. **PEC0506**
Feng, W. PEA0085
Feng, Y. PEC0456
Fenizia, C. PEA0023
Fenoglio, D. PEA0025
Ferguson, L. **OAF0203**, **PEF1742**, PEF1791, PEF1846, PEF1847
Ferguson, T. **LBPED41**
Ferlazzo, G. PEB0131
Fernades Fonseca, F. PDB0407
Fernandes, F. PEC0468, PEC0508
Fernandes, N. PEC0711, PED1308
Fernandes, N.M. PEC0557, PED1303
Fernandes da Silva, L.H. PED1166
Fernandes Fonseca, F. **PEB0222**, PEC0393
Fernandez, C. PEB0241
Fernandez, M.I. PEB0169
Fernández, S. PEB0315
Fernandez DeSoto, A. OAF0304, PEF1849
Fernandez Giuliano, S. PEB0276
Fernández Giuliano, S. PEA0014
Fernández-Luis, S. **PEC0432**, PEE1570
Fernández Quevedo, M. PEC0662
Fernández Rodríguez, A. PEB0150
Fernando Mendes Pereira, G. OAC0403, PDB0407, PDE0407
Ferradini, L. PEE1453
Ferrand, R. PEB0226
Ferrand, R.A. OACLB0102
Ferrara, M. PEB0340
Ferrari, A. PEB0340
Ferrari, G. OAA0202, OAA0307
Ferrario, L. **PED0833**
Ferraris, C. PED0893
Ferraro, P. PEB0227
Ferraz, D. PEC0643, PED1015, PED1122
Ferre, A. OAB0205
Ferreira, A.A.C.M. OAC0704, PEB0274, PEC0519
Ferreira, A.C. PEC0604
Ferreira, A.L. OAD0105, PEC0711
Ferris, J.A. PED1050
Ferris, R. PEE1539
Fetters, K.B. PEB0333
Feucht, U. PEB0120
Feyissa, T.R. **PED0870**
Fichtenbaum, C.J. **PEB0181**
Fideles, L. PED1304
Fidler, S. OAC0204, OAE0504, PEC0580, PEE1628
Fidler, S.J. OAA0106
Fielding, K. PEE1380
Fielding-Miller, R. OAD0206, OAD0803
Fields, J.A. PEA0088
Fields, S. OACLB0101, OAXLB0101
Figueiredo, S. PEA0055
Figueiroa Gama, F.S. PED1166
Figuera, M. PEC0408
Figueredo, M. PEB0180
Figueroa, F.J. **PED1166**
Figueroa, J.L. **PEE1724**
Figueroa, M.I. PEB0344, PEB0098
Figueroa Pólito, V. LBPEB14
Figuracion, R.J. **PEF1745**
Filaci, G. PEA0025
Filiatreau, L. PEB0289, **PED0958**, PED1282
Fink, V. PEB0344
Finlayson, T. PED0926, PEF1737
Finzi, A. OAALB0101
Fiore, D. PED1286
Fiorentino, M. **PED0957**
Fischer, H. PEC0448
Fischer, M. OAALB0103
Fischer, P. PEA0065, PEA0085
Fischer, MD, MS, M. PEE1549
Fischer Walker, C. PEE1577
Fischl, M. PEF1881
Fisher, K. PEC0648, OAA0403
Fisher, M. OABLB0102
Fisher, P. OAD0802
Fitch, C. **PED0999**
Fitch, K.V. PEB0181
Fitch, L. **PEF1863**
Fitzgerald, L. OAD0906
Fitzgerald, M. LBPEC26
Fitzgerald, N. LBPEB09
Flaegstad, T. PEB0226
Flamm, J. LBPEE42
Flax, V. PED1158
Fleming, J.G. PEB0218
Fleming, Y. PEC0723
Fletcher, C. PEB0245
Fletcher, F. PEB0354
Flickinger, T. PED0900
Flomo, P.N. PEE1662
Flores, G. OAF0104
Flores, I.A. PEB0259
Florestal, G.P.-L. OAB0405, PEE1519
Floris Moore, M. PEE1430
Flowers, P. PEC0562
Flowers, T. LBPED31
Floyd, S. OAC0102, OAC0104, OAE0504, PDE0306, PEC0580, PEE1605, PEE1608, PEE1611, PEE1628, PEE1666
Flueckiger, R. PEE1379
Flynn, A.B. **PED0943**
Flynn, C. PED0926

Focà, E. PEB0173, PEB0340
Fogel, J.M. PEC0497
Foglia, E. PED0833
Fokam, J. PEA0076, PEB0251
Folayan, M.O. PEE1604
Folb, N. PEE1487
Foley, E. PED1225
Fombuena, B. PEB0145
Fongkaew, K. PED1278
Fonjungo, P. PEE1527
Fonner, V. OAD0503, **PED1233**
Fonseca, F.F. OAC0704, PEB0220, PEB0274, PEC0519
Fonseca, M. PEE1515
Fonseca, N. PEB0180
Fonseca, T. PEC0643
Fontain, S.N. OAB0404
Fontenot, H. PED1141
Foote, J. PEE1371
Forbes, N. PED0923
Forbici, F. PEB0253
Ford, J. PEC0514
Ford, N. PEC0438
Ford, T. PEC0411
FordKamara, E. PEE1634
Ford-Kamara, E. PEE1582
Forest, T. PED0951
Forster, N. PEB0176
Fortaleza Kurotani, K.A. **PEA0015**
Fortenberry, J.D. PEB0307
Fortin, C. PEB0227
Fortin, M.-C. PEB0227
Fortuny Guash, C. OAA0105
Foster, C. OAA0406, PEA0024, PEB0263
Fouche, J.P. PEB0331
Fouche, J.-P. PDB0205
Fouda, G.G. OAALB0102
Fouda, G. PEE1643
Fournier, A.L. **PEB0240**
Fournier, J. PEB0169
Fowler, M.G. OAB0105
Fowler, S. PED0820
Fowler-Williams, C. PED0862
Fowotade, A. PEB0158
Fox, J. PED1014, LBPEB09
Fox, L. PDB0102
Fox, M. PEE1624, PEE1627
Fraenkel, L. PED1056
Fraleigh, A. PED0800
França-Junior, I. PEF1819
France, A.M. **PEC0522**
Francis, C. PED0883, PEE1453, **PEF1820**, PEF1898, LBPEF60
Francis, D. PED0940
Francisca Kolling, A. PDB0407, PDE0407
Franco, J. OAC0703, PEB0180
Franco, K. PEC0395, PED0836
Francois, L.C. PEB0121
Francoise, K. OAD0205
Frangakis, C. PED0850
Frange, P. PEC0703
Frank, D. PEB0303
Frank, I. PDC0408, OACLB0101, OAXLB0101
Frankis, J. PEC0562
Franklin, V.B. LBPEE50
Franks, J. PED1135
Franscisco, S. PEE1383
Fraser, C. PEC0648
Fraser, H. **PEC0426**, **PEC0431**, **PEC0433**
Fraser, S. PED0794, PED0841
F Raymond, H. PEC0743
Fred, T. **PEB0100**
Freddy Eric, K. PED0947
Frederick, T. PED1131
Freedberg, K. PEE1371
Freedberg, K.A. PDE0504
Freeman, R. PED1244
Freiman, M. PEB0151
Freire, D. PED1304
Freitas, A.C. PEB0339
Freitas, J. PEC0557, PED1111, PED1303, PED1308, LBPED35
Freitas, L. LBPED35, LBPED36
Freitas, M. PEB0222, PEB0274, PEC0519
Freitas Lopez, D. PEE1639
Freitas Medeiros, T. PEF1855
French, A.L. OAC0603
Frenkel, L. PEB0120
Fressard, L. PDB0302
Friedland, B. PED0778
Friedland, B.A. **OAD0102**
Friedman, M.R. **PED0944**
Friedman, S. OAD0402
Friedman, V. PEA0044
Frieze, J. PED1265
Frola, C. PEB0344, PED1095, PED1100, PED1106, PED1107
Fromentin, R. OAA0403
Frongillo, E. PED0854
Frongillo, E.A. PED0903, PED1148
Fronteira, I. PED0918
Frota, O.P. PED0918
Frouard, J. PDA0203
Frye, V. **OAC0404**, OAD0606, PED1286
Fubara, A. PEE1604
Fuchs, J.-B. PEB0171
Fuchs, MD, MPH, J.D. PEE1549
Fuega, J. PEE1730
Fuega, MPH, J. PED1112
Fuente-Soro, L. PEC0432, **PEE1570**
Fuhrer, J. PEB0148, PEC0358
Fujiwara, D. OAA0306
Fukutake, K. PEB0156
Fukuzava, S. PEC0437
Fullem, A. OAC0606, OAD0202, PEC0645, PEC0735, PEE1411, PEE1580
Funari, S. PED1138
Fungfoosri, O. PDB0304, PEC0757
Funhgwa, N. PEA0073
Furin, J. PEB0131, PEB0132, PED1283
Furst Crenitte, M.R. **PEC0668**
Furtado, L. PEE1515, PEE1618
Fusco, G. OAB0604, PEB0217, PEB0234
Fusco, J. OAB0604, PEB0217, PEB0234
Fuster-Ruiz de Apodaca, M.J. **PED1051**
Futshane, B. PEF1858
Futterman, D. PEC0561
Fwoloshi, S. PEB0114

G

Gabegwe, K. PEE1705
Gabhane, L. PDE0406, PEE1698
Gabriel, M.M. OAD0504
Gabster, A. **PED0917**, **PED1146**
Gabuzzi, J. PEC0500
Gacheru, J. PEE1432, PEE1556
Gachie, T. OAE0504
Gadama, F. **PEC0554**
Gadama2, F. PEC0634
Gadhe, S. PEE1566
Gaffga, N. PEC0704
Gafos, M. OAD0504
Gagliano, J. PDC0203
Gagliardini, R. PEB0250, **PEB0253**
Gahurra, L. PEE1667
Gaikwad, S. OAB0503
Gaillard, J. PEA0021
Gailloud, L. **PEC0391**
Gaisa, M. OABLB0104
Gakuo, W. **PED0922**
Galagade, J. **PEE1726**
Galai, N. PDD0303, PEB0260, PED1021
Galán, J.C. PEA0005
Galán, M. OAA0204
Galbreth, L. PED1115
Galdino Cardin de Carvalho, P. **PEB0209**, PEC0416
Galindo, M.J. PEB0216
Galindo-Orrego, X. PEB0180
Galinksy, L. PEE1720
Galinskas, J. OAXLB0105
Galishi, A. PEC0407
Gallant, J. OAB0403
Gallardo, J. OACLB0101, OAXLB0101
Gallay, P. LBPEA03
Gallego, J. PEB0189, PEB0225
Galli, L. PEB0250
Gallitero, G. OAC0502
Galloway, E. PEF1887
Galons, H. PEA0059
Galvao, R.W. PED0973
Gálvez Charro, M. PEB0150
Gama, H. PEE1532
Gama, N.J. **PED1272**
Gamaliel, J. PEE1563, PEE1579
Gamarel, K. **PED1087**, **PED1097**
Gamble, T. PED0987
Gambo, A. PEC0484
Gambone, G. **PED1237**
Gan, M. **PEC0456**
Ganafa, S. PEE1599
Gandhi, M. PEB0151, OAC0805, OAE0103, OAE0406, PEA0084, PEB0211, PEB0244, PEB0277, PEB0357, PEC0483, PEC0724, PED0809, PED1164, PEE1641
Gandhi, R. PDB0102
Gandhi, R.T. PDE0504, LBPEB13
Ganesan, M. PEA0072
Ganesh, B. PEB0266
Gangadhara, S. OAA0305
Gangakhedkar, R. PEA0001, PEA0054, PEB0287, PEE1555
GANGAKHEDKAR, R. PEE1566
Ganguly, L. PED1028
Gani, Y.M. PEB0191, PEC0397
Ganiyev, D. PED1014
Gantt, T. PDE0307, PED1265, PEE1535
Gao, F. PEA0006
Gao, G.G. PED1128
Gao, J. PEE1374
Gao, W. PEA0053
Gao, Y. PEC0656
Gaolathe, T. PEA0002, PEE1371, OAXLB0102
Garagiola, E. PED0833
Garba, MD, PhD, MPH, A.N. PED1096
Garbo, J.T. **PEE1449**
Garcí a-Lerma1, G. PEA0087
Garcia, A. PED0839, OAC0605
Garcia, F. PEB0255, OAF0104, LBPEB15
Garcia, J. PEA0018
Garcia, M. **PEC0515**, PEC0693, PED1203
Garcia, P. PDE0402
García, F. OAB0304, PED0778, PEB0273
García, M. OAC0703
García, P. PEC0374
García, V. OAA0204
García Bodas, E. PEC0458
García de Olalla, P. PEC0662
García Garzón, M.M. PEB0180
García-Gutiérrez, V. PEA0064
García-Lerma, J.G. OAA0203
Gardi, H. PED1265
Gardner, A. OAE0403
Gardner, E. PEC0638
Gare, J. PEC0500
Gareca, M. **PEB0195**
Garg, H. OAA0205
Garg, N. PEE1555
Garg, S. PEC0574, PEB0266, PEC0661
Garin, N PED1051
Garland, W. PEC0513
Garner, A. OAC0506, **PED0981**, OAELB0104, LBPED35, LBPED36, LBPEE53
Garner, D. PEE1386
Garofalo, R. **PED1130**
Garrett, N. PDE0105, PEA0043, PEA0050, PEE1372, PEE1620
Garris, C. LBPEE42
Garth, G. PED0838
Garvie, P. PEB0309
Gary, J. PEA0087
Gascuel, O. OAA0103
Gaseitsiwe, S. PDB0405, PEA0002, PEA0035, PEA0077

Gaspar, P.C. OAC0403, PEF1855
Gasparini, S. PEC0612
Gatechompol, S. PEB0182, PEB0204
Gatechumpol, S. PEB0123, PEB0353
Gatto, G. PEA0087
Gaubert, G. PED0865
Gauer Bermudez, L. PED1119
Gauntley, A. PDF0206
Gaur, A. OACLB0101, OAXLB0101
Gautam, A. PEB0166
Gautam, R. OAALB0101
Gautami, P PEE1653
Gautier, V. PEA0059
Gawde, N. PEB0287
GAWDE, N. PEE1566
Gay, C. PEA0018
Gaydos, C.A. PDC0405
Gbadamosi, S. **PEC0460**
Gbais, H. PEB0289
Gbajabiamila, T. PED1202, PEE1607
Gbaja-biamila, T. PED1313
Gcwensa, N. PED1283, PEE1582, PEE1634
Gebo, K. PEB0218
Gebo, K.A. PEE1368
Gebrekidan, E. PEB0116
Gebrekristos, L. PDE0202
Gebrekristos, L.T. PEE1479
Gede, S. PEE1718
Geffen, S. PED1141
Geibel, S. OAD0102
Geldsetzer, P. OAE0105, PEC0626
Geller, A. PEE1387
Geller, A.L. PEC0704
Gelmon, L. PDC0205, PEC0642
Genberg, B. **PEC0535**
Gener, A. **PEA0009**, **PEA0011**, **LBPEA06**
Genescà, M. **PEA0029**
Geng, E. OAE0102, OAE0103, PED1179, PEE1443
Geng, E.H. PEE1640
Geoffrey, T. PEE1552, **PEE1731**
Geoffroy, E. PEE1338, PEE1659, PEF1774
George, A. PEE1491, **PDA0203**
George, B. PDD0305, PDE0204, PDE0406, PEC0423, PEC0532, PEC0546, PEC0671, PEC0696, PEC0754, PED1099, PEE1516, PEE1637
George, C. PED1318
George, G. OAD0104, PDD0204, PEE1425
George, K. OAB0706, PEB0293
George, N. PED1238
George Ng'ariba, J. **PEB0306**
Georges, S. PEE1643
Georgetti, RN/PHN, D. PED1212
Georgeu-Pepper, D. PEE1487
Geraldo, K. LBPED35, LBPED36
Gerard, A. PEC0721
Gerke, D. PED0820
German, D. PEC0535, PED0926
German, P. PEB0265, OABLB0101
Germann, A. PEE1640
Germanovych, M. PEB0210
Gersh, J. PEB0147
Gershkovich, P. **PEA0065**, PEA0085
Gerstenhaber, R. OAELB0102
Gesase, A. PEB0311
Getwongsa, P. PEB0346, PEC0444, PEC0659, **PEE1469**, PEE1485, LBPED33
Gezahegn, N. PEE1721
Ghalekhani2, N. PEC0375
Ghandi, M. PEB0245
Ghanem, A. PEC0392
Gheibi, Z. **PEC0521**
Ghiglione, Y. PEA0028, PEA0040
Ghimire, M. OAF0405
Ghodrati, S. PED0863, PED1171
Ghose, T. PED1239
Ghosh, A. PEB0166
Ghosh, S.C. PEE1516
Ghosn, J. PEB0122, PED0865
Ghurbhurrun, A. PED0942
Ghys, P. PEC0457
Giacoia-Gripp, C.B.W. PDA0103
Giacomet, V. PEB0340
Giacomini, M. PEA0025
Giandhari, J. PEA0050
Giang, H.T. PEB0351
Giang, L.M. PDE0303, PEB0343
Gianna, M.C. PEC0368, PEC0565, PEF1797
Gianotti, N. PEB0092
Giaquinto, C. OAA0406, PEA0024, PEB0315
Gibb, D.M. PEB0331
Gibbs, A. PEC0536, PED0767, PED1192, PEE1620
Gichuki, R. PDC0205, PEC0642
Giddings, M.F. PEE1662
Giglio, P. PEB0129
Giguère, K. PEC0497
Gil, H. PEC0458
Gilbert, L. OAE0805, PEC0667, PED1035, PEE1436, PEF1780
Gilbert, M. PED1069
Gilbert, U. PEB0306, PED0916, PEE1657
Gilbert-Lephodisa, M. PDC0202, PEC0462, PEE1530
Gilberto, L. OAB0507
Gildas Anago, M. PEE1379
Gill, J. PEC0452
Gill, K. PEA0030, PED1282
Gill, R. PEE1600
Gilman, B. PEE1374
Gilman, R.H. PEC0439
Gilmore, H. PEB0209, PEC0416
Gilmour, J. PEA0017
Gilmour, S. PEC0430
Gilson, R. PEC0367
Gimenez, L. PEC0379
Ginidza, N. **PED0781**
Ginsberg, M.S. OABLB0102
Giordana, G. PEE1661, **PEF1778**
Giordani, B. PEB0170, PEB0214
Gios, L. PEB0168
Giovencco, D. PED0958
Giovenco, D. PEB0321, **PED1282**
Girade Corrêa, R. PEC0393
Girardi, E. PEB0092, PEB0138
Girault, P. PED1252
Girdwood, S. OAE0303, PEE1490, **PEE1499**
Giron, L. **PDA0207**, OAXLB0105
Gismondi, M. PEB0344
Githuka, G. PEC0384
Gitini, J. PEF1897
Gitome, S. PEC0658, PDC0402
Gitta, J.M. OAC0402
Gittings, L. **PEC0748**, **PEE1601**
Giuliano, R. **PED1046**
Givano, K.M. **PEE1674**
Gizachew, Z. **PEE1348**
Gizaw, A. **PED1181**
Glass, S. PEE1378
Glass, T.R. PEE1595, LBPEB11
Glick, J.L. PED1281
Glick, S. PED1057
Glidden, D. PEC0595
Glidden, D.V. PEC0724
Gloyd, S. PEE1593
Gnatienko, N. PEB0348
G. Netea, M. PEA0045
Go, V. PED0850
Go, V.F. PEC0707, PED1170
Godbole, S. PEE1555
Goddard-Eckrich, D. **PEC0667**, PEF1780
Goddard-Eckrich, D.A. OAE0805
Godfrey, C. OAB0404, PDB0106, PEB0113, PEB0245
Godlevskiy, D. **PEE1354**
Goel, D.N. LBPEE50, PED1027
Goel, N. PED0831, **PEE1491**, PEE1555, PEE1702, PEB0287
GOEL, N. PEE1566
Goetz, B. PDB0404
Goetz, M.B. LBPEC23
Gogia, M. **PEF1857**, **PED1052**
Gogos, C. PEB0099
Goicochea, P. PEC0755
Gokengin, D. PED0981
Gold, D. PDC0207, **PEC0685**, **PEF1738**, **PEF1743**, **PEF1758**, **PEF1787**, **PEF1830**, **PEF1861**
Goldbeck, C. PEB0169, PED1031
Goldberg, D. LBPEC26
Golden, M. PEC0529, PEE1376
Goldenberg, S.M. PDD0307
Goldsamt, L. PED1233
Goldsamt, L.A. PEC0573
Goldstein, M. PEB0294
Golembieski, A. PEB0118
Golin, C. PEE1430
Golin, R. OAB0504
Golob, L. PEE1352
Golovin, S. PEE1354
Golub, E. PEF1881
Goma, M. PEE1567
Gomes, M.D. PEC0604
Gomes de Lorena, A. PEF1869
Gomes Ramos, Í. PEC0552
Gomez, A. PEB0276, PED1284
Gomez, J.L. PED1011
Gomez, L. PED1173
Gómez, R. PEE1724
Gomez-Castro, J. PED1291
Gómez-Castro, J. LBPEE52
Gomez-Feliciano, K. OACLB0101, OAXLB0101
Gomez Gonzalez Júnior, J.L. PEC0694
Gomez-Olive, F.X. PEC0524
Gómez-Olivé, F.X. OAC0407, OAD0305
Gómez-Olivé, X. PED0958, PED1157
Gómez Palacio, M. LBPEB14
Gomillia, C.E. PED0772
Gonçalves, A. PEC0368
Gondwe, J. PED1126
Gondwe, M. **PED0977**, PEC0578
Gong, D. PEB0146
G. Onyambu, F. PEB0246
Gonzales, J. OAE0706
Gonzáles, C. OAC0703
Gonzáles-Lagos, E. PEC0374
Gonzalez, A. OAC0806, PEB0088, PEC0732
Gonzalez, C. PEB0180
Gonzalez, E. PEB0221
Gonzalez, J. PEC0408
Gonzalez, M. PED0868
Gonzalez, N. PEB0205
Gonzalez, P. OACLB0101, OAXLB0101, PEE1533
Gonzalez, R. **PEC0718**
Gonzalez, T. PEE1417
González, V. PEC0568
González-Alba, J.M. PEA0005
Gonzalez-Argoti, T. PEC0391
González-Cordón, A. LBPEB15
Gonzalez Junior, J.L. **PEC0417**, **PEF1833**
González-Lagos, E. PED0777, PED0921
Gonzalez, MPH, M. PED1020
Gonzalez-Navarro, A. LBPEB15
Gonzalez Perez, J. PEB0185, PEE1708
Gonzalez Polo, V. PDA0102
Goodall, S. PDE0506
Goodman, M. PED1269
Goodman-Meza, D. PEC0431
Goodrich, S. OAE0403
Goosby, E. PEE1342
Gopalappa, C. PEC0522

Gorbach, P. OAD0404, LBPEC24, LBPEC25
Gordon, S. OAD0506
Gordon-Boyle, K. PED0906
Gordon, MD, P. PED1020
Gorgolas, M. PEB0238
Gorgos, L. **PDB0303**
Gormley, A. PEA0053
Gormley, B. PED0873
Gormley, R. PED0767
Goswami, P. **PDD0305**, PDE0406, PEC0696, PEE1637
Gotham, D. PDE0502, OAELB0105
Gottert, A. OAC0407, OAD0102, **OAD0305**, **PED0778**, **PED1157**, **PEE1672**
Gotuzzo, E. PED0777, PED0921
Götz, H. PEC0479
Gough, J. PED0800
Goujard, C. PEC0448
Goulder, P. OAA0105
Goulet, J.-P. PEA0031
Gourlay, A. OAC0104, PEE1605, **PEE1608**
Gouse, H. PED0834
Gousset, M. OAA0103
Gouws-Williams, E. PEC0457
Govathson, C. PEE1534
Govender, G. **PEE1684**
Govender, K. PEA0047, OAE0303, PEE1490
Govender, Y. PEC0650
Govere, S. OADLB0102
Govure, P. PEA0075
Gowar, C. PDC0207, PEF1861
Gowda, C. **PEB0280**
Goyal, K. PED1134
Goyal, N. PEB0291
Goyal, R. PEE1374
Gozhora, P. PEC0447
G. Pacheco, A. PED0954
Grabbe, K. PEC0585
Grabowski, K. PED0882
Grabowski, M.K. PDC0405, PDC0406, PEC0389, PEE1547
Grace, D. OAD0602
Graham, O. **PEF1852**
Graham, S.M. PEC0365
Grammatico, M. **PEC0577**
Graña, A. PED0921
Grandhi, A. OAB0302, OAB0305
Grangeiro, A. PEC0552, PEC0643, PED1015, PED1122, PEF1797, PEF1847
Grangeiro, J.R. PEC0557, PED1303, PED1308
Granjeiro, A. PEC0624
Grant, C. PED1032
Grant, I. **PED1023**
Grant, P. PED0849
Grant, R. PEC0595
Grant, R.M. OAC0503, PEB0267, PEE1526
Granville, I. **PEF1865**
Grasso, C. PEC0615
Grasso, M. PEE1709
Grau-Expósito, J. PEA0029
Graves, E. PED0881
Graves, S. PED0878, PED1197
Gray, G. PEC0398, PED1016, OAE0205, PEE1333
Gray, R.T. OAC0205
Gray, R. PEE1547
Gray, R.H. PDC0405, PEB0294
Greaves, W. OAB0605
Greco, D. PEC0552, **PEC0624**, PEC0643, PEF1847
Greco, M. PEC0624, PED1015, PEF1847
Green, E.P. PEE1671
Green, H.D. PED1273
Green, H. PEC0672
Green, I. PEC0588
Green, J. OAB0706
Green, K. PEC0677, PEC0700, **OAD0603**, OAE0204, OAE0802, **PEC0601**, **OADLB0105**
Green, M. PED0809, **LBPEC29**
Green-Ajufo, B. **PEC0747**
Greenberg, S. PDD0102
Greenberg Cowan, J. PEE1514
Greenberg-Cowan, J. PEE1533
Greene, J. OAALB0103
Greene, M. **PEB0211**, PEB0357
Greene, S. PED0767
Greene, W. PDA0203
Greenspan, J.A. **PEE1720**
Greenwood, J. PEB0294
Gregson, S. PEB0105, PEC0429, PEE1470
Grenfell, P. PEF1843
Grennan, T. PEC0434, PEC0454
Grennan, T.J. PEC0451
Grieve, S. PEC0494
Griffin, T. PEB0107
Griffith, L. PED0793
Griffith, S. OAE0504
Grillo, M. OAB0703
Grilo, S. PED0882
Grimsrud, A. PEE1352, PEE1497, OAELB0102, LBPED31
Grimwood, A. PEE1631, PEE1684
Grinspoon, S.K. PEB0181
Grinsztejn, B. OAB0202, OAB0303, OAB0404, OAC0505, OAD0105, PDD0507, PEB0245, PEC0393, PEC0557, PEC0604, PEC0692, PEC0711, PEC0715, PED0884, PED0954, PED1303, PED1308, PEF1838, PEF1839, **OACLB0101**, OAXLB0101, LBPED35, LBPED36
Grinsztejn João, B. PED1111
Grobler, J.A. PDB0406
Grochowski, J. PEB0211
Groenewald, P. **PDC0303**, **PEC0509**
Groove, S. PEC0650
Gross, J. OAB0703
Gross, R. OAB0404, PEB0224, PEB0245, LBPEB10
Grosso, A. **OAD0803**
Grov, C. PEC0492, PEC0637, PED1013
Grove, R. PEB0233
Groves, A. PED0762
Groves, A.K. **PDE0202**, PED0886, **PED0892**, **PED1143**, PED1162, **PEE1479**
Grulich, A. OAC0802, PEC0627, PEC0636, PED0975, OACLB0103
Grulich, A.E. OAC0205
Grund, J. PEC0363, **PEE1520**, PEE1523, PEE1656
Gruskin, S. OAF0203, PEF1742, **PEF1791**, **PEF1846**
Gryshayev, E. PED1042
Gu, J. PED0961, PED0991, PED0997
Guadarram, A. PDB0305
Guadarrama, A. PEB0125
Guambe, H. PEB0110, PEC0432, PEE1570
Guanira, J.V. PEC0715, PEC0692, OAC0505, PEC0738
Guarabyra, A. PEB0222
Guarabyra, A.S.D. PEB0274, PEC0519
Guaraldi, G. PEB0201
Guayta-Escolies, R. PEC0662
Gubernick, S. **PEB0196**
Guddera, V. PDD0306
Guddera , V. PED1076
Gudipati, S. **PEB0118**
Gudukeya, S. **PEC0744**
Guerreiro, R. PEC0508
Guerrero, Y. PEE1697
Guest, J. **OAC0804**
Guest, J.L. PEB0095
Guevara, M. PDE0305
Gugsa, S. PEC0474, PEE1687, LBPEC21
Gui, X. PEC0385
Guichet, E. PEE1588
Guidotti, G. PEB0129
Guihot, A. OAB0203
Guillaume, V. OAB0405, PEB0258
Guillen, A. PEC0408
Guillen, S. PEB0299
Guillén, S. PEB0282, PEB0296
Guimaraes, M.D. **PEC0377**
Guimarães, M. PEC0416
Guimarães, M.D.C. PEC0412
Guiteau Moise, C. PEE1647
Guitheau, C. PEE1519
Gulaid, L. PDE0304
Gulfam, F.R. **PEC0684**
Gulick, R. OAXLB0101
Gulyaev, P. OAE0805, PEE1436
Gulyaev, V. PED1038
Guma, V. PEC0693, PED1158
Gumbo, T. PEB0178
Gumede, D. PEC0689, PED1192
Gumede, N. **PEE1609**
Gumulira, Y. PEE1447
Gun, A. PED1100
Gunaseelan, A PED1108
Gunda, A. PEE1431, PEE1440, PEE1447
Gunda, R. PEE1554
Gunjan, G. **PED0949**, PED0996
Gunn, J. PEC0740
Gunsenheimer-Bartmeyer, B. PEC0725, PED1088, PED1279
Gunthard, H. PEB0239
Günthard, H.F. PEB0240
Guo, W. PEC0385
Guo, Y. PEB0149
Gupta, A. **OAB0503**, **OAB0505**, PEB0094
Gupta, R.S. PEE1555
Gupta, S. PEF1867, OAE0503, PEB0178, PED0858, PED1150, PED1223, PEE1454, PEE1652
Gupta-Lawrence, R. PEE1333
Gupte, N. PEB0094
Guriro, S. PEC0750
Gurung, A. PEB0097
Gutbrod, K. PEB0172
Guthrie, B. PED0819
Gutierrez, A.G. **PDB0305**, **PEB0125**
Gutierrez, M. PDB0105
Gutiérrez, F. OAB0304
Gutierrez-López, M. PEB0296
Gutiérrez-López, M. PEB0299, PEB0337
Gutierrez-Mock, L. PEC0595
Gutiérrez-Velilla, E. PED0860
Gutreuter, S. PEC0475
Guwatudde, D. PEB0214
Guy, R. OAC0205, OAC0802, PEB0104, PEC0441, PEC0627, PEE1510
Guyah, B. PEB0246
G. Veloso, V. PED0954, PEC0393
Gwadz, M. OAC0404
Gwanzura, C. PED0779, OAD0104, PEE1392, LBPEE44
Gwebu, N. PED0781, PED1272, PEE1467
Gwimile, J. **PEB0311**
Gxagxisa, N. PEE1683

H

Ha, C.t. PED1090
Ha, G. OAE0802
Ha, H. OADLB0105
Ha, T.V. PEC0707, PED1170, OACLB0101
Ha, V. OAXLB0101
Haaland, R. OAC0504
Haberer, J.E. PEC0600, PED1285
Haberland, N. OAC0407, OAD0305, PED0958, PED1157
Habimana, J.F. PEB0130
Habsckot Dutra de Barros, C. OAD0605
Habte, D. **PEE1513**, PEE1721
Hachiya, A. PEA0057, PEC0455

Hacking, D. PEE1635
Haddow, J. OAA0106
Hadi, S.U. PED1134
Haeri Mazanderani, A. PEB0281
Haerry, D. PEC0596
Hagemeyer, C. PEA0060
Hager, M. PEE1488
Haghdoost, A. PEC0459
Haghdoost, A.A. PED1060
Haghdoost, A.-A. PED1301
Haghighat, R. PDE0304
Hagiwara, T. PEB0156
Hagos, K. PEF1878
Haile, A. PEE1348, PEE1721
Haileselassie, H. PED1181
Hailu, D. PEB0116
Hailu, I. **PED1070**
Haire, B. OACLB0103
Haji, S. **OAC0306**, PEC0415
Hajji, A. PEE1346, **PEF1789**
Hakim, A. PEC0447, PEC0500, PED0998, PED1231
Hakim, A.J. **PEC0475**
Hakim, J. PEB0094, PED0834
Hakim, J.G. OABLB0101
Hakiza, R. PED0908, PED0915
Hala, A. PEE1391
Halavaty, K.K. PDA0206
Hale, F. OAF0104, PED1155, PEF1894
Halfin, G. PED1267
Halfin, J. PEC0676
Halfpenny, N. PDB0104
Halim, N. PEC0728
Halkett, M. PDA0206
Halkitis, P. OAD0905
Hall, B. PED0976
Hall, C. PEE1656, PEB0267
Hall, D. PEC0494
Hall, E.W. **PDC0107**
Hall, H.I. OAC0206
Hall, J. PEC0480
Halle, E. PEC0736, PEF1879
Hallett, T.B. PEC0523
Halliday, J. PED1083
Hallie, T. PEE1458, PEE1662, **PEE1677**
Halweendo, N. PEC0680
Halwiindi, H. PEE1569
Hamadache, D. PED0841
Hamasaki Reyes, W. PEE1644
Hameed, A. **PEE1381**
Hamidi, M.B. PEC0375
Hamidu, I. OAD0503, PED1233
Hamiga, J. PEC0747
Hamill, M. PEC0445
Hamilton, E.L. PEC0707
Hamilton White, R. PDD0303
Hamisi, T. **OAE0502**
Hamlyn, E. LBPEB12
Hammett, W. **OAE0803**
Hammill, H. PDB0402
Hammond, R. PED0926
Hammoud, M. **OACLB0103**
Hamooya, B.M. PEA0068
Hampanda, K. PED1163
Hampel, B. **PEC0596**
Hamroune, J. PEA0055
Hamunime, N. PDE0404, PEE1577, PEE1709
Hamze, H. PEC0451, PEC0454
Han, J. **PEC0589**
Han, M. PEC0378
Han, W.M. **PEB0191**, PEB0204, PEB0353, **PEC0397**
Han, Y. PEB0197, PEB0230
Hanaree, C. LBPEE47
Hanass-Hancock, J. PEE1487
Hance, A. PEA0055, PEA0057
Handule, M. PED1043
Hang, L. OAE0802
Hangchen, O PDC0104
Hanisch, D. **OADLB0104**
Hankins, C. PED0873
Hanley, M. LBPEE53
Hanna, D.B. OABLB0102
Hanna, G. OAB0302, OAB0305
Hanna, Z. PEB0118
Hannah, H. OAB0506
Hannah, S. **PEC0755**
Hans, L. PEC0502
Hanscom, B. OACLB0101, OAXLB0101
Hanscom, B.S. PEC0707
Hansen, C.H. PEC0613
Hansen, N. PED0889, PED0898
Hansudewechakul, R. PEC0753
Hanum, N. **PEC0367**
Hao, B.T.M. PEB0343
Hao, C. PED0961, PED0991, PED0997
Happel, A.-U. **PEA0030**
Happy, M. PEF1895
Haq, H. LBPEE51
Harases, B. **PEC0680**
Harbick, D. PED0779
Harbottle, J. OAD0504
Harcrow, R. **PEE1722**
Hardigan, P. PEB0359
Harding, B. PEC0450
Hardy, D. PED0773
Hardy, H. PEB0194, PEB0089
Hare, C.B. PEE1484, OAC0502, OAC0807, PEE1493
Hare, J. PEA0017
Hargoven, M. PEE1601
Hargreaves, J. PEC0413, **PEC0477**, PEC0682
Hargreaves, J.R. OAC0102
Harjana, N.P.A. PEF1888
Harker, N. PEC0555
Harling, G. OAC0104, PDE0306, PEC0689, PED1192
Harmon, S. PEE1323
Harney, B. **PEC0441**
Harnpariphan, W. PEB0123, PEB0353
Harooni, M.Z. PEC0375, PEC0495
Harper, G. PED1087, PEF1755, PEF1860
Harrich, D. **OAA0206**
Harriff, L. LBPED30
Harrington, K. PEB0094
Harris, F. PEE1337
Harris, L. PEE1458, PEE1677
Harris, M. LBPEE45, PED0870
Harris, O. **PED1118**
Harris, R. PEC0507
Harris, T. PED1265, PEE1721
Harris, T.G. PEC0447, PED0998, PED1231
Harrison, A. OAD0203
Harrison, S. **PDD0402**, PEF1755
Harrison-Quintana, J. PED1298
Harris Tolson, N. PED1237
Harryman, L. PEC0446, PEC0607
Hart, T. PEC0536
Hart, T.A. OAD0602, PEC0533
Hartig, H. PEC0483
Hartikainen, J. PEC0518
Hartmann, M. PED0769, PED1220, OADLB0103
Hartsock, J. PED1178
Hartsough, K. PED1265, PEE1379, PEE1521, PEE1614
Harwell, J. PEB0202, PEE1517
Haryawan, A.G. **LBPEF60**
Hasan, M.M. **PEA0074**
Hassan, K. OAE0104
Hassan, T. PED1154
Hassan-Ibrahim, M.O. PEB0168
Hassan-Moosa, R. PEB0111
Hasse, B. PEB0172
Hassen, A. PEE1721
Hassett, T. PED1056
Hassib, L. PED0948
Hatane, L. PEE1362, **PEE1382**
Hathaway, C. PEE1378
Hattori, A. OAC0602
Hatzakis, A. PEC0727, LBPEC26
Hatzold, K. PDE0505, PEC0679, PEC0689, PEE1380, PEE1717
Haubrich, R. PEB0229
Haule, A. PEC0425
Hauser, C. PEB0172, PEC0596
Hausler, H. PDD0306, PED1076, PEE1523
Hauzel, M.K. PEE1669
Havlier, D. OAE0103
Havlir, D. OAB0702, OAC0203, PEB0135, PEB0211, PEB0357, PEC0483, PEC0655, PEC0708, **PEE1493**, PEE1641
Havlir, D.V. OAE0406, OAC0805
Hawken, M. PEE1535
Hawley, I. PEC0688, PED1158
Haworth, K. OAA0405
Hay, K. PEF1830
Hayashi, K. PEC0426
Hayes, H. OAELB0102
Hayes, R. OAC0204, OAE0504, PEC0580, PEE1628, PDC0207, PEF1743
Haynes, B.F. OAA0307
Hayward, G. PEE1620
Hazra, A. **PED0928**, PED1028, PED1108
Hazra, R. OAB0706, PEB0293, PEB0312
Hazuda, D. PDB0406
He, C. OABLB0104, PEA0011
He, J. PDE0203
He, R.P. PED0796
He, W. PEB0196, LBPEB13
Heacock, M. **PEE1486**
Heany, S. PDB0205
Heaps, A. PDB0404
Heard, N.J. OAB0705, **PED0853**
Hearld, K.R. PED1116
Hearns, M. PED0838
Heath, D. PED1315
Heath, K. **OAELB0105**
Heath, N. PED1315
Heaton, R.K. PEA0088
Hebel, S. **PEE1670**
Hebert, T. PEA0073
Hecht, F. OAA0403
Hecht, J. PEE1696, **PEC0746**
Hechter, R. OAB0603, **PEC0619**
Hechter, R.C. PEC0621
Heck, C. PEE1672
Heekes, A. PEE1390
Heendeniya, A. PEC0714
Heffron, R. OAC0105, OAD0604, PEA0030, PEC0611
Hegdahl, H.K. **OAC0103**
Heger, E. PEA0081, PEB0255
Hegle, J. PEC0664, PED0932, PED1145
Heidari, O. OAE0804
Heiden, D. PDB0305, PEB0125
Heijman, T. PEC0479
Heimburger, D.C. PEA0068
Hein, K.M. PEF1803
Heinrich, T.J. PEA0051
Heinzkill, M. PEB0229
Heisler, S. **PEB0341**
Heitzinger, K. OAB0507
Hellard, M. PEC0441
Hellstrom, E. OABLB0101
Hemelaar, J. **PDA0106**, **PEA0046**, **PEC0457**
Hemingway-Foday, J.J. PEC0427
Hémono, R. **PED0931**
Henderson, G. PEB0271, PED1198
Henderson, G.E. OAD0704, **PED0761**, PED0770
Hendricks, P. PEE1390
Hendricks, R. PED1074
Hendrickson, C. **PEC0641**
Hendrix, C.W. PED1285
Henegar, C. PEB0234
Heneine, W. OAA0203, PEA0087
Hennessey, B. PED1239
Henrich, T. OAA0102, OAA0405, PEC0483
Henriquet, M. PEF1829
Henry, M. PED1218
Hensen, B. OAC0102, PEC0413, PEC0580, PEC0679
Hensien, J. OAA0404
Herard, K. PEA0017
Herbein, G. **PEA0048**

Herbers, R. OAC0502
Herbst, C. PEC0689
Herbst, S. PEC0445
Herbst, W. LBPEE46
Herce, M. OAC0405, OAE0102, PEC0578, PEC0752, PED1211
Herce, M.E. OAD0306, PEE1571, PEE1572
Hergott, D. PEE1728
Herman-Roloff, A. PEE1520, PEE1523, PEE1656
Hermans, S. PEE1621
Hermetz, K. PEB0312
Hern, F PEA0086
Hernalsteens, O. PEA0059
Hernandez, J. PEB0205, PEB0350
Hernández-Chávez, J.J. PEF1761
Hernández-León, C. PEA0027
Hernández Leyva, M. PED0980
Hernandez-Walias, F. PEB0127
Herreira, M.L. OAF0104
Hesseling, A. OAB0503
Hesseling, A.C. PEE1390
Hessol, N. PEC0472, PEC0489, **PEC0490**, PEC0491
Hettema, A. OAE0105, OAE0405, PEC0723
Heymann, J. PEA0067
H. Griep, R. PED0954
Hhlope, K. PEE1700
Hickey, A. PDC0105, **PEC0409**, PED1105
Hickey, A.C. PEC0376
Hickey, M. OAE0103
Hickey, M.D. OAE0406
Hickman, M. PEC0426, PEC0431
Hicks, L. OAE0803
Hicks, M.L. PEB0211, PEB0357
Hicks, M.-L. PEE1493
Hickson, D. PED0985
Hickson, F. PEC0646, PED1089, PED1093
Hiener, B. OAA0403
Hieu, T.T. PEB0343
Hifindwako, J. PEE1709
Higa, D. PEC0740
Higa, D.H. PEC0608
Higgins, E. PED1057
Hightow-Weidman, L. OAC0605, **PED1133**
Hightow-Weidman, L.B. PED0821
Hijazi, M. OAE0206, PEE1349, PEE1638
Hileman, C. OAE0305
Hill, A.O. PEC0430
Hill, A. PDE0502, **OABLB0103**, OABLB0105, OAELB0105, OAXLB0104, LBPEB07
Hill, K. PEF1843
Hill, M. **PED0889**, **PED0898**
Hill, N. PED1074
Hillier, S. PEC0749
Hillis, S. PEE1472, PDE0302, PEE1478, PEE1665
Himansu, S. OAALB0101
Himelhoch, S. PED1274
Himma, L. PEB0346, PEE1485, LBPED33
Himmad, L. PEC0444
Himmich, H. PEF1842
Hindman, J. PEB0165
Hines, J. PEC0605
Hines, J.Z. PEE1522
Hinkle, L. PEC0605
Hinojosa, J. OACLB0101, OAXLB0101
Hirono, J. **PED0785**, PEF1862
Hirsch, J.S. PED0880, PED0905, PED0955
Hirsch-Moverman, Y. **PDD0204**, **PEE1425**
Hitchingham, J. PED1271
Hladik, F. OAA0405
Hlaing, M.M.M. LBPEE43
Hlatshwayo, M. PEE1420, PEE1422
Hlatshwayo, N. PEE1700, PEE1715
Hlongwane, K. PEC0398, PED1016
Hlongwane, M. PEE1477
Hlongwane, S. PEE1666, PEC0650, PED1192
Hlope, K. PEE1715
Hlophe, K. PED1283, PEE1582, PEE1634
Hlungwani, O. **PEE1474**
Hmadard, N. PEC0375
Ho, H. **OABLB0104**
Ho, J. LBPEB10
Hoagland, B. OAC0505, PEC0557, PEC0604, PEC0692, PEC0715, PED1303, PED1308, LBPED35, **LBPED36**
Hoang, C.D. OAF0305
Hoang Ngoc Minh, P. PEC0388
Hoang Nguyen, L. PED0935
Hoang Van, M. PEE1370
Hoang Vu, M.C. OAD0603
Hoare, J. **PDB0205**, **PEB0323**, PDA0107, PED0821
Hobbs, M. PEA0022
Hocqueloux, L. OAA0103, PEB0240
Hoddinott, G. OAC0204
Hodel, E.M. PEA0086
Hodes, R. PEE1601
Hodge, M. PED0800
Hoe, H.D. PDE0303
Hoek, R. PDE0405
Hoelscher, M. PEC0425
Hoesley, C.J. PEC0688
Hoff, C. PED0986, **PED1152**
Hoffman, H. PED1131
Hoffman, I.F. PEC0707
Hoffman, R. PEE1623, PEE1652, **PEE1696**
Hoffman, R.M. PED1150, PEE1402, PEE1497, PEB0178, PED0858, PEE1631
Hoffman, S. PDC0406, **PDC0407**, **PEC0389**, PED0882
Hoffmann, C. PEA0064
Hoffmann, C.J. PEE1477
Hoffmann, U. PEB0181
Hofmeyr, C. PED0844, **PED1295**, PED1296, PEE1635, PEE1651
Ho-Foster, A. **PED1269**
Hogan, B. PEB0218
Hogan, J.W. PEB0308
Hogg, E. OAB0404, PEB0245
Hogg, R. PDC0204, PEB0231
Hogg, R.S. PEC0434, OAC0302, PEC0536
Hoh, R. OAA0102, OAA0403, OAA0405, PEA0051, PEC0483
Hojilla, J.C. OAC0807
Holden, J. PEC0627
Holder, A. OAA0203, OAC0504, PEA0087
Holder, MD, C. PED1096
Holec, M. PEC0653
Holguin, A. PEA0005, PEB0117
Holguín, A. PEB0296, PEB0299
Holguín, Á. PEB0337
Hollbrook, K. PED1212
Hollendoner, J. PEE1493
Hollingshead, B.M. **PED1177**, **PED1219**
Holloway, I. PED0868, PEF1760, LBPEE53
Holloway, I.W. **PDD0302**, **PED0838**
Holman, S. PEA0053
Holmes, C. OAE0102
Holmes, C.B. OAD0306, PED1179
Holmes, L. OAXLB0102
Holmes, M. PEA0002
Holt, M. PEC0636, PED1007, OACLB0103
Holtz, T. PDC0105
Holtz, T.H. PEC0376
Holtzman, D. **PEB0140**, PEB0157
Homan, T. **PDC0304**
Homena, K.V. PEF1745
Homer, G. PEB0168
Homeus, F. OAB0405, PEE1519
Honegger, J.R. PEB0280
Honermann, B. PEF1759
Honeycutt, J. PEA0018
Hong, S. PDE0404, PEE1577, PEE1709
Hong Anh, D. OADLB0105
Honig, L. PED1254
Honoré, J.G. PEE1728
Hontelez, J.A. PEE1343
Hoornenborg, E. PED1101
Hoover, D. OAC0404
Hoover, K. **PEB0356**, LBPEC22
Hoover, K.W. PED1003
Hope, T. PDA0206
Hope, V. PEC0426
Hora, B. PEA0006
Horberg, M. OAB0603
Horberg, M.A. PEB0218, PEC0452
Horn, S. PEC0425
Horn, T. **PEF1768**
Horne, D. PEB0147
Horner, P. PEC0446
Horrigan, C. **PEF1817**
Horsburgh, B. **OAA0403**
Horvath, K. PED1314
Horvath, K.J. PED0982
Horvitz, C. OAC0605
Horwood, J. PEC0446, PEC0607
Hosek, S.G. OAC0603
Hosomich, K. PEB0154
Hosseini Hooshyar, S. PEC0579, **PED1060**, **PED1301**
Hosseinipour, M. PEB0094, PEB0245
Hotchkiss, J. PEE1374
Hou, F. PED0961, PED0997
Hou, P. PEC0500
Houlberg, M. LBPEC29
Houshangi, S. PEC0718
Hovaguimian, F. PEC0596
Hove, J. PED1157, PEC0653
Hovind, L. PEB0245
Howard, A. PEE1392, PED0932, **PED1145**
Howard, A.A. PEE1425
Howard, C. **OAD0906**
Howell, C. PED1188
Howell, S. OAC0506, PED1001, PED1113, OAELB0104, LBPEE53
Howells, W. PEC0588
Hows, J. OAD0102
Hoyos, J. PEC0568
Hrapcak, S. PDD0205
Hsieh, C.-Y. OAD0705
Hsu, L. PEB0267, PEC0466, PEC0472, **PEC0489**, PEC0490, **PEC0491**, PEC0517
Hsu, P. PED0796
Hsu, R. OAB0604, PEB0217, **PEB0234**
Hsu, S.-T. PEE1616
Hsue, P. PEB0211
Hsue, P.Y. PEB0352
Hsu Hnin Mon, S. PEC0409
Htet, L. PEC0564, **PED1061**
Htet, M.M. **PEF1803**
Htoon, Y. PED1039
Hu, C. PEE1374
Hu, F. PEB0146
Hu, H. OAB0603
Hu, X. PDE0203, PEC0378, OAA0307
Hu, Y. **PEC0531**, PED1110, PEC0471, PEC0513
Hu, Z. PEB0243
Huaman, B. PEC0738
Huang, B. PED1289
Huang, C.W. PEB0219
Huang, D. PEA0007
Huang, M.-L. OAA0405
Huang, P. OAC0506, LBPEE53
Huang, Q. PEB0243
Huang, S. PEC0584, PEE1369, PEB0249
Huang, S.-P. OAD0705
Huang, W. OAD0502, PED0976

Huang, X. PDC0107
Huang, Y.-L. PEB0356, PEC0403
Huang, Y.A. **LBPEC22**
Huang, Y. PEB0205, PEB0350
Huber, A. PEE1500, PEE1624, PEE1627
Huber, A.N. **PEE1629**
Hucks-Ortiz, C. OACLB0101
Huda, N. **PED1085**
Hudgens, M.G. PEC0707
Hudson, K. PEB0260
Hudson, K.J. PEB0261
Huebner, D. PED0970
Huerga, H. PEC0485
Huerta, G. **PEB0221**, **PED0921**
Huerta-Icelo, I. PED1291, LBPEE52
Hughes, A. PEC0466
Hughes, A.J. PED0937
Hughes, J.P. PEC0525, PED0797, PED0987
Hughes, M. OAB0404, OAB0503, PEB0245
Hughes, S. OAD0103, PEC0488
Hughey, A. OAE0405
Hui, C. **PEC0749**
Hui, H. PEC0531
Hujdich, B. **PEC0719**, PEE1418
Hulett, C. **PED1222**
Hull, I. PEB0120
Hull, M.W. PEC0648
Human, A. LBPEF60
Humes, E. PEC0452
Humphrey, J. **OAE0403**, PEB0284, PEB0285, PEB0286, **PEC0394**, **PED1167**
Humphreys, D. PEC0418
Humwa, F. PEC0487
Hundsberger, T. PEB0172
Hung, C.C. PEB0219
Hunkler, J. PEB0280
Hunt, G. PEC0398, **PEC0502**
Hunt, P.W. PEB0352
Hunt, T. PEF1780, OAE0805, PEC0667, PED0968, PED0978, PED0984, PED1035, PEE1436
Hunter, E. PEA0017, PEA0020
Hunter, J. OAXLB0105
Hunter, L.A. **OAE0104**, **PEC0660**, PEE1482, PEE1581
Huo, Y. PEB0277, PEB0309, PEB0333, PEB0336
Huong, D.T. PEB0351
Hurley, L. OAC0502, OAC0807, PEB0187
Hurtado, R.M. LBPEB13
Hussain, Y. OAC0502
Hussein, A. PEF1795
Hussen, S. PED0980
Hutchinson, J. PEB0091
Hutton, H. PED0850, PEE1642, PEE1703
Huy, B.V. PEC0397
Huynh Hoang Khanh, T. PEC0505
Hwang, C. OAB0302, OAB0305
Hwang, J.-S. PEC0403
Hwang, L.-Y. PEE1420, PEE1422
Hyde de Souza, H. PEB0334
Hyden, C. PEC0550
Hyink, D.P. PEA0011
Hyle, E.P. **PDE0504**
Hyman, S. PEF1878

I

Iacono, M. OAF0104
Iampornsin, T. PEB0123
Ianni, A. PED1161
Ibanez-Carrasco, F. PED0800, LBPEE49
Ibañez-Carrasco, F. PED0780, PED1175
Ibarra, M. PEE1641
Ibegbunam, I. PEE1449
Ibete Silva López Lopes, G. PEB0090
Ibrahim, A. PEE1360
Ibrahim, F. PEE1397
Ibrahim, k. **PEF1740**
Ichiki, A. PEB0156
Ictho, J. PEE1433
Idalski Carcone, A. PEF1860
Idelson, L. OAE0703
Idigbe, I. PED1313, PEE1607
Idipo, D. PEE1675
Idrisov, B. PED1036
Igaba, N. **PEC0650**
Ighodaro, M. PEF1893
Ignatushyna, M. **PEF1749**
Igumbor, J. PEC0706, PED1295, PED1296, PEE1602, PEE1635, PEE1651
Igwe, N. LBPEF56
Ihbibane, F. **PEB0134**
Iida Avelino-Silva, V. PDB0407
Ijezie, E. PEC0569, PEE1446, PEE1457, PEE1495
Ikeda, J.M. **PED1004**
Ikeuchi, K. PEB0154
Ikomi, E. PED0927
Ikushima, Y. OAD0406
Ilesanmi, O. PEC0726, PEE1423
Ilika, F. **PEE1359**
Illescas, R. PEB0159
Illingworth, S. OAD0202
Iloh, G. PED1153
Ilunga, V. PEE1527
Ilunga, Y. PEE1614
Im, C. PED1252
Imamichi, H. **OAA0404**
Imarhiagbe, C. LBPED38
Imbert, E. OAE0103, **OAE0406**
I. McCoy, S. PED0931
Imohi, P. LBPEF56
Inácio, A. PEE1533
Inambao, M. PED1058
Incardona, F. PEB0255
Inciarte, A. **LBPEB15**
Indongo, R. PEC0680
Indrasari, W. PED0883
Indravudh, P. PEE1355
Infante, C. PEE1417, PEE1481
Infante, J. PEC0391
Ingaiza, L. PEE1466, PEE1480
Ingleby, C. PEF1753
Iniguez, L.P. PEA0013
Iñiguez Rábago, L. PEA0067
I. Nii-Trebi, N. PEA0015
Insua, M. PEE1656
Intasan, J. PED1198
Inwani, I. PED0819, PED0824, PED0888, PEE1592, PEF1850
Iovita, A. OAF0402, PDF0202, **PEF1886**
Ip, V. **PEB0302**, PEB0311
Irfan, S. **PED1154**
Iribarren, J.A. PEB0296
Irinoye, O. PEF1851
Iriso, R. PEE1385, PEE1639
Iroezindu, M. OAB0602, PEC0720
Irungu, B. PEB0269
Iryna, B. OAB0405
Isaacson, A. OAXLB0102
Isaacson, S.C. OAD0704, PED0761, PED0770, PED1198
Isaakidis, P. PEB0131, PED1283, PEE1497
Isabirye, D. PED0905
Ishii, H. **OAA0306**
Ishikawa, K. PEA0015
Islam, A. PEE1393
Islam, M.S. **PED0774**
Islam, S. PEE1393
Islam, Z. **OAE0605**
ISLAM, S. **PEE1668**
Ismail, A. **PEC0691**
Ismail, H. PED1261
Ismail, N. PEA0020
Ismerio Moreira, R. PEC0692
Isnard, S. PEB0145
Isunju, J.B. PEC0553
Itana, M. PEB0324
Ithibu, A. **PEF1793**
Itoh, M. OAB0504
Iudicello, J. PEB0126
Iutung, P. PEE1457, PEE1708, PEE1719
Ivakin, V. PEC0695
Ivanchuk, I. PEB0151
Ivanova, N. OAE0605
Iwamoto, M. PEA0083, PED1114
Iwelunmor, J. PED1202, PED1313, PEE1607
Iwu, E. OAD0606, PED1286
Iwuagwu, S. PED0966, PED1311
Iyaji-Paul, O. PED0765
Iyamu, I. PEB0139
Iyamu-Obi, F. PED0912, PEF1798
Iyer, N. OAA0102
Iyiola, O. PEC0666
Iyotim, I. LBPEF56
Izambert, C. **PEF1765**, PEF1826
Izazola Licea, J.A. OAE0602, **OAF0303**, PEE1355, **PEE1358**
Izegbu, U.A. PEC0465
Izzo, I. PEB0340

J

Jabateh, L. PEE1464
Jackson, A. PED1097, PEB0149
Jackson, D. OAE0203, PEE1718
Jackson, J. PDC0405, PEE1547
Jackson, V. PED1269
Jacob-Filho, W. PEC0668
Jacobson, D. **PEB0188**, PEC0737, OAXLB0102
Jacque, E. PED0772
Jadwin-Cakmak, L. PED1087
Jaeger, M. PEA0042, PEB0183
Jaen, A PED1051
Jafaar, F. PEE1463
Jaffe, E. LBPEF57
Jaffer, M. **PEC0398**, PED1016
Jaggernath, M. PEC0600, PED1285
Jaggi, C. PEC0631
Jagoe, L. PEE1386
Jagtap, D. PEE1566
Jagtap, R. PED1232
Jahagirdir, D. PEC0739
Jahan, A. **PEF1746**
Jahanpour, O. PEC0722
Jahn, A. OAE0502
Jahun, I. **PEC0484**
Jaimulwong, T. PEB0123
Jain, V. OAC0805, PEE1641
Jaiswal, J. PEC0630
Jakait, B. PEB0284, PEB0285, PEB0286, PEC0394
Jalil, C. PEC0557, PEC0604, PEC0711, PED1111, PED1303, **PED1308**
Jalil, C.M. OAD0105
Jalil, E. **PEC0604**, **PEC0711**, PED1308, LBPED35, LBPED36, PEF1838, PEF1839
Jalil, E.M. OAD0105
Jallow, W. PDE0402, PEF1763, PEF1875
Jamal, L.F. PEC0565
James, E. LBPEF56, PEB0139
Jamil, M. PDE0202, PEB0104
Jamil, M.S. PEE1479
Jamison, D. PEE1342
Jamu, M. PEE1704
J.A.M van der Ven, A. PEA0045
Janamnuaysook, R. PEB0346, PEC0444, PEC0659, PED1187, PEE1469, PEE1485, **LBPED33**
Jang, D.E. PED0839
Janini, L.M. OAXLB0105
Janjua, N. PEC0451, PEC0454
Jansen, K. PEC0518, PEC0725, PED1088, PED1279
Januraga, P.P. PEF1888
Janušonytė, E. PEF1870
Janyam, S. OAE0702, PDC0105, PDC0106, PED1078, PED1105, PED1206, PEE1469, PEE1542, PEF1856, **OAELB0103**, LBPEE47
Jao, J. PEB0313

Jaoko, W. PED1084
Jaquet, A. PEE1564
Jaramillo-Jante, M.d.R. PEA0027
Jardell, W. PEF1846
Jarolimova, J. **OADLB0102**
Jarvis, J. PED1180
Jarvis, J.N. PDE0507
Jasmin, J. PEB0205
Jaspan, H.B. PEA0030, PEA0050
Jasper, T. PEE1604
Jasumback, C. PEB0167
Jatau, B. OAE0402
Jauffret-Roustide, M. PEB0342
Jaumdally, S.Z. PEA0030
Jauregui, J. PEF1860
Javadekar, J. OAE0602
Javanbakht, M. OAD0404
Javier, M. PEB0314
Jawouro, S. OAD0302
Jayakrishna, P. **PEC0702**
Jayaseelan, V PEE1494
Jean, E. PEB0121
Jean, K. PED0885
Jean-Gilles, M. PDD0104
Jean Juste, M.A. PEE1647
Jean-Juste, M.A. PEE1519
Jean Louis, F. PEC0635, PEE1419, PEE1559
Jean-Philippe, P. PEB0328
Jean Phillippe, P. OAB0505
Jeansuwannagorn, C. PEE1732
Jebai, R. PEC0460
Jefferys, R. PEB0272
Jeffries IV, W.L. PEF1737
Jenabian, M.-A. **PEA0031**
Jeneby, F. PED1043
Jenkins, H. PEB0153, PEC0721
Jenkins, S. PEE1729
Jennifer, E. PED1309
Jennifer, N. PED1229
Jennings, A. OACLB0101, OAXLB0101
Jentsch, U. PEC0427
Jepkemboi, E. PEB0308
Jere, B. PEE1522
Jere, E. PEC0382, PEC0756, PED1324, PEE1654, PEE1735, PEE1736
Jere, J. PEE1338, PEF1774
Jeremie, J.R. PEE1519
Jern, P. PED0960
Jerome, G. PDF0205
Jerome, K. OAA0405
Jessen, H. PEC0518, PEC0725, PED1279
Jewanraj, J. **PDA0202**
Jewell, B. **PEC0523**
Jewell, N. OAD0702
Jewkes, R. PEC0398, PED1016
J. Fonseca, M. PED0954
Jha, A. PEE1515, PEE1614, PEE1618
Jha, S. **PEC0499**
Jiamsakul, A. **PEB0091**, PEC0397
Jiang, H. PEC0584
Jiang, Y. **OAB0204**, PDE0203
Jiboye, J. PEB0202
Jibrin, B. PEE1423
Jie Ying, F. PEB0213
Jikia, G. PED1052
Jimenez, A. PED1057
Jimenez, H.R. PEB0252
Jimenez de Ory, S. PEB0296
Jimenez De Ory, S. PEB0337
Jiménez de Ory, S. **PEB0299**
Jin, C. OAB0204
Jin, F. OAC0802, **PEC0627**, OACLB0103
Jin, H. OAA0206
Jipa, R.E. LBPEC26
Jirón, J.-P. OAD0706
Jiwa, N. PEB0297
Jiwa, N.A. **PEB0316**, **PEE1363**
Jjuuko, G. **OAD0805**
J. Landovitz, R. PDC0408
Jodar, F. PDE0503
Jogendra, U. **PED1024**
John, K. PEB0147
John Bosco Jr, M. **PEE1552**, PEE1731
Johns, M. PED1141
Johnson, A.K. PED1130
Johnson, A. PEB0205, PEB0350
Johnson, C. OAE0506, **PEE1460**, PDE0202, PEC0679, PEC0689, PEE1380, PEE1479
Johnson, C.C. PDE0505
Johnson, J. PEC0755
Johnson, K. OAC0205, **PEC0482**, PED0772
Johnson, K.A. PEC0501
Johnson, L. PDD0506, PEA0087, **PEC0528**
Johnson, M. PED1159, PEF1881, OAB0605, PEB0096, **PDF0205**
Johnson, R. PEA0087
Johnson, S. PEC0691, PEE1531, PDD0104
Johnson, V. PEF1873
Johnson, MPH, S. **PED1096**
John-Stewart, G. OAB0704, PED0819, PED0824, PED1173, PEE1546, PEE1592, PEF1850
John-Stewart, G.C. PEC0582, PED0888
Johnston, C. PED1091
Jollimore, J. OAD0602
Jomja, P. **PDB0204**, LBPEE47
Jonas, K. PDC0102
Jones, A. PEE1374, PEF1759
Jones, B. OAB0606, PEB0233
Jones, C. PEE1563, PEE1579, OAF0102
Jones, D. PED1092, OACLB0101
Jones, D.L. PEB0098, LBPEE48
Jones, H. **PEC0413**
Jones, J. PEB0338, OAC0605, OAC0804, PEC0619, PEC0621
Jones, J.T. **PED1003**
Jones, M. PEC0733
Jones, M.J. PEE1449
Jongbloed, K. **PDD0106**, **PED1227**
Jongpaijitsakul, P. PEC0388
Joosten, I. PEA0042
Jordan, M. PEE1349
Jordan, S. PDD0302
Jori, V. PEE1494
Jose, J. PEE1653
Joseph, J. PEE1361
Joseph, P. PEE1519, **PEE1647**, PEE1375
Joseph, R. LBPEC19
Joseph, Y. PEB0181
Joseph Davey, D. PEC0672, **LBPEC24**, **LBPEC25**
Josephs, L. PEC0391
Joshi, A. OAA0205
Joshi, S.H. PEB0331
Joshua, M. PEE1552
Joska, J. PDB0203, PED0832
Jost, E. OAC0602
Joubert, J. PDC0303, PEC0509
Joulaei, H. PEC0521
Jourdain, G. PEB0120, PEB0192
Jovet-Toledo, G. PED0913
J. Schmidt, A. PEC0694, PED1011
J. Starks, T. PED0946
Jubilee, M. PDE0505
Juga, A. PEA0071
Jules, A. PEC0736, PEF1879
Julien, A. OAC0407, OAD0305, OAB0405
Julius, C.L. PEE1587
Julius Siegler, A. PEC0631
Julmiste, G. OAB0405, PEB0121, PEB0258
Juma, A. PEC0652, LBPEC19
Juma, K. PEF1742
Jumalasari, W. **PED0883**
June, E.O. PEC0652
Junio, P.V. PDD0103
Juniper, T. LBPEB12
Jupimai, T. OAD0704, PED0761, PED0770, PED1198
Jurgens, R. **OAF0402**, PDF0202, PEF1886
Justice, A. PEC0452
Justice, A.C. LBPEC23
Justman, J. PEE1442

K

Kabalo, A. PEB0161
Kabami, J. OAB0702, OAC0203, OAC0805, PEC0655, PEC0708
Kabanda, J. PEE1676
Kabatesi, D. PEE1388
Kabengele, J. PEE1498
Kabila, M. **PED1236**, **PEE1502**
Kabir, R. PEB0200
Kaboggoza, J. **PEA0086**
Kabonge, D. PEF1771
Kabore, R. PEE1351
Kabra, S. OAA0302
Kabula, P. PEB0114
Kabunga, L. PEC0587
Kabuye, A.N. LBPEF55
Kabwama, S. PEE1529
Kabwe, C. PEE1527
Kabwe, E. PEC0571
Kabwe, M. PEF1755
Kacanek, D. PEB0277, **PEB0309**, PEB0312, PEB0336
Kachen, A. PEB0200
Kachingwe, J. PEE1395
Kadama, H. PEE1537
Kadima, J. PEE1630
Kadzura, N. PEE1470
Kaetano, N. PDE0307
Kaewburee, A. PEE1469
Kaewpoowat, Q. PED1123
Kafidi, E.-L. PEB0176
Kafulubiti, B. PEE1567
Kafura, W. PEC0407
Kagaayi, J. OAC0402, PDC0405, PED0882, PEE1547, PEE1646
Kagaba, A. PEC0445
Kagashe, M. PEC0599, PED1082
Kagee, S.A. PDB0203
Kaggiah, A. PED0819
Kagimu, D. OAF0302
Kagoli, M. PDD0403
Kagujje, M. PEB0128, PEB0135
Kahemele, J. PEB0306
Kahindi, L. PEE1489
Kahn, J.G. PED1164
Kahn, J. PED1289
Kahn, K. OAC0407, OAD0305, PEC0509, PEC0524, PED0886, PED0958, PED1142, PED1157, PED1143
Kahn-Woods, E. PEE1670
Kahungu, M. PEE1708
Kaida, A. PEC0536, PED0767, **PED0867**, PED0873
Kaira, F. **PED1319**
Kaiser, M. PEB0104
Kaiser, R. PEA0081
Kajjumba, D. PEE1553
Kajoka, D. OAE0202
Kajula, L. **PED0916**, PEE1657
Kak, D.N. PEE1667
Kak, N. PED1317, PEE1391
Kakande, A. PEC0613
Kakanfo, K. **PEB0139**
Kakkar, F. **PEB0334**, **PEB0335**
Kakupa, D. PEC0680
Kalaiwo, A. PEC0586, PEC0609
Kalamatila, R. PEE1610
Kalamya, J. PEE1394
Kalamya Namonyo, J. PEE1676
Kalande, P. OAE0503
Kalayu, M. PEE1439
Kaldor, J. PEB0104, PEC0500
Kalebbo, B. PEE1401, **PEE1428**
Kaleebu, P. PEA0017, PEC0613
Kalema, N. PEB0112, PEB0332, PEC0587, PEE1396
Kaley, A. PEC0603
Kalibala, S. PDC0405
Kalibbala, D. **PEC0549**
Kalichman, A. PEC0368, PEF1797
Kaliel, D. PEE1339, PEE1451

Kaliki, B. PEB0114
Kalima, S.Z. **PED1188**
Kalimunda, J. OAE0202, PEB0292, PEB0303, PEE1692
Kalinga, C. **PED0756**
Kalinjila, A. OAE0104, PEE1435
Kalk, E. OAC0705
Kalkwarf, H. PEB0188
Kall, M. PED0945
Kalla, G.C.M. PEB0106
Kallas, E. OACLB0101, OAXLB0101
Kallas, E.G. PED1091
Kalli, F. PEA0025
Kalliaperumal, L. PED0942
Kalmin, M. **OAD0404**
Kaloki, R. PEE1661
Kalombo, D. PEE1710
Kalra, S. PEE1424
Kalua, T. OAE0502, PDD0403
Kalula, S. **PED1195**
Kalwicz, D. PED0973
Kalyati, S. **PEE1681**
Kalyegira, S. PEE1394
Kalyniuk, V. **PEF1802**
Kamakura, M. PEB0236
Kamal, S. PEE1491, **PEE1702**
Kamali, A. PEA0017
Kamanga, G. PEE1449, **PEE1458**, PEE1662, PEE1677
Kamanga, L.-F. PEE1527
Kamanga Lukusa, L.F. PEC0592
Kamara, H. PEE1612
Kamarulzaman, A. PDC0104, PEB0213
Kamba, C. PEE1681
Kambai Avong, Y. **OAE0402**
Kambale, H. **OAE0405**
Kambale, H.N. LBPEE44
Kambauwa, D. PEE1395
Kamble, S. **PEB0287**, PEB0287
KAMBLE, S. **PEE1566**
Kamboyi, R. PDD0503, **PEC0651**, PEC0654, PED1236, PEE1502
Kamel, L. OAD0105, PEC0557, PEC0604, PEC0711, PED1111, PED1303, PED1308
Kamira, A. PEB0283
Kamire, V. PEE1608
Kamisato, A. PEC0455
Kamitani, E. **PEC0608**
Kamkara, K. **PEF1744**
Kammera, W. PEE1694
Kamocha, S. **PDC0302**
Kamonga, M. PEE1563, PEE1579
Kampman, K. PEC0479
Kamponda, M. PED1126
Kamthunzi, P. PEB0328
Kamtimaleka, M. PEC0634
Kamtsendero, L. PEE1571, PEE1572
Kam-Tuck Yip, A. PEA0065
Kamulegeya, L. PED1314
Kamuntu, Y. PEB0164, PEE1361
Kamusiime, C. PEE1528
Kamwesiga, J. PEB0185
Kamwesigye, N. PDD0207
Kamya, D. **PEE1409**
Kamya, M. OAB0702, OAC0203, PEC0655
Kamya, M.R. PEC0708, OAC0805
Kanagasbai, U. OAC0803
Kancheya, N. PDE0302, PEE1478
Kandaswamy, S. PDD0206
Kandil, A. PEF1842
Kandulu, J. PEC0474
Kane, C.T. PEB0109
Kaneko, N. PEC0430
Kang, A. PED1237
Kang, S. PED1277
Kang Dufour, M.-S. OAD0305, PEC0660
Kang-Dufour, M. OAC0407
Kang-Dufour, M.-S. PED1293
Kangethe, J. PEB0270
Kang'oma, G. PEE1389
Kanjanavanit, S. OAB0104, PEB0317, PEB0318
Kanjanavikai, P. PEB0192
Kanjipite, W. **PEE1501**, PEE1567, PEE1578, PEE1632
Kankaka, E. PEB0294
Kanma-Okafor, O. **PED0896**
Kanoujia, S. PED1174, PEE1492, PEE1575
Kanoujia, S.K. PED1292
Kanoute, A.K. PEC0406
Kansiime, R. **PEE1496**, PED1208
Kansiime, S. **PEC0613**
Kanta, U. **PED1191**
Kantor, R. PEB0308
Kanyama, C. OAB0404, PEB0245
Kanyanda, J. **PEE1399**
Kanyango, B. PEE1682
Kanyemba, B. PEE1449
Kanyenda, C. PEE1704
Kanyenda, R. PDD0205, PDD0403
Kanyenvu, D. PDC0202, PED1069
Kanyenvu, D.K. PEC0462
Kanywa, J. **PEB0358**
Kaonga, A. PEC0651
Kaonga Mkandawire, M. **PED0843**
Kapaata, A. PEA0017
Kapambwe, S. PEB0161
Kapanda, L. **PEC0681**, **PEC0683**
Kapesa, A. PEB0316
Kapesa, E. PED1216
Kaplan, C. PED0940
Kaplan-Lewis, E. PEB0260
Kapogiannis, B. OAB0702, PED0852, PED1130, PED1313, PEE1607
Kapogiannis, B.G. OAD0806
Kapotwe, V. PEE1584, PEE1716
Kapusta, A. PEF1749
Kaputula, K. OAC0405, PEC0578
Karamagi, E. PEE1537
Karamouzian, M. PEC0459, PED1060
Karani, C. PEC0470
Karea, I. PEB0129
Karellis, A. **PEB0124**
Karemangingo, S. PEE1588
Karemera, F. PEE1588
Kariithi, E. PED1290, PEE1505, PEE1557, PEE1678
Karim, E. PEB0208
Karim, F. **PEC0559**, PEA0047
Karimi, J. PEC0510
Karimova, K. PEE1723
Karisa, A. **PEF1782**, **PEF1840**
Karita, E. PEA0020, OAF0403
Kariuki, A. **PEE1415**
Kariuki, E. LBPEB08
Karkouri, M. OAF0306, PEF1842
Karugaba, G. **PEB0329**
Karutu, C. PEC0558, **PEE1587**, PEE1648, PEE1649, PEE1655, **PEE1550**
Kasaie, P. **PEC0452**
Kasambala, B. PEE1363
Kasapo, C. PEB0128
Kasere, P. OADLB0104
Kasese, N. OAC0204
Kashali, M. PEB0176
Kashangura, R. PEB0088
Kashela, L. OAC0405
Kashem, M. **PDA0205**
Kashitala, J. **PEE1580**
Kashuba, A. PED0854
Kasman, M. PED0926
Kasonde, P. PDE0307, PEE1525
Kasonka, S.C. PDE0307
Kasozi, D.E. **PEA0075**
Kasozi, D. PDC0403
Kasper, Z. PED1054
Kasrashvili, T. PED1052, PEF1857
Kassa, Y. PEE1721
Kassam, P. PEB0089
Kassim, H. PED0881
Kassozi, I. PEC0729, PED1247
Kasu, T. PEE1631
Kasujja, F. PED1136
Kasujja, F.X. **PED1064**
Kasujja, V. PED1317
Kasule, J. PEA0033, PEB0294, PED1294
Kasule, K. PEB0300
Kasule, T. PEE1693
Kasuso, S. PEC0658
Katabaro, E. OAD0702, PED0931
Katahoire, A. PEB0186, PEC0549
Kataka, J. PEC0652
Katamba, C. **PEB0114**
Katambi, P. PEE1621
Katana, A. PEE1472, PED1245
Katana, E. PED0947
Katana, S. PEC0613
Katawera, A. PEC0729, PED1247
Kategile, U. PEC0407, LBPEC18
Katembo, X. OAB0106
Katende, H. PEE1428
Kates, J. PEF1884, **PEF1885**
Kathree, T. PEE1487
Kathryn, K. PED1151
Katiku, E. PEE1596, PEE1650
Katkar, S. PDE0406
Katlama, C. OAB0203, PEA0016, PEC0498
Kato, F. PEA0017
Katongore, S.P. PEA0075
Katoro, J. PDB0106, PEC0475
Katota, N. PED1211
Katota, P. PEE1709
Katsande, N. PED1203
Katsande, T. OADLB0104
Katse, K. PEB0329
Kattakuzhy, S. PEC0733
Katumba, M. PED1010
Katureebe, C. PEB0300, PEE1676
Katureebe Mboijana, C. PEE1424, **PEE1537**
Katuta, F. PEC0680
Katwesigye, R. PEB0186
Katz, A. PEC0693
Katz, I.T. LBPED31
Katz, R. PEB0107
Katzenstein, D. PEA0079
Kauchali, S. PED1129
Kaufa, D. PDD0207
Kaufman, M. OAD0304
Kaunang, J. **PEF1899**
Kaunda-Khangamwa, B.N. **PED1127**
Kaur, H. OABLB0101
Kaur, N. PED1298
Kaura, C. PEE1658
Kavuma, P. PEE1590
Kawachi, I. PED0985
Kawale, P. PED1150
Kawana-Tachikawa, A. PEB0154
Kawende, B PDD0404
Kawichai, S. PDC0106, PEC0657, PEC0673
Kawkitinarong, K. PEB0123
Kawonga, S. PEE1694
Kay, A. **OAB0106**, PEB0167, PEE1532
Kay, A.W. PEB0298
Kaydos-Daniels, S. PEE1721
Kaye, M. PEE1699
Kay Khine, M. **PEE1398**
Kayongo, E. PED1208, PEE1385, PEE1639
Kazantseva, T. PED0994
Kazaura, K. PEC0415, PEC0605, PED1135
Kazembe, P. PEE1420, PEE1422, PEE1597
Kazi, D.S. PEB0352
Kazibwe, E. **PDD0207**
Kazungu, W. PEE1397
Kazungu, W.K. PEE1585
KB, R. PED1174, PEE1492, PEE1575
KC, K.P. PED1253
Keapoletswe, K. PEE1498
Keath, H. PEC0436
Keatley, J. PED1176
KEAWVILAI, W. PEC0388
Kebede, A. PEE1513
Kedir, F. PEE1476
Keefer, M. PDB0102
Keen, P. **OAC0205**, OAC0802

Keenan, E. LBPEC26
Keene, C. **PEE1497**, OAELB0102, **LBPED31**
Keene, D.E. PED0892
Kegeles, S. PEC0709, PED0970, PEE1462, PEE1644
Keglovitz-Baker, K. LBPEC29
Keicher, K. PEB0228
Keïpo, V. PDE0402
keiser, O. PEC0586
Keiser, O. PEC0583
Keita, A. PED1255
Kekitiinwa, A. PEB0314, PEB0358, PEC0729, PED1247, LBPEE51
Kekitiinwa-Rukyalekere, A. PEE1420, PEE1422
Kekitinwa, A. PDD0502
Kelentse, N. PEA0035
Kelleher, A. PEB0123
Kelleher, A.D. PEA0062
Kellerman, S. PEE1539, PEE1540
Kelley, C. OACLB0101, OAXLB0101
Kelling, K. PEB0305
Kelly, D. PEB0231
Kelly, S. PEB0215
Kelly-Hanku, A. **PEC0500**
Kelvin, E. PED1013
Kemal, K. PEA0053
Kemotere, O. PED1069
Kemper, K.E. **PEE1593**
Kendall, C. PEC0377
Kendowo, E. PEA0073
Kengne Nde, C. **PEA0076**, **PED1185**
Kenmuir, L. PED1128
Kennard, B. LBPED30
Kennedy, C. PDC0406, PEC0389, PED1179, PEE1642
Kennedy, C.E. PED0880, PEE1547
Kennedy, E.M. PEB0312
Kentusi, S. PED0778
Kentutsi, S. OAD0102, PED0776
Kenyon, T. PEE1439
Keramati, F. PEB0183
Kerbay, C. PEE1458, PEE1662, PEE1677
Kereng, R. PDC0202, PEC0462, PEC0625, PED1069, PEE1530
Kerich, G. PEB0330
Kerich, M. PED0840
Kerkhoff, A. **PEB0128**, **PEB0135**
Kerlyne, L. PEB0142
Kerndt, P. PEA0071
Kerndt, P.R. **OAB0507**
Kerr, C.C. PEC0541
Kerr, C. PEB0165
Kerr, S. PEB0245
Kerr, S.J. PEB0182, PEB0204, PEE1603, OAB0104
Kerr, T. PED1044
Kerrigan, D. **PEB0260**, PED0959, PEE1477
Kerschberger, B. OAC0806, **PEB0088**, PEC0732
Kersey, E. **PED1168**
Kershaw, T. PED0889, PED0898
Keskar, P.S. PDE0406
Kesler, M.A. **LBPEE49**
Kesselly, H.M. PEE1662
Kessy, J. PED1135
Kesten, J. PEC0446, PEC0607
Kestler, M. PED0873, PED0877, PED1165
Ketema, M. PED1070
Ketende, S. PEC0445
Ketumile, L. **PEE1705**
Kgaswane, R. PEB0329
Kgogwane, M. PEB0224
Kgowedi, S. OAE0303, PED0948
Khagayi, S. PEE1611
Khajehkazemi, R. PED1060
Khajekazemi, R. PEC0579
Khakali, L. PED1274
Khalfani, H. PEB0306
Khalid, F. OAC0306, PEC0415
Khalil, F. PEC0401
Khalil, G. OAA0203, PEC0721
Khalilieh, S. **PEA0083**
Kham, S. **PEC0742**
Khama, S. PEC0650
Khamis, A.U. OAC0306, **PEC0415**
Khamofu, H. PEB0139, LBPEF56
Khampan, R. PEB0317, PEB0318
Khan, F. **PED1109**
Khan, I. LBPEC26
Khan, I.M. **PEE1386**
Khan, K.A. PDF0103
Khan, M. **OAA0106**
Khan, M.N.M. PED1154
Khan, P. OACLB0102
Khan, S.I. PED1154
Khan, S. OAE0105, OAE0503, PEC0723, PEE1361, PEE1598
Khan, T. PEE1354
Khanakwa Bwayo, S. **PEE1327**, **PEE1341**
Khanal, R. PDE0206, PEC0598
Khanal, R.P. OAD0505, PEC0560, **PED1253**
Khanal, S. **PEA0039**
Khananurak, P. PEE1603
Khandu, L. **PEC0566**
Khanh Tran, A. OADLB0105
Khanyile, N. PEC0363
Kharel, R.K. PEC0537
Kharfen, M. PEC0366, PEC0530, PED0973
Kharsany, A. PEC0504
Khasanova, A. PEB0252
Khatib, A. OAC0306, PEC0415
Khatun, F. **PEE1393**
Khawaja, A.A. **PDA0105**
Khawar, A. PEC0480
khezri, M. PEC0459
Khismatrao, D. PEE1555
Khodabocus, N. PED0942, LBPEF61
Khoddam-Khorasani, L. PED1168
Khol, V. PED1252
Khoo, S. PEA0086, PEB0244
Khosa, C. OAB0303
Khosa, H. **PEE1413**
Khozomba, N. PEF1774
Khubone, T. **PEE1683**
Khue, P.M. PEB0351
Khulik, E. PED1222
Khumalo, G. PEC0723
Khumalo, P. PDB0403
Khusuwan, S. PEB0191, PEC0397
Khuu Van, N. PEC0505
Kianian, B. PED0926
Kibengo, F. PEA0017
Kibera, A. PDC0205, PEC0642
Kibet, S. PEF1814
Kibira, D. PEE1712
Kibirango Mugambe, R. PEC0553
Kibirige, D. PEC0602
Kibona, A. PEB0292, PEB0295, PEB0303
Kiboneka, S. PDC0405, **PEB0294**
Kibugi, J. PED0824, PED0888
Kibuuka, H. OAB0602, PEC0602
Kibwa, P. OAE0606, PEE1471
Kibwana, S. PEF1897
Kidiga, C. PEE1407
Kidoguchi, L. OAC0105
Kidola, J. PEB0311
Kiem, H.-P. OAA0405
Kier, R. PEC0733
Kiernan, B. PEB0109
Kierszenowicz, T. **PED0763**
Kiertiburanakul, S. PEB0191, PEC0397
Kieu Uyen, N. PEF1853
Kifetew, C. PEC0588
Kifle, T. PEE1721
Kiggundu, J. LBPEE44
Kiggundu, V. PEE1539, PEE1540
Kigondu, E. PEB0269
Kigongo, P. **PED1215**
Kigoro, A. PEE1585
Kigozi, G. PDC0405, PEB0294, PED1029, PEE1547, PED1029
Kigozi, J. PEB0332, PEC0587, PEC0618, PEE1401, PEE1590
Kigozi, S.P. PEB0186
Kiguli, J. PEB0283
Kiheemu, M.M. PED1200
Kiige, N. PED1208
Kiiza, D. PEA0086
Kikaire, B. PEE1448, PED1317, PEE1391
Kikoyo, L. PEC0382, PEC0756
Kikuchi, T. PEB0154, PEC0455
Kilama, B. OAE0202, PEC0722, PEE1692
Kilanko, M. PED0896
Kilburn, K. PEC0524
Kileel, E.M. PEB0181
Kilembe, W. PED1058
Killam, W.P. PEC0695
Killelea, A. PEF1768, LBPEF58
Kilonzo, N. PEF1897
Kiluba, J.-C. OAE0606, PEE1471
Kim, A. PEC0393, PEC0471, **PEC0513**
Kim, A.Y. LBPEB13
Kim, E. PDD0205, PDD0403, PEB0304, PEE1475, PEE1687, LBPEC21
Kim, H.-Y. PEC0541, LBPED34
Kim, J.M. PED1275
Kim, J. PEB0124
Kim, J.H. PED1275
Kim, M.H. PEE1694
Kim, R. PEC0632
Kim, S. OAB0503, PEF1897
Kimaiyo, S. PED0895
Kimambo, S. OAE0202, PEB0292, PEB0295, PEB0303
Kimani, A. PEE1633
Kimani, J. PDC0205, PEC0642
Kimani, K. PEF1897
Kimani, M. PEC0485
Kimani Kamau, D. PEE1486
Kimario, J. PEE1563
Kimata, J. **PEA0012**
Kimata, J.T. PEA0014, LBPEA06
Kimbrough, L. PED0853
Kimbugwe, M. PEE1599
Kimera, I. PEB0186
Kimiko, V.W. PEE1703
Kimondo, G. PEC0713
Kinai, E. PEB0156
Kina Kombo, B. **PED0992**
Kindra, G. PEC0363, PEE1656
King, R. OAE0806, PED1064, **PED1136**, PEE1388
Kingazi, S. PED1135
Kingwara, L. PEC0510
Kinikar, A. PED0813
Kinloch-de Loes, S. OAA0104
Kinnard, E.N. PUB003
Kintu, D. PEE1606
Kinuthia, J. OAB0704, PEB0179, PED1084, PED1173, PEE1546
Kinywa, E. PDD0405, PED0828, LBPEB08
Kioko, J. PEC0487, PEE1691
Kipchumba, B. PED1167
Kipingili, T. **PEE1584**, PEE1716
Kipke, M. PED1002
Kiplagat, S. **PDD0104**
Kiptalam Kimosop, D. PEE1438
Kiptinness, C. PEC0686
Kirabo, A. PEA0068
Kiragga, A. PEB0112, PEB0262, PEB0283, PED1314
Kirakoya-Samadoulougou, F. **PEC0420**
Kirby, C.S. PEA0009
Kirchner, H.L. OAB0106
Kireev, D. LBPEA02
Kiriazova, T. PEB0210, PEC0707, **PED0786**, PED0859, LBPED37
Kirichenko, A. LBPEA02
Kirk, G.D. PEC0535

Kirkegaard, R.L. PED0916
Kirking, H. OAB0504, PEE1394
Kiros, M. **PEB0116**
Kirtley, S. PEC0457
Kirubakaran, J. **PDE0406**, PEE1637
Kiruhira, P.C. **PED0845**
Kirungi, G. PEB0300, PEE1424
Kirungi, W. PEA0033
Kisa, R. PDC0403
Kisaka, S. PDC0403
Kisakye, A. PEE1646
Kisambu, J. PEE1529
Kishor, K. PED1053
Kishore, N. PEC0721
Kisige, R. PED1008
Kisigo, G. OAD0106, PED0801, PED0869, **PED0938**, PED1242
Kisitu, G. PEE1528
Kisitu, G.P. PEE1452
Kisiyombe, D. PED0825, PED1209
Kisyombe, D. PED1222
Kitagawa, J. PEC0658
Kitahata, M. PEC0450
Kitahata, M.M. PEC0452
Kitali, P. PEE1579
Kitalile, J. PED1135
Kitenge, F. PEE1527
Kitenge, M.K. **PEE1582**
Kitiabi, J. PEF1800
Kittitrakul, C. **PEF1764**
Kitungulu, B. PED0922
Kitwe, D. PEE1401
Kiwanuka, J. PEE1719
Kiwanuka, S. PEB0283
Kiwanuka, V. **PED1268**
Kiweewa, F. PEC0602, PEC0720
Kiwuwa Mpungu, S. PEC0549
Kiyimba, A. **PEE1396**, PEE1401, PEE1428
Kiyingi, H.S. PEC0663, PEC0664
Kizito, H. OAD0904
Kla, C. PEF1804
Klausner, J. OAE0703
Klausner, J.D. PEB0169
Klein, D.J. PEC0541
Klein, F. LBPEA04
Klein, H. PEC0372
Klein, M. PEC0452
Klein, P. PEE1374
Klemm, V. **PEA0062**
Klenerman, P. PEA0046
Klevens, R.M. PED0926
Kliangpiboon, W. PEC0388
klimkait, T. LBPEA04
Klimkait, T. PEA0081, LBPEB11
Klindera, K. PED1265
Kline, E. PEB0120
Klinker, H. PEB0242
Klopfer, S. OAB0302, OAB0305
Klotman, P.E. PEA0011
Kløverpris, H. PEA0047
K. Mugambi, M. PEC0503
Knettel, B. OAD0106, PED0869, PED0938, PED1242
Knettel, B.A. PED0801
Kniazeva, N. LBPED37
Knight, J. PEC0535, PEC0533
Knight, R. PEC0741, PED1287
Knippler, E. PED0869
Knol, M. PEC0479
Knowlton, A. PDD0107
Knox, J. **PED0985**
Knudtson, K. PED1133
Knupp, V. PEF1838, PEF1839
Knutson, A. PDE0404
Ko, A. OAC0402
Ko, N.-Y. OAC0506, PDC0103, PEE1616
Koblin, B. OAD0606, PED1286
Kob Same, D. PEA0076
Kobusingye, L. **PEE1403**
Kob Ye Sam, D.A. PEE1643
Kochukudiyil Balanpillai, R. **PED1292**
Koech, E. **PED1274**, PEE1573, PEE1596, PEE1622
Koech, L. PEB0293
Koehn, K. PDC0204
Koenen, H. PEA0042
Koenig, S. OAB0405, PEB0121, PEB0142, PEB0203, **PEB0258**, PEE1519
Koester, K. PEB0267, PED0809, PEF1891
Koethe, J.R. PEA0068
Kofi Parbie, P. PEA0015
Koga, M. **PEB0154**, PEC0455
Koh, W.L. PED1034
Kohler, P. PED0824, PED0888, PEE1592, PEF1850
Kohlhoff, S. PEB0336
Kohli, R. PEC0671
Kohn, B. PEC0482
Kohn, R. PEC0466
Koibuchi, T. PEB0154
Koita, Y. PEC0703, PEE1588
Kokera, S. PEC0691
Kolada, B. OAD0804
Koletar, S. PEB0215
Kolling, A.F. PEC0383, **PEE1450**
Kollipara, C. PEB0196
Kolmodin MacDonell, K. PED0946
Koloane, N. PEE1700, PEE1715
Kolomiets, V. OAE0605
Kolotukha, O. PEF1747
Kom, E. OAF0202
Komakech, P. PEE1646, **PEE1676**
Komba, A. PEC0407, LBPEC18
Kombo, B.K. PEC0365
Komen, C. PED0895
Komlagah, D. **PEE1461**, PEF1805
Komotere, O. PDC0202, PEC0462, PEC0625, PEE1530
Konate, A. **PEF1750**
Konda, K. PEC0538, PEC0738, PEE1462, PEE1644
Konda, K.A. OAC0505, PEC0692, PEC0715
Kondowe, K. PEF1774
Kondratyuk, S. PEF1875, **PEF1763**, **PEF1767**
Koné, A. PEE1593
Koneru, A. PEE1656
Kong, X.-P. OAA0304
Kong, X. PEE1642
Kongkapan, J. PEB0346, PEC0444, PEC0659, PEE1485, LBPED33
Koni, P. PEE1525
Koniak-Griffin, D. PEC0573
Kononchuk, Y. PEE1331, PEF1876
Konrad, S. PEE1386, LBPEC26
Konstantinus, I.N. PEA0030
Konteh, F.H. PEE1405
Koole, O. OAE0505, PEE1554
Kopo, M. PEC0675
Koppe, U. **PEC0725**, **PED1088**, **PED1089**, PED1093, **PED1279**
Koreie, N. **PEC0633**
Korir, L. PEE1486
Kornbluh, W. PED0937
Kornilova, M. **PEC0467**, **PEC0623**, **PED1246**
Kosalaraksa, P. OAB0104
Kosgei, W. PED1167
Kosgey, M. PEB0330
Kosloff, B. OAC0204
Koss, C. PEC0655
Koss, C.A. **OAC0805**, **PEC0724**
Kostaki, G.E. PEB0099
Kostman, J. PDA0207
Kota, K.K. PDD0406
Kottilil, S. PEC0733
Kottut, J. PEB0289
Kouame, A. OAF0403, PEF1844
Kouamou, V.M. **PEA0079**
Kouanda, S. OAF0403, PEF1844
Kouanfack, C. **OAB0402**
Kouevi-Gath, N.D. PEC0420
Kourtis, A. PEB0356
Kouyos, R. PEB0240, PEC0596
Kovalchuk, I. **PEE1331**
Koye, A. PEB0248
Krajden, M. PEC0451, PEC0454
Krakower, D. **OACLB0104**
Kramer, J. PEC0440
Kramer, M. PEC0631
Krause, K. **OAD0905**
Kravchenko, A. LBPEA02
Krebs, E. **PEC0526**, **PEC0529**, **PEE1368**, **PEE1376**
Kremer, R. PDC0304
Kreniske, P. PED0882, **OAD0802**
Kreplak, G. PEB0342
Kretschmer, S. PEF1897
Kriel, Y. PED1285
Krikstiun, S. PEE1665
Krishnan, A.K. PED1249
Krishnan, K. **PDE0204**, PEC0754, **PED1099**
Kroch, A.E. LBPEE49
Kroetz, D.L. PEA0051
Krogstad, E. PDD0506
Kroidl, I. **PEC0425**
Kroon, E. OAD0704, PED0761, PED0770, PED1198
Kros, S. OAD0204
Krotje, C. LBPED30
Krovi, A. PEA0087
Krows, M. OAE0505, PEE1375, PEE1554
Krugel, A. LBPEE46
Krupitsky, E. PEB0348, PED1036
Krupp, K. PEC0702
Ku, H.-C. PEB0184, PED0830
Ku, S.W.-W. **OAC0506**, PDC0103, PEC0640
Kuaban, C. PED0957
Kuang, H. PEE1353
Kubicek, K. **PED1002**
Kubota, M. PEB0154
Kuchukhidze, S. PEE1500, PEE1624, PEE1627, PEE1629
Kuczynski, K. OAD0704, PED0761, PED0770, PED1198
Kudiabor, K. PEB0304
Kuenzle, K. **PEF1759**
Kuerten, B. PEA0022
Kufa, T. PEB0281
Kuhlik, E. PEC0382, PED1324, PEE1716, PEE1736
Kuhlink, E. PEE1584
Kuhn, L. PEB0290, PEB0315, PEB0326, PEB0327
Kuhns, L. PED1130
Kuizenga-Wessel, S. PED1101
Kukreja, A. PED0783
Kularatne, R. PEC0520
Kulasegaram, R. LBPEB09
Kulchenko, O. PEF1749
Kulinkina, S. PEE1704
Kulkarni, S. PEA0001, PEC0513
Kulvadee, T. PDB0206
Kumalire-Phiri, R. **PEF1796**
Kumalo-Sakutukwa, G. OAD0703
Kumar, A. PEA0048, PED1028
Kumar, A.S. PEE1494
Kumar, M. PED0819, PEE1575, PED1254
Kumar, M.S. PED1037
Kumar, P. **OAB0605**
Kumar, R. OAE0504
Kumar, S. PEE1637, OAA0302, PEC0671, PEE1653, OAA0102
Kumarasamy, K. PEB0245
Kumarasamy, N. OAB0404, PEB0091, PEB0181, PEC0397
Kumitaa, T.D. PEA0066
Kumoji, E.'. PED1321
Kumwenda, G. PEC0755, PEE1681
Kumwenda, V. PED0858
Kumwenda 1, G. PEC0634
Kunaka, N. OAE0506
Kuncze, K. PEB0277, PEC0724
Kunihira, B. PEE1394
Kunze, U. PEB0172
Kuo, C. OAD0203, PED1282
Kuo, C.-M. PEC0513

Kuo, I. OAC0504, PEC0530
Kupchanko, D. PEE1386
Kuphanga, D. PEE1395
Kupul, M. PEC0500
Kuria, S. PED0992
Kuringe, E. LBPEC18
Kurle, S. PEE1566
Kurniasari, M. **PEE1453**
Kuroishi, N. PEB0236
Kurth, A. OAC0402
Kuruc, J. PEA0018
Kusemererwa, S. PEC0613, PEC0691
Kushalnagar, P. PED1030
Kushwah, A. PED1028
Kusi, K. PDC0202, PEC0462, PED1069
Kuskulov, A. OAE0805, PEE1436
Kusmich, H. OAB0705
Kusolo, R. PEB0294
Kustiawan, A. PEF1820
Kuti, K. PED1130
Kuwengwa, R. OAE0405
Kuwengwa, R.A.P. PEB0298
Kvalsvig, J. PED1129
Kvashilava, K. PEF1857
Kwabena Ampofo, W. PEA0015
Kwablah, D. PEE1461
Kwame, N. PEC0480
Kwamwanza, I. PDE0103
Kwan, T.H. **PEC0606**
Kwardem, L. PED0794
Kwarisiima, D. OAC0203, OAC0805
Kwaro, D. PEE1608, PEE1611
Kwarteng, A. PEE1710
Kwashie, K. PDD0205
Kway, A. PED1216
Kweku, M. PEB0279
Kwena, Z. **PEB0269**
Kwenda, G. PEA0068
Kwendeni, N. **PED0844**, PED1295, PED1296, PEE1651
Kwesiga, B. PEE1529
Kwesigabo, N. PEC0599
Kwezi, E.C. PEE1621
Kwitonda, C. **PDE0103**
Kwok, C. PED0964, PED0965, PED1034
Kyambadde, P. PEC0618, PED0908, PED0915, PEE1496
Kyampire, C. PED0867
Kyana, M. PED0992
Kyaruzi, C. **PEC0756**
Kyasanku, E. PED1029
Kyaw, K.W.Y. PEE1663
Kyegombe, N. PDE0306
Kyenkya, J. PEB0262
Kyobe, S. PEC0751
Kyobutungi, S. PEC0664
Kyomugisha, C. PEE1675
Kyomukama, F. PEE1599
Kyu, H. PEC0739
Ky-Zerbo, O. OAF0403, PED1255

L

La, L. OAE0802
Labhardt, N. LBPEB11
Labhardt, N.D. PEC0675, PEE1595
LaBossier, N.J. PUB003
LaBranche, C. OAA0305
LaBranche, C.C. OAA0307, OAALB0102
Lacerda, M.V.G. OAC0505
Lachir, Y. PEE1604
Lachowsky, N. **OAD0602**, **PEC0434**
Lachowsky, N.J. PEC0533
Lackey, P. PEB0234
Lacombe-Duncan, A. PED1087
LaCourse, S. **OAB0704**, PEB0147
Lacson, R. PEC0363, PEE1520, PEE1523
Laessig, K. PEB0196
Laeuchli, S. PEC0596
Laeyendecker, O. OAC0204
Lafeuille, M.-H. PEB0194
Laffety, L. PEE1510
Lagat, H. **PEE1505**, PEE1557, PEE1551, PEE1678
Lagman, C. OAE0706, PDC0102, PDD0103
Laguno, M. LBPEB15
La Hera-Fuentes, G. PED0861, PEE1724
Lai, J. PDB0406
Lain, M. PEB0315
Laing, R. OAE0203
Laker, E. PEB0112, PEB0283
Laker Odongpiny, E. **PEB0262**
Laker Odongpinyi, E. PED0947
Laki, D. PED1135
Lako, R. PEC0475
Laktabai, J. PEE1438
Lal, A. OAD0602, PEC0434
Lalaikipian, F. **PEF1769**
Lallemant, M. PEC0388
Lalucat, L. **PEF1870**
Lam, J. OAB0603
Lama, J. PEB0094
Lama, R. PEC0402, PED0924, PED0953
Lamarre, V. PEB0334, PEB0335
Lamb, M.R. PEE1442
Lambane, M. PEC0650
Lamberjack, K. PEB0280
Lambert, G. OAD0602
Lambert, J. PEB0229
Lambert, W. PDF0205
Lambert-Peck, M. OAF0203
Lambotte, O. OAA0103, OAB0203, PEA0004
Lammert, S. **PED0982**, PED1314
Lamontagne, E. **PED1001**, **PED1113**, PEE1343, **LBPEE53**
Lamorde, M. PEA0086, PEB0262, PEB0283
Lampe, F. OAD0504, PEB0096, PEC0367
Lampe, M. PEB0356
Lamptey, J. **PEC0469**
Lan, Y.H. PED0796
Lancaster, K. PED0850
Lancaster, K.E. PEC0707
Land, E. **OAC0602**
Landay, A. PDB0102
Landers, S. **PED1038**
Landmann Szwarcwald, C. PED1073
Landovitz, R. OACLB0101
Landovitz, R.J. **OAXLB0101**
Landy, R. PEE1410
Lane, H.C. OAA0404
Lang, E. PEE1348
Langat, A. **PEC0384**
Lange, J. PEA0060
Lange, T. PEC0461, PED1041
Langhans, E. PEB0228
Lango, D. PEE1384
Langwenya, N. PED1025
Lanham, M. PED1203, PED1288
Laniyan, C. PED0897
Lantche Wandji, M. OAB0402
Lapadula, G. **PEB0173**, PEB0190, PEB0201
Lapple, D. PEA0022
Lara, A.N. PEB0339
Larbi, E. PEC0469
Larkins, S. PDE0303
Larmarange, J. PED1255
Larmorde, M. PEB0112
Larsen, A. **PED1173**
Larson, B. PDE0507, **PEC0728**
Larson, L. PEC0395, **PED0836**
Larson, T.A. PED0837
Lasry, A. PEE1371
Latkin, C. PEC0535, PED0850, PED1218
Latkin, C.A. PEC0707, PED1170
Lattner, J. PEA0028
Lau, J. PEA0060
Laube, C. PED1236, PEC0585, PEC0652, LBPEC19
Laubscher, R. PDC0303, PEC0509
Laudari, C. PEE1515, PEE1618
Laufer, N. PDA0102, PEA0028
Laughton, B. PEB0328
Laura Lulua, R. PED1300
Laureillard, D. OAB0303, PEB0351
Laurent, C. PEC0629, PED0957
Laurenzi, C. PED1025, PEE1382
Lauture, D. PEE1419, PEE1559
Lauw, F.N. PDB0306
Lavoie, M.C. PEE1596, PEE1622
Lavoie, M.-C. PEE1498
Lavolé, A. OAB0203
Law, M. PEB0091
Lawal, W. PED1202
Lawoko, S PEE1448
Lawoko, S. PED1317, PEE1391
Lawrence, D. PED1180
Lawson Tattersall, T. **PEC0494**
Laxmeshwar, C. PEB0131, PEB0132, **PED1283**, PEE1582
Lazar, L. **PEC0563**
Lazzaretti, C. PEB0092
L. Castilho, J. PEC0393
Le, A.T. PEE1686
Le, D. PED0964, PED0965, PED1034
Le, G.M. OAF0305
Le, M.T. OADLB0105
Le, S. OAE0802
Le, T. OAE0204, OAE0802, PEA0006
Lea, T. OACLB0103
Leahy, J. LBPEC26
Leal, F. PEA0067
Leal, L PED1051
Leal, L. PEB0273, LBPEB15
Leandre, F. PEB0232, PED1305
Learmonth, P. **PUB001**
Lebapotswe, T. PEE1427
Lebelo, K. **PEE1635**, OAELB0102, LBPED31
Lebelonyane, R. PEB0163, PEE1371
Leblanc, S. PED0800
Lebouche, B. OAB0403
Lechuga, J. **PED0925**, PED1079
Leclerc, P. PEC0426
Le Coeur, S. **PEC0388**
Leda F, J. PEC0437
Leddy, A. **PED0854**, **PED0879**, PED1149, PED1157
Lee, C.K. LBPEB13
Lee, D.Y. PEB0104
Lee, E. PED1005, OAA0403
Lee, G. PEA0058
Lee, J. PDB0203, PED0832, PEE1564
Lee, J.I. PED1275
Lee, K.C.K. PEC0606
Lee, K.Y. PEB0219
Lee, M.-P. PEB0191, PEC0397
Lee, M. PEC0536, PED0767, PED0873
Lee, M.J. **LBPEB09**
Lee, N. PEB0359
Lee, R. PEB0294
Lee, S.S. PEC0443, PEC0606
Lee, S. OAA0405, PEC0482, **PEC0483**
Lee, S.A. PEA0051
Lee, S.-J. PEB0169, **PED1031**
Lee, Y.G. PED0968, PED0978, PED0979, **PED0984**
Lee, Y. PED1275
Lee, Y.-Y. **PEE1366**
Lefebvre, P. PEB0194
Legkostup, L. **PEF1785**
Le Gouëz, C. PEF1829
Le Grand, R. PEA0004
Legua, P. PEB0221
Le Hingrat, Q. PEB0122
Lehmann, C. PED0864, PED0866
Lehner, A. PEC0596
Leisegang, R. OAE0304
Leite, I. PEC0604, PEC0692
Leite, I.d.C. OAC0505
Leite, P. PEC0604

Leite Concílio, I. PEB0209, PEC0416
Lejeune, C. OAE0105, PEC0723
Lejone, T.I. PEC0675, PEE1595
Lekalakala, K. **PEF1858**
Lekalake, S. PEE1705
Leke, R. PEA0052
Lekodeba, N. OAE0303, PEE1500, PEE1626, PEE1629
Lekoko, B. PED1273
Lel, R. PEA0070
Leleux, O. PEE1351
Leluma, S. PEE1544, PEE1545
Le Minh, T. PEC0601
Lemlemu, E. PEB0248
Lemma, I. PEE1476
Lemoine, F. OAA0103, PEA0004
Lemons-Lyn, A. PED0941
Lemos Ramirez, J.C. PEB0107
Leng, L. PEA0040
Lenglet, A. PDC0304
Lenis, W. PEB0180
Lennon, D. OAC0204
Leon, D. OAB0704
León, S. PEB0180
Leonard, M. PEE1419
Leonard Galbaud, M. **PEC0635**
Leon-Cruz, J. PEB0181
León-Juárez, E. OAE0603
Leornard, S. PEC0599
Lermet, O. PED1049
Lerotholi, M. PEC0675, PEE1595
Leroy, V. PEB0174
Lesa, A. PEE1610
Leshabari, M. PEC0461, PEC0599, PED1041
Leslie, A. PEA0047
Leslie, J. PEC0693
Lesotlho, O. **PED0766**
Lespérance, C. **PEF1829**
Lestari, N.K. PEF1888
Lester, R.T. PDD0106, PED1227
Letendre, S.L. PEA0088
Leting, I. PEE1535
Letona, P. **PED1257**
LeTourneau, N. PEB0267
Le Tourneau, N. **PEE1640**
Letsoalo, A. PEE1710
Leu, C.-S. OAD0802
Leu, C.S. PED0871
Leuschner, S. PEE1460, PEE1558
Levi, J. OAELB0105
Levin, C. PEE1557, PEE1678
Levine, K. OACLB0104, PEC0615
Levitt, D. PEE1643
Levitt, N. PEE1487
Levy, C. OAA0405
Lewin, S. PEA0060
Lewis, C. PDD0104
Lewis, J. PEE1600
Lewis, S. **PEB0178**, PED1150
Lewis-Kulzer, J. PEE1630
Leyden, W. OAB0603
Leyna, G. PEC0599, PED1041
Leyna, G.H. PEC0461
Leyritana, K. PEE1600, PED1217
Leyva, R. **PEE1417**, **PEE1481**
Li, A.T.-W. PED1228
Li, C.-W. OAC0506, PDC0103
Li, D. PED1307, **PEE1725**
Li, H. PEC0531, PEC0385, PDA0205, **PEB0249**
Li, J. PED0767, PED0873, PDC0406, PEC0389, PED0997, PED0961, PED0991, PED0997, **PDB0102**, **PEB0148**, PEC0358
Li, J.-C. PEB0184
Li, L. **PDE0102**, PEC0614, PED1214, PED1263, PEE1686, **PEB0146**, PEB0155
Li, M. PEC0525, PEB0155, PEC0531, OAD0404
Li, P. PED1137, PEB0294
Li, Q. PDB0406
Li, Q.-H. PEC0386
Li, R. PEE1420, PEE1422
Li, T. PEB0197, PEB0230, PEB0349
Li, V. **PED0758**
Li, W. PEA0012
Li, X. **PEC0573**, PEC0584, PEE1369, PDD0402, PED0799, PED0855, PEF1755
Li, Y. PEC0614, PEB0197, PEB0230
Li, Y.-H. **PEE1373**, PEB0184
Li, Z. PEC0589, PEC0522
Liang, J. PEA0061
Liang, K. PEC0385
Liang, L.-J. PDE0102
Liang, S. OAA0202, PDE0203
Liao, C.-T. PEB0184, PED0830
Liao, C. PEC0727
Liao, J.C. OAC0506
Liao, W. PEC0589
Liautaud, B. OAB0405, PEB0121, PEB0258, **PEE1519**, PEE1647
Liberty, A. PEB0326, OABLB0101
Liboro, R. **PED0780**, **PED1175**
Lichterfeld, M. PEA0058
Liebenberg, C. **LBPEA05**
Liebenberg, L. PDA0202
Liebenberg, L.J. PEA0050
Liebert, U.G. PEA0080
Liebi, C. PEE1493
Liegeon, G. **PEB0192**
Liegler, T. OAA0403
Liestman, B. PEC0445
Liezhentsev, K. PED0842, **PEF1784**
Lifshay, J. PED0784
Lifson, J. OAA0202
Lightfoot, M. **OAD0703**, PEC0747
Ligia, K. PEC0377
Lija, G.J.I. PEC0605
Likindikoki, S. **PED1041**, PEC0599
Lilian, R. PEC0381
Lillis, L. OAB0506
Lim, A.G. OAC0304, PEC0426, PEC0433
Lim, H. PDC0104, OAF0402
Lim, S.H. PEC0590
Lima, R. PEC0393
Lima, V. PEB0222, PEC0452
Lima, V.C.d.S. PEB0274, PEC0519
Lima, V.D. OAC0302
Limacher, A. PEB0239
Limbada, M. **PEE1628**
Lin, C.M. PED0796
Lin, C. PEC0739, PDE0102, **PEC0614**, PED1263
Lin, c. **PEE1686**
Lin, C.Y. PEF1841
Lin, F. PDA0205
Lin, J. OAD0405, PEC0402, PEC0417, PEC0517, PEC0551, PED0884, PED0924, PED0939, PED0953, PEC0610, PEB0145
Lin, R. PDC0203
Lin, S.-P. **OAD0705**
Lin, T. **PEC0697**
Lin, Y.H. PEF1841
Lin, Y. OAALB0101
Linares, N. PED1139
Lincoln, A. PED0928, PED0929
Linda, Z. PEC0585
Linden, A. PEC0448
Lindh, M. PEB0275
Lindsay, J. PED0800
Lindstrom, S. PEC0450
Ling, B. PEA0085
Ling, J. PEB0265
Ling, L. PEE1353
Ling, Y. PEA0017
Lingenda, G. PEE1716, PEE1584
Ling Grant, D. PEC0619, PEC0621
Lingjongrat, D. LBPEE47
Linjongrat, D. PDC0105, PDC0106, PED1105, PEE1469, PEF1856
Linn, T. PEC0698, PEC0699
Linnander, E. PED1172, PED1210
Lint, A. PDD0104
Linton, S.L. **PED0926**
Lioznov, D. PEB0348, PED1036
Lippman, S. PEC0416, PED1157
Lippman, S.A. **OAC0407**, OAD0305, PEC0524, PED1142
Lipsky, R. OAD0606
Lisboa, M. **PDD0102**
Little, M. **LBPEF57**
Litz, T. LBPED37
Litzelman, D. OAE0403
Liu, A. OAC0605, **PDC0203**, PEC0604, PEC0676, PEC0688
Liu, C. PEB0294
Liu, F. PEB0146
Liu, F.T. PEA0034
Liu, G. PEA0061
Liu, H. LBPEC27, PEC0385, PEB0254, PEB0257
Liu, J. PED1228, PEE1689, OAB0103, PEC0614
Liu, J.X. OAE0104, PEE1482, PEE1581
Liu, L. PEA0012, **PEA0061**, PED1172
Liu, Q. PDA0207, OAALB0101
Liu, T. PEC0424
Liu, W.C. PEB0219
Liu, Y.-H. OAD0705
Liu, Y. PEA0083, PEC0384
Liu, Z. PEA0009, PEC0378
Liyabola, L.-L. PEE1522
Llamoso, C. PEB0234, PEB0291
Llauderes, R. OAF0105
Lo, Y.-R.J. PDC0102
Loando, A. PEE1527
Loarec, A. PDB0305, PEB0125
Lobo, G. PED1194
Lobojo, B.N. PEC0475
Lo Caputo, S. PEB0092
Lochoro, P. PEE1433
Lockett, G. PEC0709
Lockman, S. PEE1371, OAXLB0102
Lodge II, W. PED1311
Lodha, R. OAA0302
Lodi, S. OAC0303
Logan, E. PEE1662
Logan, R. PED1197
Logan, R.G. **PED0878**
Logie, C. **PDD0303**, **PDF0206**, PED0767, PED0873, PED0908, PED0915, PED1086
Loh, J. **PED1032**
Loh, P. **PEE1333**, **PEF1864**
Loh, P.C. **OAE0205**
Lohar, I. PEC0598
Lohay, O. PED1023
Lo Hog Tian, J. PED0800
Lombard, A. PUB001
Lombard, C. PEE1487
Lombardi, F. PEB0255
Lome, S. PED1228
Long, L. **OAE0303**, PEC0641, PEE1500, PEE1534, PEE1624, **PEE1627**, PEE1629
Longenecker, C. OAE0305
Longuma, H. PEE1527
Longwe, B. PEE1475
Lonhin, S. PEB0325
Loni-Ekali, G. PEA0076
Loo, T. PED0849
Loots, D.T. LBPEA05
Lopes, J.R. PEA0063
Lopez, A. PED1121
Lopez, D. PED1208
Lopez, G. PEC0379
Lopez, L. PED1267, OAF0104
Lopez, M. PEC0633
Lopez, M.G. PEC0408
Lopez, R. PEC0408
Lopez, S. PED0925, PED1079
Lopez, Z. PED1057
López Huertas, M.R. PEB0150
López-Huertas, M.R. PEA0064, OAA0204, OAB0304

López-Pintor, J.M. PEB0117
Lopez-Varela, E. PEC0432
López-Varela, E. PEE1570
Lopez Velasquez, I.I. **PEF1806**
Loquiha, O. PEB0110
Lorenc, A. PEC0446, PEC0607
Loreno, R. PEC0552, PED1140
Lorenzini, P. PEB0201, PEB0253
Lorenzoni, C. PEE1514
Lorenzo-Redondo, R. PDA0206
Lorway, R. PED0992
LoSchiavo, C. **PEC0630**
Losso, M. OACLB0101, OAXLB0101
Lote, N. PEB0097
Lotz, L. **OAF0205**
Lou, Y.Z. PEB0219
Lou Bly Bertine, S. **PEF1804**
Louis, S. PEB0342
Loum, J. OAF0403
Loutfy, M. PEB0231, PED0767, PED0873
Louw, C. OAC0105
Louw, V.J. PEC0488
Lovell, A.O. PDA0105
Low, A. PDC0407, PED1145
Low, N. PEC0596
Low, T. PED0964
Lowensen, K. OAE0804, PED0987
Lowman, E. **PEB0359**
Loxton, D. PED0870
Loykissoonlal, D. PEE1710
L. Tobias, J. PEC0503
Lu, H. PED0989, PEB0243
Lu, Z. OAA0307
Luba, M. **PEF1893**, PEF1895
Lubambi, P.D. **PEE1685**, PEC0605
Lubega, M. **PEB0164**, PEE1361
Lubega, S. PEB0300
Lubega Muhamed, B. PEE1404, **PEE1693**
Lubogo, D. PDC0403
Lubwama, J. PEE1574
Luca, D. PEE1374
Lucas, A. PEC0737
Lucas, C. PEC0721
Lucas, G. PEC0535
Lucas, G.M. PED0890, PED1037
Lucas, J. OACLB0101, OAXLB0101
Lucas, N. **PED0795**
Lucas, T. PEC0605, LBPEC19
Lucas, W. PEC0555
Lucero, C. PEB0273
Lúcia e Silva e Oliveira, R. **PED1304**
Luciana Laibaho, M. PEE1453
Luciano, D. **OAF0104**
Lucy, D. OAC0404, PED1286
Luecke, E. PDD0506, PEA0087, PEC0688
Luekasemsuk, T. OAD0704
Lufadeju, F. PEB0202
Luffy, S. PEF1815, PEF1880
Lugada, D.E. PEE1667
Lugada, E. **PED1317**, PEE1391, PEE1448, PEE1589
Lugo, E. PEE1644
Lugo, R. PED1240
Luhukay, L. PEF1888
Luies, L. LBPEA05
Lujintanon, S. LBPEE47
Lukabwe, F. PED0880
Lukabwe, I. PEA0033, PEE1606
Luke, J. **PEE1475**
Lukhele, B. PEE1672, OAB0106, PEB0167, PEB0298, PED1125, PEE1532
Lukhele, N. PEC0647, PEE1576, OAE0405, PED1125
Lukoba, B. PEF1897
Lukomski, D. PEB0341
Lukonde, P. PEC0651
Lukoye, D. PEE1394, PEE1396
lule, J. PED0776
Lule, J. PEE1496
Lumbiganon, P. PEC0753
Lumenze, F. PEE1483
Lumia, E. PEE1588
Lumu, I. **PEB0256**
Luna, A. OAA0204
Lund, C. PEE1410, PEE1487
Lundamo, M. PED1211
Lunghi, R. PED1126
Lungo, S. OAC0406, PED0847, PED1257
Lungu, E. PEE1610, OAE0503
Lungu, N. PED1180
Lungu, P. PEB0128
Lunze, K. PEB0348, PED1036
Luo, D. PDB0202, PEB0089
Luo, G. PEB0155
Luo, M. PDA0205
Lusaka, J. PEE1464
Luscombe, C. **LBPEA03**
Lusignan, J.-B. PEF1792
Lusimbo, R. PEF1895
Lusso, P. **OAALB0101**
Lutalo, T. PDC0406, PEA0033, PEC0389, PED0882
Lutfiyati, A. PED0872
Luthra, K. OAA0302
Lutimba, B. PED1317
Lutwama, R. LBPEF54
Lutz, B. OAB0704, PEB0120
Lutz, J. PEB0265
Lutz, T. PEB0238
Luwita, F. PED1319
Luz, P.M. PEE1564, OAC0505, PDD0507
Luzuriaga, K. PEA0024
Luzze, C.J. PEE1648
Luzze Julius, C. PEE1550
Lv, Y. OAB0204
Lwaka, C. PDB0403
Lwamulaza, L. PED1135
Lwanga, J. LBPEB09
Lweno, Z. **PDD0504**
Lwin, M.K. PED0802, PEF1824
Ly, P.S. PEB0191, **PED1252**
Lyass, A. PEB0187
Lyerly, A.D. LBPEF57
Lyimo, F. PEE1692
Lyimo, R. OAE0202, PEE1692
Lykens, J. OAE0703
Ly Lai, N. PEF1853
Lynch, E. PEE1641
Lynch, K.L. PEB0352
Lyons, C. **OAF0403**, PEC0445, **PEF1844**
Lyons, C.E. PED1086
Lyons, N. **LBPED40**
Lypen, K. LBPED30
Lyss, S. OAC0206
Lyu, Y. **PDE0203**

M

Ma, H. PEC0533
Ma, J. OAB0204
Ma, Q. OAD0705
Ma, T. PDA0203
Maala, D. PEB0332
Maama, L. PEB0140
Maama-Maime, L. PEB0137
Maartens, G. OAE0304, PEC0488
Mabanza, P. PED1077
Mabaya, S. PEE1541
Mabhena, E. OAC0806
Mabhunu, V. PEE1548
Mabote, T. PEE1544, PEE1545
Mabunda, N. PEB0110
Mabuta, J. OAXLB0102
Mabuto, T. **PEE1477**
Mabuyabala, M. PED0781
Mabuza, K. PED1210
Macagna, N. PED1158
Macapagal, K. **PED1307**
Macatangay, B. PDB0102
MacFadden, D.R. PEC0533
Macgovern, S. PEE1447
Macgregor, L. PEC0426, PEC0607
MacGregor, L. **PEC0446**
Mach, K. PED0790
Machado, F.V. PEB0143
Machaku, M. PED1318
Macharia, P. PEE1557, **PEE1678**
Machava, R. PEE1523
Machecano, R. PDB0403
Machekano, R. PDD0407, PEB0137
Machekera, S.M. **PEB0097**
Machinda, A. PDE0505
Machingura,, F. PEC0682
Machouf, N. PEB0231
Machuca, I. PEB0216
Macius, Y. OAB0405, PEE1519
Mackie, B. OACLB0103
MacLaren, L. PDB0102
Macleod, D. PEE1628
Macleod, W. PEC0502
Macul, H. PEE1383
Madau, V. PEE1442
Maddaford, K. PEB0104
Madden, L.M. PED1056
Madec, Y. PEE1588
Madeddu, G. PEB0201
Madera, N. PEC0408
Madevu Matson, C. PEE1567
Madevu-Matson, C. OAC0606, OAD0202, PDE0307, PEC0645, PEC0735, PEE1411, PEE1501, PEE1535, PEE1580, PEE1632
Madge, S. PEB0096
Madhivanan, P. PEC0702
Madiang, O. PED1290
Madiang', O. PEC0713
Madiba, D.S. PED0810
Madidi, N. PEC0744, PEE1460, PEE1558
Madkins, K. PED1307
Madlala, P. PEA0003, PEA0037, **PEA0038**
Maduabum, O.E. **PED1153**
Madzima, B. OADLB0104
Mafara, E. OAE0105, PEC0723
Maffesoli, S.-M. PEF1829
Mafukidze, A. PEE1387, PEE1425
Magagula, P. PED1165
Magaia, H. PDE0405
Magaia, I. PEB0125
Magaia, I.C.B. PDB0305
Magak, C. PED1147
Magala, F. PEE1606
Magala, I. **OAELB0101**
Magalhães, A. PEF1797
Magana, C. PEC0471, PEC0527, PEC0712
Maganga, D. PEE1565, PEE1568
Maganga, L. PEC0425, PED1216
Magcaba, Z.P. OAB0506
Magee, M. PEB0291
Magen, C. OAC0305
Magese, D. PED1135
Magezi, C. PDE0205
Maggiolo, F. OAB0403
Magidson, J. PDB0203
Magis-Rodríguez, C. OAE0603, PEC0361
Magni, S. PEC0691, PEE1531
Magno, L. PEC0552, PEC0624, **PEC0643**, PED0764, PED1015, PED1122, **PED1140**, PED1304, PEF1847
Magnus, M. PED0973, PED1091
Magongo, E. PDB0403, PEE1424, PEE1537
Maguet, O. PEF1827
Magut, F. PEE1608
Magutshwa, S. PEC0477, PEC0682
Magutu, H. **PEE1660**
Mahaba, T. PEE1401
Mahachi, N. **PEE1503**, PEE1631, **PEE1615**
Mahafe, B. PED1091
Mahande, M. PEB0136
Mahanontharit, A. PEB0123
Mahapatra, A. PEC0671
Mahapatra, B. **PED1238**, **PEE1367**
Mahathir, M. **PED0857**
Mahato, R.K. PEA0001
Mahboobi, M. PED0863, PED1171
Mahendra, I.G.N. PEF1888
Maher, L. OACLB0103
Maher, S. OAC0606, PED0974, PEE1461, PEE1591, PEF1805
Mahesh, M. PEC0484

Maheshwari, T. PED1099
Maheu-Giroux, M. PEC0497
Mahiti, M. PED1135
Mahler, H. OAF0103
Mahmood, S.F. OACLB0102
Mahmoud, O. PEC0401
Mahomed, M. **PEC0585**
Mahwire, C. PEE1700
Maida, A. PDD0205, PDD0403, PEB0304, PEE1475
Maier, L.J. **PED1050**
Maier, M. PEA0080, PEB0116
Maile, L. OAE0704
Mailosi, B. PEE1704
Maimela, G. PED1074
Maina, B. PEE1605
Maina, M. PEB0284, PEB0285, PEB0286, PEC0394
Mainoy, N. PEC0757
Maiorana, A. **OAD0103**, PEE1462, **PEE1644**
Maiyo, E. PEE1438
Majam, M. PEE1717
Majani, E. PEC0407, LBPEC18
Majingo, N. PEE1427
Makaba, Z. PEE1700
Makadzange, E. PEE1598
Makaka, J. PEB0157
Makanga, M. OAB0404
Makangila, G. **PDE0302**, PEE1478
Makarov, E. PEA0072
Makasa, M. PEE1569
Makau, G. PEC0470
Makelele, P. PEC0362
Makeleni-Leteze, T. LBPED31
Makhakhe, N.F. **PED1080**
Makhdoomi, M. OAA0302
Makhema, J. PEE1371, OAXLB0102
Makhetha, M.C. PDE0505
Makhetha, M. OAD0506
Makofane, K. **LBPED34**
Makokha, M. **PED1318**
Makokha, V. **PEE1650**
Makonda, B. PEB0117
Makoni, B. PDC0203
Makoni, W. PDD0506
Makota, G. **PEE1362**, PEE1382
Maksut, J. PEC0373
Maksut, J.L. PED0945, PED1086
Makubedu, Y. **PED0891**
Makumbi, F. PED0882, PEA0033
Makumbi, M. PEC0576, PEC0581, PED0933, PED0974, PEE1591
Makunike Chikwinya, B. PEC0653
Makupa, J. PED1319
Makurumure, T. PDC0402
Makuza, J.D. PEC0445
Makwelebi, V. PEE1527
Makyao, N. PEC0407, PEC0414, PEC0461, **PEC0599**, PED1041, PED1082, PED1135
Malaba, R. PEB0175
Malaba, T. PEA0086
Malabi, N. PEE1635
Malagnino, V. PEB0253
Malahleha, M. OAC0105
Malaise, J. PEB0227
Malajovich, L. PEF1877
Malama, K. **PED1058**, PEB0128
Malamba, S. PEE1404
Malambo, N. PEB0114
Malatinkova, E. OAA0104
Malavé-Rivera, S.M. PED0913, PEF1788
Maldondado, R. PED1212
Malebranche, D.J. PED0923
Maleche, A. OAF0406
Maleche-Obimbo, E. OAB0704
Malee, K. PEB0309, PEB0320, PEB0336, PED1131
Malee, K.M. OAB0104, PDB0206, PED0893
Malek, A. **PED1261**
Malele, F. PEE1527
Malele Bazola, F. PEE1614
Mali, D. PEE1539, PEE1540
Malik, M. PEC0405
Malinzi, S. PEE1676
Malisa, G. PED1318
Malisita, K. PED1127
Malitsane, I. PED1302
Mallolas, J. LBPEB15
Mallon, P. **OAB0604**, PDB0303
Mallouris, C. OAD0102
Malomo, I. PEE1395
Malone, D. OAA0105
Malone, J. **PED0797**
Malone, T. PEE1700, PEE1715, LBPEE46
Malongo, F PDD0404
Maloto, L. PEE1588
Malpartida, O. PEB0159
Malta, M. PED1017
Malvestutto, C. PEB0181
Maman, S. PED0791, PEC0616, PED0959, OACLB0105
Mamba, C. OAC0806, PEB0088, PEC0732
Mamedova, E. PED0859, LBPED37
Mammana, L. PEB0276
Mammano, F. PEA0057
Mamudu, H. PEB0149
Mamvuto, T. PED1203
Man, C. PEB0233
Manabe, Y. PDC0408
Manaca, N. OAE0803
Mañalich-Barrachina, L. PEA0029
Manalu, S. PEF1899
Manandhar, K.D. PEA0001
Mananga, F. PEF1823
Manasa, J. PEA0079
Manasyan, A. PDA0104
Manchia, A. PED1210
Manda, R. OAE0704, PEE1545
Mandala, J. PEC0362
Mandalakas, A. OAB0106, PEB0167, PEE1532
Mandaliya, K. PED1084
Mandani, J. PEC0597
Mandell, L. PEB0098, PED1092
Mandeng, J. **OAF0204**, **PED1270**
Manderson, L. PED1127
Mandisarisa, J. PEC0653
Mandla, N. OAC0204
Mandsager, P. PEE1374
Manenji, A. PED0909, PED0914
MANG, B.G. PED0929
Manga, M.M. PEB0158
Mangale, D. **PEC0686**
Mangano, A. PEA0014
Mangatova, K. PEF1785
Mangla, H. PED1147
Mangombe, A. PEE1541
Mangosing, D. PEC0747
Mangurian, C. PEF1891
Mangwendeza, P. PEE1598
Mangwiro, A. PEE1598
Manh, P.D. PEC0511
Manhiça, I. OAB0507
Manihani, M.K. PEE1555, PEC0754
Manjate, C. PEE1383
Manjuh, F. PEB0177
Mann, C. **OAE0206**, PEE1349
Mannah, L.M. PEE1662
Manne, A. PEB0308
Mannheimer, S. PEC0525
Manojai, N. PEE1469
Manon, A. PEF1755
Manouan, A. PDE0402
Manríquez Reyes, M. LBPEB14
Mansaray, K. PEE1612
Mansary, K. PEC0473
Mansoor, L. PDA0202, PEC0693
Mansoor, L.E. PEC0611
Mansukhani, S. LBPEE42
Mantangana, N. PEE1635, LBPED31
Mantan Nchang, S. **PED1186**
Mantell, J. PDC0407, PEC0391, PED0998, PED1059, PEE1392, PEE1625
Mantell, J.E. OAD0104, PDD0204, PEE1425
Mantilla, M. OAC0703
Mantilla Suarez, M. PEB0180
Mantsios, A. PEB0260
Manuel, T. PEF1758
Manyando, M. PEC0680
Manyau, P.C.M. **PEB0093**
Manye, P. **PED0810**
Manyeagae, G. PED1269
Maokola, W. **PEB0133**
Maotoe, T. PEE1626
Maparo, T. PEE1598
Maphalala, G. PEB0088
Maphatsoe-Pule, K.M. PDE0505
Maphorisa, S. PEA0035
Maphosa, T. **PEF1812**, PDD0205, PDD0403, PEB0304, PEE1475
Mapingure, M. OAD0104, PEC0447, PED0998, PED1231, PEE1392
Maponga, B. PEE1558
Maponga, C.C. PEB0093
Maposa, I. PED1127
Maqungo, M. PDC0303, PEC0509
Mara, E. PEB0267, PEC0466
Maradan, G. PEC0629
Marais, L. PED1320
Maraisane, R. PED1145
Marak, A.R. PEC0754
Marandu, T. PEC0425
Marange, F. PEB0151, PEB0152
Marazzi, M.C. PEB0129, PED1126
Marbaniang, I. PED0813
Marcelin, A. PEB0121, PEB0258, PEE1519, PEE1647
Marcelin, A.-G. PEA0016
Marcellin, A.-G. OAB0203
March, L. PED0957
Marchand-Maillet, S. PEC0583
Marconi, V.C. PEB0095
Marcos, M.A. LBPEB15
Marcotte, T. PEB0171
Marcus, J. OAB0603
Marcus, J.L. OAC0502, OAC0807
Marcus, N. PEC0616, PED0791, OACLB0105
Marcus, R. PED0941
Marcus, U. PEC0646, PEC0725, PED1088, PED1279
Marcy, O. **OAB0303**
Maresca, A. PEB0342
Margolis, D. OAA0202, PEB0260, PEB0263, OACLB0101, OAXLB0101
Margolis, D.A. PEB0261
Margus, C. OABLB0104
Maria, J. PEE1515
Maria Clara, G. PEC0437
Maria Ferreira Alves, E. PEF1869
Mariama, R.A. PEF1740
Mariano, Y. PDD0104
Maric, D. PDA0206
Marima, R. PEE1498, PEE1688
Marimuthu, Y. PEB0266
Marino, A. PEB0119
Mariño, G. PEC0692
Marinosci, A. **PEB0239**
Marins, L.M.S. PDD0507
Mark, D. PEE1362, PEE1382
Markham, C. PEE1420, PEE1422
Markowitz, J.C. PED1164
Markowitz, N. PEB0118
Marks, L. PEE1337
Marks, S. PEC0424
Marks, MD, MS, K. PED1020
Marlow, M. OAD0506
Maroofi, S. PEC0375
Marotta, P. PED1277, **PEF1780**
Marques, C.B. PEF1797
Marques da Cruz, M. PEC0565
Marquez, C. OAC0805
Marquez, S. PED1049
Marqusee, H. OAE0206, **PEE1349**, **PEE1638**
Marra, C. PEA0088

Marrazzo, J. OAXLB0101
Marroquin, H. PEC0395, PED0836
Marsch, L.A. PED1244
Marshall, B. PEC0529, PEE1376
Marshall, B.D. PEE1368
Marshall, N. PEB0229
Marsit, C.J. PEB0312
Marsolais, C. PEB0122
Marston, J. PEA0067
Marston, J.L. PED1091
Martel-Laferrière, V. PEB0227
Martelli, G. **OAC0202**, PEE1621
Martens, S. PDB0402
Martin, A. OAC0504, PEF1823
Martin, C. PEC0556, PEE1599, PEE1712
Martin, E. OAB0605
Martin, E.A. PDB0406
Martin, H. OAB0403, PEB0254, PEB0257, PEB0206
Martin, J.N. PEB0218
Martin, M.A. OAALB0101
Martin, N. PEC0527, PEC0539, PEC0712, PEF1741
Martin, N.K. PEC0433, PEC0538, PEC0431
Martin, R. PEB0254
Martin-Carbonero, L. PEB0212
Martín Carbonero, L. PEB0150
Martinez, A. PDA0102, **PED1045**
Martinez, E. **PDB0105**, PEB0181, PEB0240, LBPEB15
Martinez, L. PEE1347
Martinez, M. PEA0041
Martinez, S. PEB0205, **PEB0206**, **PEB0350**
Martinez, S.S. PEB0349
Martinez, Y. PEC0624
Martínez, E. PEB0180
Martínez, H. PEC0568
Martinez Buitrago, E. **OAC0703**
Martínez-Dávalos, A. PED1291, LBPEE52
Martinez Fernandez, N. OAD0105
Martinez-Pavon, G. PEC0731
Martinez-Rebollar, M. LBPEB15
Martínez Román, P. **PEB0150**
Martínez Sanz, J. PEB0189, PEB0225, PEB0237
Martinez-Silva, G. PED1291
Martínez - Vernaza, S. PEB0180
Martinho, S. PED0881
Martins, A.A. PED0918
Martins de Aquino, L. OAC0403, PDB0407
Martins Harrad Reis, A.L. **PEF1822**
Martinson, N. PEC0398
Marty, N. **PEA0081**
Maruapula, D. **PDB0405**, PEA0002
Maruri, F. PEC0393
Marventano, I. PEA0023
Marvin, L. PEE1552, PEE1731
Marwa, M.M. PED1173
Marx, P.A. OAA0307
Marzán-Rodríguez, M. **PED0913**
Marziali, M. PEC0536
Marzinke, M. PDC0408, OAXLB0101
Masaba, R. PDB0403
Masai, T. PED1274
Masalila, P. PEE1705
Masangane, Z. PEB0167
Masankha Banda, L. PEC0575, PED0977
Masching, R. PEE1410
Mascola, J.R. OAALB0101
Maseko, T.S.B. PEC0544
Maseko, V. PEC0520
Masembe, J.C. PED0936
Masenga, S.K. **PEA0068**
Masenge, T.J. **PEB0292**, **PEB0295**, **PEB0303**
Masenya, M. OAXLB0104
Masese, L. PED1084
Mashaba, F. **PED1209**
Mashabane, N. OAXLB0104
Mashalla, Y. PEE1427
Masheane, A. PEB0137
Mashele, N. LBPEC24, LBPEC25
Masheto, G. OAB0505
Mashumba, A. PDD0304
Mashumba, U.A. **PEF1831**
Masika, P. PEE1685
Masilela, N. OAD0206
Masilela, S. PED1125
Masiuk, O. OAE0605
Masiya, M. PED1169
Masiye, J. **PDD0503**
Maske, N. PEE1658
Mason, J.C. PDA0105
Massa, P. PEC0643, **PED1015**, PEF1847
Massana, N. PEA0029
Massari, V. PEB0342
Massaro, J. PEB0187
Massawe, P. PED1318
Massetti, G. PED1145
Massud, I. **PEA0087**
Master, A. OAC0303
Mastro, T. OAC0105
Masuka, E. PEE1363
Masuku, S. OAD0206, PEE1532
Masuku, S.K.S. **PEC0544**
Masuku, W. PED0977
Masumba, C. OAC0405
Masur, H. PEC0733
Masvawure, T. PDD0204, PEE1392
Masvawure, T.B. **OAD0104**, PED1225
Maswai, J. OAB0602, PEC0720
Maswera, R. PEB0105, PEC0429
Masyuko, S. PEB0179, PEE1505, PEE1557, PEE1678
Matambo, J. PDA0104, PEB0161
Matano, T. OAA0306, PEA0015, PEB0154
Matarranz del Amo, M. PEB0150
Matavel, L. PEE1383
Matemo, D. OAB0704
Matenga, T.F.L. **PED1163**
Mateo, G. PDB0105
Mateos Corella, S. PEA0027
Materu, J. **LBPEC18**
Mateveke, B. PDC0402, PEC0658
Mateyo, K. PEB0135
Mathebula, R. OAC0407, OAD0305, PED1157
Matheka, J. PEC0602, PEE1384
Mathenjwa, M. PEC0600, PED1285
Matheron, S. PEB0122
Mathew, S. PDE0406
Mathews, W. PEC0450
Mathole, T. PEE1718
Mathon, J.E. PEB0258, PEE1519, PEE1647
Mathuba, B. PEC0751
Mathuba, K. PEC0751
Mathu, MPH, R. PED1020
Mathur, A. PEE1702
Mathur, S. **PEC0602**, **PED1119**, PEE1672
Mathurin, J.L. PEE1519
Mathurin, L.D. PEB0203
Matias Lopes, J.P. OABLB0104
Matiko, E. OAC0306, PEC0414
Mation, M.L. PEB0191
Matola, B.W. PEE1447
Matos, E. PDE0305
Matovu, F.K. **OAB0105**
Matovu, J.K. **OAC0402**, **PDC0403**
Matse, S. OAC0806, OAD0803, OAF0403, PEC0732
Matsenjwa, M. PEE1532
Matser, A. PDB0306
Matshaba, M. PEB0329, PEC0751, PEE1420, PEE1422, PEE1705
Matshifi, D. PEE1527
Matsikire, E. PEB0175, PED0816
Matsiko, G. PEB0310
Matsiko, N. PEC0558, PEE1550, PEE1655
Matsimbe, J. PDE0104, PED0881, PEE1533
Matsumoto, L. PEC0687
Matsuoka, S. PEA0015
Matthews, A. PED1218
Matthews, C. OAD0203
Matthews, D.D. PED0944
Matthews, G. PEC0441
Matthews, L.T. PEC0600, PED0867, **PED1285**
Matthyse, L. **LBPEF54**
Mattos, R. PEF1838, PEF1839
Mattur, D. **OAE0602**, **PEE1355**, PEE1358
Matubu, A. PDC0402, **PEC0658**
Matukul, R. PEF1856
Matuludi, M. PED1016
Matupa, E. PEE1447
Maughan, R.T. PDA0105
Maulidi, M. PEE1621
Maunge, J. PEB0224
Maura, M.C. PED1305
Mauro, P.M. PUB002
Maurya, S.P. PEA0054
Mave, V. OAB0404, PED0813
Mavigner, M. OAA0202
Mavimba, T. PED0779, PEE1586
Mavimbela, M. PEB0167
Mavodza, C. PEF1880
Mavudze, J. PEE1558
MaWhinney, S. PEC0724
Mawlana, S. PEB0245
Mawoyo, T. PEE1548
Mawuena Diaba, K. PED0995, PED1072
Maxwell, H. OABLB0101
Maxwell, K. PED0868
Maxwell, M. PEE1472
Maxwell, N. PEC0753
May, L. PEC0514
Mayalla, B. PEB0297
Mayambala Namukanja, P. PED1294
Mayani, T. **PED0846**, PEE1437
Mayanja, G. PEC0362, PEE1561
Mayanja, R. **PEF1794**
Mayanja, Y. **PEE1388**
Mayaud, P. PED0917, PED1146, PEE1388
Mayer, C. PEC0358
Mayer, K. PDC0408, PEC0450, **PEC0615**, PEC0665, PEC0718, PED0797, PED0901, PED1141, OACLB0104
Mayer, K.H. PED0987
Mayini, J. PEB0105
Maynard, M. PEC0617
Mayondi, G. OAXLB0102
Mayoral, M. PEB0212
Mazhitov, R. **PEE1357**
Mazibuko, S. PEC0723, OAE0105
Mazonson, P. **PED0849**
Mazuguni, F. **PEC0722**
Mazzei, A. PEC0445
Mazzuca, A. PDD0106, PED1227
Mbabali, I. PEE1642, PEE1703
Mbabazi, L. **PEB0283**
Mbaga, E.J. PEC0599
Mbangata, X. PEC0585
Mbangiwa, T. PEA0077
Mbassa, V. PEA0082
Mbatha, M. PEB0131, PEB0132
Mbatsane, E. PDD0506
Mbaye, R. PEB0109
Mbengeranwa, T. PEE1460
Mberesero, H. PEC0549
Mberi, E.T. PEB0093
Mbevi, A. PEE1661
Mbikayi, S. PEB0117
Mbisa, T. OAA0106
Mbita, G. PEC0407, LBPEC18
Mbizvo, M. PED1062, PED1063, PED1071

Mbogo, R.W. PEC0541
Mboneko, R. PEC0414
Mbonigaba, J. PEE1341
Mbonye, M. PEE1639
Mbopi-Keou, F.X. **PEB0106**
Mbowane, V. PEC0398
Mboweni, V. PED1016
Mboya, E. PED1322
Mbulaje, P. **PEB0102**
Mbule, A.M.N. PED1296, **PEE1651**, PED0844
Mbule, A.M... PED1295
Mbule, M. PEC0706, PEE1437, PEE1602
Mbulo, B. **PED1065**
Mbulu, J. PEC0585
Mburu, C. PEE1592
Mburu, G. PED1040, PED1047, PED1048, PED1067
Mbuta, F. PED1077
Mbwambo, J. OAD0503, PED1233
Mbwambo, T. PED1324, PEE1735
McAuley, A. LBPEC26
McBride, B. **PDD0307**
McBride, K. PDC0404
Mcbritton, M. PED0773
Mc Britton, M. PED0808
McCabe, L. OAD0504
McCallister, S. PDB0303, PEB0165
McCallum, L. PEE1524
McCann, K. OABLB0103, OAXLB0104, **LBPEB07**
McCarthy, C. OAB0404
McCarthy, K. OAB0505, PEB0328
McCauley, M. OACLB0101, OAXLB0101
McClain, S. PEA0083
McClair, T. PED0778
McClean, A. PEB0231
McClelland, R.S. PED1084
McCloskey, E. PEF1768
McClure, T. PEC0688
McCluskey, S.M. PDE0504
McCollum, X. PEC0737
McCord, A. PEC0563
McCormack, S. OAD0504
McCoy, S. OAD0702, PED1293, PEE1435
McCoy, S.I. OAE0104, PEC0660, PEE1482, PEE1581
McCree, B. PED1097
McCree, D.H. PED0941
McCright, J. PED1280
McCrimmon, T. OAE0805, PED0887, **PED1035**, PEE1436
McCrossin, J. OAC0404
McCulloch, C.E. PED1164
McDermott, A. OAALB0101
McDonald, C. OAB0205
McDonnell, J. PEB0096
McDonough, A. **PED1148**
McElwee, E. PDD0504
McFall, A. PED0890
McFall, A.M. PED1037
McFarland, E. PEB0188
McFarland, E.J. PEB0313
McFarland, W. OAC0306, OAD0405, PEC0375, PEC0414, PEC0415, PEC0417, PEC0517, PEC0551, PEC0566, PEC0579, PEC0610, PED0856, PED0884, PED0939, PED1301
Mcgee, A. PED0800
McGee, A. PED1133
McGovern, S. PEE1517
McGowan, C. OAB0202
McGowan, I. PDC0408
McGrath, N. OAC0104, PEC0689, PED1192, LBPED34
McGregor, A. PEA0079
McGuiness, P. PEC0631
McHarry, L. PED1128
McHorney, C.A. LBPEE42
McHugh, C. PEC0724
Mcingana, M. PDD0306, PED1076
McIntyre, J. OAE0404, PEC0381, PED1266
McIntyre, J.A. PEE1707, PED1248
McIntyre, R. PEA0060
McIver, R. PEB0104
Mckay, V. **PEE1466**, **PEE1480**
Mckee, M. PEE1441
McKellar, M. **PEB0228**
McKenzie, K. PEE1363
McKetin, R. PEC0538
McKinnon, K. **PEE1463**, **PEE1488**
McKinnon, L.R. PEA0043
McLinden, T. PEC0536
McMahan, V. PED1004
McMahon, J. **PEA0060**
McMahon, S. PEC0626
McManus, H. OAC0205, OAC0802
McManus, K. PED0900, LBPED39, **LBPEF58**
McNaughton Reyes, H.L. PED0959
McNeil, R. PED1044
McNicholl, I. OAB0403
McNulty, A. PEB0104, PEC0627
McNutt, L.-A. PED0874
McOwen, J. OAD0205
McTigue, G. PDB0106
Mdani, L. PEE1635
Mdlovu, B. LBPEE46
Mdluli, N. OAXLB0103
Meade, C. PED1178
Meade, C.S. PEB0349
Meassick, E. PED0895
Mebrahtu, H. PEB0175
Mecha, J. OAB0704
Mecha, M. PEC0362, PEE1561
Mechi, J... PEE1560
Medeiros, E.A.d. PED1091
Medina, C. PED1175
Medina, J. PED0951
Medina, R. PEC0530
Medina-Mora, M.E. PEC0527
Medisetti, S. PEE1653
Medland, N. **OAC0802**
Medley, A. PEE1478
Medley, S. PEC0748
Medoff, D. PED1274
Medrano, T. PEC0362, PEE1561
Mee, P. PEC0679
Meehan, S.-A. **PEE1390**
Meekru, P. PEC0757
Meekrue, P. PDE0106
Meffert, S.M. **PED1164**
Meftah, N. PEB0241
Meggi, B. PEB0110
Meghnath, K. OAF0202
Mehmetoglu-Gurbuz, T. OAA0205
Mehraj, J. **PEC0750**
Mehraj, W. PEC0750
Mehrotra, M.L. **PEC0637**
Mehta, H. PED1269
Mehta, K. PEA0054
Mehta, P. PEB0316
Mehta, S. PEB0126, PEC0529, PEE1376
Mehta, S.H. PEE1368, PEC0535, PED0890, PED1037
Meireles, P. **PEC0463**, **PEC0468**, **PEC0508**
Meisel, Z. PEC0529
Mejia, C. PDD0504, PEC0558, PEC0605, PEE1339, PEE1550, PEE1587, PEE1685
Mejía, F. PED0777, PED0921
Mejia-Chew, C. PED0836
Mejía-Chew, C. PEC0395
Mekonnen, A. PEE1513
Mekonnen, T. PDD0403
Mekuria, L.A. **PEE1439**
Melaku, Z. PEE1625, PEE1721
Mélard, A. OAA0103, PEA0004
Melbourne, K. PEB0181
Melendez, J. PEC0395, PED0836
Melendez, R. PDD0105, PEF1779
Melgar, A. PEB0162
Melinis, N. PED0790
Mellado, M.J. PEB0282, PEB0299
Mellgren, Å. **PEB0275**
Mellins, C.A. OAB0103, OAB0104, PDB0206, PED0893, PED0852, **PED0871**
Mellins, C. OAD0802, PEB0309, PEB0320, PEB0336, PED1129, PED1131
Mellors, J. PDB0102, PDB0404
Mellors, J.W. OAB0404
Mellouk, O. PEE1346, PEF1763, PEF1767, PEF1875
MELLOUK, O. PEF1789
Melo, A.P.S. **PEC0412**
Memiah, P. PEE1688
Mena, L. PED0772
Menacho, L. **PEC0374**
Mendes, I.A.C. PED0918
Mendes Pereira, G.F. OAD0605, PEC0383, PEC0393, PEE1450, PEF1855
Mendicino, C. **PEC0449**
Mendizabal-Burastero, R. **PEC0731**
Mendonça Collaço Véras, N. PDB0407
Mendoza, A. OAB0503
Meneses Ovallos, L.L. PED0907
Menezes, A. OAA0106
Menezes de Pádua, C. PEA0078, PEC0449
Meng, S. PEE1473
Meng, X. PEC0656
Meng Li, C. PEB0213
Mengue, M.-T. PED0957
Menin Rodrigues, S. PEF1869
Menon, S. PEC0665, PED1108
Menozzi, M. PEB0340
Mensah, C. OAE0402
Mensah, E. PEC0629
Mensch, B. PEC0688
Menza, T. LBPEC26
Menzaghi, B. PED0833
Mera Giler, R. OAC0804, PEC0631
Merai, R. PEE1713
Merati, T.P. PEB0191, PEC0397
Mercado, D. PEC0543
Merchant, R. PEC0424
Mereles, L. PEC0379
Merenstein, D. PED0854, PEF1881
Mergenova, G. OAE0805, PED0887, PED0978, PED1038
Merrigan, M. PDC0202, PEC0462, PED1069
Merrill, D. LBPEE42
Merzouki, F.A. PEC0583
Mesic, A. PDC0304
Mesones, J.L.S. PED0907
Messeh, A. PEA0076, PED1185
Messier-Peet, M. OAD0602
Messores Rudolf de Oliveira, R.C. PEF1855
Messou, E. OAB0303
Mestanza, L. PDE0305
Meta, J. PED0775
Metekoua, C. PEC0706, PEE1602
Metrus, M. PEB0198, PEB0199
Metsch, L. PED0854
Metsch, L.R. PEE1368
Metter Brand, R. PDC0408
Metzger, D.S. PEC0707
Metzner, K. PEB0239
Meya, D. PEB0262
Meyer, L. PDB0302
Meyer, N. OAE0606
Meyerowitz, E.A. **LBPEB13**
Meyer-Rath, G. OAE0303, PDE0505, PEC0528
Meyers, K. PED1013
Meyer-Weitz, A. PED1080
Meylakhs, P. **OAD0402**
Meyrowitsch, D. PED1041
Meyrowitsch, D.W. PEC0461
Meza, J. PED0884
Meziane, O. PEA0031
Mfaume, R. OAD0702, OAE0104, PED0931, PEE1482, PEE1581

Mfochive Nkindam, I. PEE1643
Mgasa, A. PEE1427
Mgaya, J. PEE1565, PEE1568
Mgodi, N. PDC0402, PEC0658
Mgodi, N.M. PEC0691
Mgoli1, E. PEC0634
Mgomella, G. OAC0306, PEC0414, PEC0415
M. Gulick, R. PDC0408
Mhaka, T. PED1010
Mharadze, T. PEC0477, PEC0682
Mhembere, T. PEC0706, PEE1602
Mhidze, J. PEC0425
Mhlanga, F. PDC0402, PEC0658
Mhonde, R. OADLB0104
Mhongara, P. PUB001
Mi, G. PEC0670
Miao, H. OAALB0101
Michael, E. PED1254
Michael, S. PEE1483
Michaels-Strasser, S. PEE1521, PEE1525
Michalow, J. PEE1531
Micheal, O. **PEE1404**
Michel, J. OAD0205
Michel, L. PEB0351
Michels, D. PED0759, PED0865
Michna, M. PED1312
Middelkoop, K. OACLB0101, OAXLB0101
Middlecote, C. PEB0202, PEE1517
Migliorino, G.M. PEB0173, PEB0190
Migraine, J. PEA0021, PEA0055, PEA0057
Mihret, A. PEB0116
Miiro, I.S. **PEA0019**
Mikhailov, A. PEE1354
Milam, J. PEF1881
Milanes Guisado, Y. **PDE0503**
Milanez, H. PEB0247
Milanga, M. **PEF1895**
Milani, L. PEE1665
Milburn, N. PED0838
Milford, C. PED1059
Milgrom, A. PEE1434
Milimo, P. PDE0307
Millar, B. OAB0102
Millar, J. OAA0105
Millard, M. PEC0602
Miller, A. PED1029
Miller, A.D. PEC0749
Miller, D. OAD0405, PEC0517, PEC0551, **PED0939**
Miller, H. **PEB0305**
Miller, M. PEE1458, LBPEA03
Miller, N. PED0825, PED1209, PED1222
Miller, S. PEC0447, **PED0998**, PED1231
Miller, W.C. PEC0707
Millet, A. PEA0004
Millett, G. PEF1759
Milliam, M. PED1049
Milloy, M-J PED1032
Milloy, M.-J. PED1044
Mills, A. OAB0205, PEB0261
Mills, L. PEE1645, PEE1646
Mills, L.A. PEE1529, PEE1574
Mills, P. PEA0087
Mills, S. OAE0702, PDB0204, PDB0304, PDE0106, PEB0346, PEC0444, PEC0659, PEC0757, PED1187, PEE1469, PEE1485, PEE1542
Milovanovic, M. PEC0398, **PED1016**
Miltz, A. PEC0367
Milush, J. OAA0403, OAB0205
Mimi, M. PEC0629, PED0865
Mimiaga, M. PEC0665, PED0966, PED1311
Mims, J. PED0878, PED1197
Min, J. PEE1376
Min, J.E. PEC0526, PEE1368
Min, S. PEB0263
Minano, J.C. PDE0305
Minchella, P. PDC0302, PEB0114
Minde, M. PEB0302, PEB0311
Mindel, A. PEA0050
Mine, M. PDC0202, PDE0507, PEC0462, PED1069
Miners, A. PEB0096
Mingkwanrungruang, P. LBPED33
MinHan, W. PEB0182
Minh Hung, T. PEC0601
Minh Ngo, T. OAD0603, PEC0601
Minh Thi Nguyen, T. OAD0603
Minior, T. PEB0151, PEB0152, PEE1638
Minja, L. OAD0106, PED0771, PED0801, PED0869, PED0938, PED1242
Minka Minka, C.S. **PEE1643**
Minkoff, H. PEA0053
Minnis, A. PED1220
Minnis, A.M. OADLB0103
Minster, Y. LBPED37
Minukas, T. LBPEB13
Miot, J. OAE0303, PEE1490
Mir, F. **OACLB0102**
Miranda, J. PEE1720
Miranda De León, S. PED0913
Miranda Marques, L. PEC0624
Mirandola, M. **PEB0168**
Mirasty, J. PEE1386
Mirembe, G. PEC0602
Mirembe, I. PEC0558, PEE1550, PEE1648, PEE1649, **PEE1655**
Mirembe, M. PED1064, PED1136
Mirembe Nabisere, R. PEB0112
Mirira, M. PEC0647
Mirjahangir, J. PEC0510
Miro, J.-M. LBPEB15
Miró, J.M. PEA0064
Miruka, F. PDC0206, PEC0503, PED1245
Mirza, A. PEB0188
Mirzazadeh, A. **PEC0375**, **PEC0459**, **PEC0495**, PEC0521, PEC0579, PED1060, PED1301, PEE1583
Misamore, J. OAALB0101
Mishra, A. PDB0106
Mishra, N. **OAA0302**
Mishra, S. PDD0306, PEC0533, PED1076
Mishra, S.K. **PEA0001**
Misra, A. PEA0012
Misra, J. **PEE1504**
Misra, S. PED1269
Mistry, M. PED0928
Mitchell, J. OAA0203
Mitchell, K.M. PEC0370, PEC0497, PEC0525
Mitchell, M. PDD0107
Mitchum, P. PEF1815
Mitra, R. PED1174, PED1292, PEE1492, PEE1575
Mittal, M.L. PED1277
Mitterni, L. PEC0648
Miura, T. OAA0306
Miwa, T. **OAD0406**
Miyadahira, E. PEC0687
Miyashita Ochoa, A. **PEF1760**
Mizero, O. **PEB0130**
Mizinduko, M. PEC0599, PED1041
Mizinga, W. **PEE1716**
Mizuno, Y. PEC0608
M. Jalil, E. PEC0393
Mjungu, D. LBPEC18
Mkambeni, P. PEE1694
Mkandawire, J. PED1149, PED1159
Mkhabela, M. PEE1532
Mkhatshwa, H. PEE1474
Mkhize, N. PEE1700, PEE1715
Mkhize, Z. **PEA0003**, PEA0038
Mlambo, K. OAE0105, PEC0723
Mlandu, C. PEC0706, PEE1602
Mlanga, E. PEE1539, PEE1540
Mlawa, Y. PEC0407
Mlimi, H. **PEA0037**
Mlotha, W. PED1188
Mmalane, M. PEE1371, OAXLB0102
Mmbaga, B. OAD0106, PED0771, PED0869, PED0938, PED1242
Mmbaga, B.T. PED0801
Mmbaga, E.J. **PEC0461**, PED1041
Mmolai, M. **PEE1329**
M. Mothapo, K. PEA0045
Mnenula1, T. PEC0634
Mngadi, S. PEE1534
Mngomezulu, K. **PEA0032**, PEA0050
Mngqbisa, R. PEB0245
Mngqibisa, R. OAB0404
Mnisi, Z. OAD0803, OAF0403, PED0781, PED1272, PEE1467, PEF1844
Mniszak, C. PEC0741
Mntambo, N. PEE1487
Mnyippembe, A. OAE0104, PEE1435
Mo, W.-H. PEE1373
Moali, B. **PEE1427**
Moatan, MBA-HRM, T. PED1112
Moats, C. OAALB0103
Mobina, K PED1108
Mocello, A.R. PED0903
Mochangane, K. PEB0224
Mock, P.A. PEC0376
Modest, L. PED1135
Modi, S. OAB0504, PEC0384, PEE1387, PEE1407, PEE1727
Modrakovic, D. PED0973
Mody, A. **OAE0102**, PEC0752, PEE1443
Moedi, P. PEB0224
Moeller-Jensen, K. PEE1577
Moen, K. PEC0461, PEC0599, PED1041
Moepi, N. PED0793
Moepi, P. PED0794
Mofenson, L. PDB0403
Moffatt, E. PED1156
Mofokeng, S. OAD0506
Mofolo, M. PEB0157
Mogaka, J. **PEB0179**
Mogale, M. PDD0304
Mogashoa, M. PEE1656
Mogere, P. PEC0686
Moges, B. PEE1721
Moghadassi, M. PEE1630
Mogwele, M. PEA0035
Mohamed, D. PEB0347
Mohamed, K. PEC0470
Mohamed, K.S. **PEE1585**
Mohamed, S. PEC0415, OAC0306
Mohamed, Y. PED1023
Mohammed, S. PEC0648
Mohammednur, N. PEE1439
Mohan, B. PED1249
Mohan, D. OAE0704
Mohan, U. PEC0671
Mohanty, P. **PEE1494**, **PEE1653**
Mohapi, L. OAB0404
Mohd Nawi, M.S. PEC0380
Mohd Salleh, N.A. PEC0397
Mohraz, M. PEC0579, PEE1583
Moi, F. PEE1468
Mokaleng, B. PEA0002
Mokaya, R. PEC0713
Mokete, K. PEC0751
Mokgethi, P. PEA0002
Mokgethi, P.T. PEA0035
Mokhele, I. PED0948, PEE1629
Mokhtar, N. PEF1735
Mokone, M. PEB0137
Molatlhegi, R.P. PEA0043
Molebatsi, K. PDB0405
Moles, J.P. PEB0351
Moletsane, N. PEE1659
Molfino, L. PDB0305
Molina, A. **PED0910**
Molina, J.M. PDB0302
Molina, J.-M. OAB0302, OAB0303, OAB0305, OAB0403, PEA0057, PEB0233, PED0759, PED0865
Molina, P. LBPED41

Molineros, P. PED0956
Moll, A.P. PEC0577
Molla, M. PEE1625
Mollan, K.R. **PEC0707**
Mollel, E. **PEB0136**
Molobetsi, L. PEC0717
Molokoe, C.K. PED1283
Momanyi, L. LBPEE44
Momba, G. PDE0103
Momin, Z. PEA0012, PEA0014
Mon, S.H.H. **PDC0105**, PED1105
Mona, G.G. PEC0363
Monareng, S. PED1266
Monceaux, V. PEA0004, PEA0059
Mondry, L. PEF1752
Monger, M.L. PED0772
Monginet-Toledo, L. PEC0612
Mongwenyana, C. PEE1534
Monsalvo, M. PEB0237
Monseur, B. LBPED32
Montalban, E. OAB0404
Montaner, J. PEC0494
Montaner, J.S.G. PEC0536
Montaner, J.S. OAC0302
Montaner, L.J. PDA0207
Montanez, N. PEB0293
Montano, A. **PDF0105**
Montano, S.M. PEE1697
Montebatsi, M. **PEE1498**, PEE1688
Montefiori, D. OAA0305
Montefiori, D.C. OAA0307, OAALB0102
Monteiro, J. PEB0222
Monteiro, L. OAD0105, PEC0557, PEC0604, PEC0711, **PED1111**, PED1303, PED1308, PEF1838, PEF1839, OACLB0101, LBPED36, PEB0125
Montejano, R. **PEB0212**
Montelibano, J.C. PEF1745
Montero, D. PED0829
Montero, M. PEB0296
Montero, V. PEC0458
Montero Riascos, L. PEB0180
Montes, B. PEB0241
Montes, M.L. PEB0212
Montgomery, E.T. **PEC0693**, OADLB0103
Montgomery, J. LBPEC29
Montgomery, M. PEC0617
Montipiedra, G. OAB0505
Montoyo, A. OAB0402, PEC0703
Moodley, I. PEE1701
Moodley, R. PEB0263
Moody, J. PEE1493, PED0821
Moolla, A. PEE1534
Moon, J. OAALB0104
Moonga, C. PEC0578
Moonga, C.N. **OAC0405**
Moonwong, J. PEC0657
Moore, A. OAC0204
Moore, D. PEC0494
Moore, D.M. OAD0602, PEC0434, OAC0302, PEC0533
Moore, E.V. **PED0880**, **PED0905**, **PED0955**
Moore, J. **PEC0370**, PEE1371
Moore, J.R. **PEC0525**
Moore, J.P. OAALB0102
Moore, K. PEB0291, PEC0480
Moore, M. **PEE1430**
Moore, R. PED0906, PEC0450
Moore, R.D. PEB0171
Moore, S.E. PEC0710
Moorhouse, L. **PEB0105**, **PEC0429**, **PEE1470**
Moosavian, G. PED1301
Moqueet, N. PEC0533
Mora, M. PEC0629, PED0865
Mora, S. PEA0025
Moraa, J. PEF1897
Mora Bello, D.L. **PED0919**
Moraka, N.O. **PEA0035**
Morales, C.G. PEB0258
Morales, F. PEC0414, PED1135
Morales, G. PED1203, PED1288
Morales, M. PED1277
Moran, L. PED1176
Moran, M. PED1218
Morando, N. **PEA0010**, **PEB0162**
Morar, N. PEC0693
Moreau, A. PEA0021
Moreheart, S. PDD0307
Moreira, C. PEC0463, PEE1514
Moreira, J. LBPED36, OAC0505
Moreira, R. PEC0604
Moreira, R.I. OAC0505
Moreira Rick, F. PEC0393
Morel, S. **PED0759**
Morelli, T.C. PEC0519
Moreno, A. PEB0237
Moreno, J. PDE0503
Moreno, M. PED0819
Moreno, S. OAB0304, PEC0568
Moreno-Aguilar, L.A. PED1291
Morgado, M.G. PDA0103
Morgan, B. PEE1728
Morka, M. **PED0897**
Morlat, P. **PEE1351**
Morne, J. PEF1878, **PEF1890**
Moro, J. PEE1667
Morof, D. PDC0303, PEC0509
Morris, C. PEB0307
Morris, D. PEF1783
Morris, E. PEE1374
Morris, M. PEC0419
Morris, S. PDB0303
Morrison, C. PEF1859
Morroni, C. PEB0163
Morrow, M. PEC0724
Morse, G.D. PEB0093
Mortimer, H. **PED0862**
Moscatt, V. PEB0119
Moschese, D. **PEB0255**
Moscicki, A.-B. PEB0320
Mosende, Z. PEB0097
Mosepele, M. PED1180, PED1273
Mosery, N. PED1059
Moses, A. PEB0178, PED0858, PED1150
Moshabela, M. PEE1554
Moshago, T. PEE1721
Moshashane, N. PEB0163
Mosikare, O. PEE1733
Mosimann, G. PEB0222
Mosimann Jr, G. PEC0519
Mosimann Júnior, G. PDB0407
Mosqueda-Gómez, J.L. PEA0027
Mosquera, M.d.M. LBPEB15
Moss, K. PEF1885
Moss, N. PEC0517, PEF1866, PEF1878
Mota, C. PEE1618
Mota, W. PEC0552
Motaba, M. **PEE1543**
Motaboli, L. PEE1595
Mothibi, E. PEE1631
Mothopeng, T. OAF0403, PEF1844
Motlhamme, J. PEE1700, PEE1715
Motoku, J. PEE1472, PEC0510
Motsoari, P. PED1302
Moucheraud, C. PEB0178, PED0858, PED1150, PEE1402, PEE1623, PEE1652
Mouhana, F. OAC0804
Mouhanna, F. **PEC0631**
Moukambi, F. PEA0026
Mount, J. PEC0733
Mounzer, K. OAB0604, PDA0207, PEB0165, **PEB0217**
Moura, F.D. **PED0856**
Moura, I. OAD0105, PEC0711
Moussa, Y. PEA0076
Moyer, C. PED0876
Moyer, E. PED0775
Moyo, B. PEB0105
Moyo, C. PEC0641
Moyo, F. **PEB0281**
Moyo, K. PEC0650
Moyo, S. PDB0405, PEA0002, PEA0035, PEA0077, PED1074
Moyo, T.M. **PEE1541**
Mpagazi, J. PDC0405
Mpala, Q. OAC0806, PEB0088, PEC0732
Mpango, L. PEB0298
Mpasela, F. PEC0654
Mpazanje, R. PEE1423
Mphande, M. OAE0503, PEB0178, PED0858, **PED1150**, PED1223, PEE1652
Mphande, S. PEE1380
Mphaya, J. PEB0167, PEB0298
Mpholo, T. LBPEB11
Mphuru, L. PDD0504, PEC0605, PEE1685
Mpingulu Bila, M. PEE1527
Mpody, C. PDD0404, PEB0174
Mpofu, A. PEC0477, PED0909, PED0914, PED1010, PEE1460
Mpofu, S. **PED0909**
M.Pollack, T. PED1264
M. Pollack, T. PEF1853
Mpondo, B. PEB0133
Mpora, B. PED1318
Mpoudi-Etame, M. OAB0402
Mpunga, E. **PEC0575**, PED0977
Mpungu, F. PEC0706, PED0844, PED1295, PEE1602
Mpunza, H. PED1318
Mqedlana, N. PEE1477
Mrus, J. PEB0354
Msafiri, E. PED1318
Mseya, R. PEE1654
Msezana, T. PED1256, PED1258
Mshali, K. PEE1395
Mshweshwe-Pakela, N. PEE1477
Msimanga-Radebe, B. PEE1710
Msimango, L. PEE1620
Msiska, N. PEE1426
Msongole, B. **PEE1563**, **PEE1579**
Msukwa, E. **PEE1389**
Msukwa, M. PEE1687, **LBPEC21**, OAD0104, **PEE1379**, **PEE1392**
Msumi, O. PEC0414, PED1135
Msuya, L. PEB0324
Msuya, S. PEB0133, PEB0136
Mtagalume, E. PED1127
Mtaula, J. **PEE1406**
Mteba, E. PEE1584
Mteta, I. PEB0311
Mtetwa, G. **PEE1532**
Mthethwa, N. OAB0106, OAB0106, PEB0167, PEB0298, PED1125
Mthethwa-Hleza, S. PEB0088
Mthiyane, N. **OAC0104**, PDE0306, PEE1608, PEE1611
Mtshali, A. PDA0202, **PEA0050**
Muambeta, D. PDE0103
Muanido, A. OAE0803
Mubenga, J. PEE1471
Mubiru, A. PEE1529
Mubita, J. PDA0104
Muchedzi, A. PED0779, **PEE1586**
Muchenje, M. PED0773, PED0808
Mudaliar, S. PED0928
Muddu, M. **PEB0186**
Mudenyanga, C. **PEB0110**
Mudimu, E. PEC0541, PEE1372
Mudiope, P. PED1294, PEE1606, PEE1675
Mudojwa, T. PEB0224
Mudzengerere, F. PEE1586
Mudzengerere, F.H. PED0779
Mudzviti, T. PEB0093
Mueller Scott, L. OAE0606
Muench, R. OAC0605
Muenchhoff, M. OAA0105
Mueses, H. PEB0180
Mueses, H.F. OAC0703
Muessig, K. OAC0605, PED1133
Mugabe, P. PEB0144
Mugabekazi, M. PEC0435
Mugamba, S. PED1029
Mugambi, E... PEE1560

Mugambi, M. PED0992, PED1245, PEE1384, PEE1557, PEE1678
Muganzi, A. PEB0332, PEC0618, PEE1401, PEE1428, PEE1590
Muganzi, A.M. PEE1396
Mugarra Kabahwezi, H. PED1229
Mugenyi, L. PDC0403
Mugerwa, M. PEB0358
Mugisa, A. **PEE1562**, **PEE1645**
Mugisa, E. **PEC0435**, **PEE1574**
Mugisha, J. PED1250
Mugisha, K. OAF0302
Mugo, C. PED0819, **PEE1592**
Mugo, P.M. PEC0365
Mugume, A. PDD0207, PEB0112
Mugundu Ramien, P. **PEC0532**
Mugurungi, O. PEB0105, PEC0447, PEC0477, PED0998, PED1231, PEE1460, PEE1541, PEE1631
Mugwaneza, P. PDD0407, PEC0445, PEC0734
Mugwanya, K. PEE1546
Mugyenyi, P. OAB0404
Muhairwe, J. **PEE1595**, LBPEB11
Muhairwe, P. PED1208
Muhanguzi, E. PED1064, PED1136
Muhau, E. PEE1628
Muhindo Kahungu, M. PEE1719
Muhirwa, S. **PED1009**, **PEF1835**
Muhumuza, S. PEE1675
Muhwezi, A. PDC0305, PEE1385, PEE1409, PEE1639
Muia, P. PEE1682
Muir, P. PEC0446
Muiruri, P. PEB0270
Mujansi, M. OAC0405, PEC0571, PEC0578
Mujawar, M. OAB0703
Mujugira, A. PED1250
Mukabi, J. PED1290
Mukamba, N. PED1179
Mukasa, B. PEB0144
Mukherjee, J. PDF0205, PEE1720, PED1134, PED1249
Mukherjee, S. PED1238, PEE1367
Mukherjee, T. **PED0887**
Mukinda, E. **PEE1527**
Mukiwa, T. **PEC0588**, **PED1267**
Mukiza, N. PDD0502, PEC0729, PED1247
Mukubonda, M. PEC0571
Mukui, I. PDD0405, PED0828, LBPEB08
Mukungunogwa, S. PEE1598
Mukunta, C. OAE0803
Mukuria, N. PEE1397, PEE1585
Mukuru, M. PEE1414
Mukwa Malebe, T. **PEE1525**
Mukwanjagi, S. PEB0129
Mukwege, D. PEE1674
Mulamba, J. PEE1642, PEE1703
Mulatu, M. PEC0400
Mulatu, M.S. **PEC0620**
Mulawa, M.I. **PED0821**
Muldoon, A. PED1130
Mulenga, D. PED1119
Mulenga, L. PEE1710, OAE0102, LBPEB07, PDB0403
Mulenga, P. LBPEE44
Muli, J. PEC0728
Mulindwa, J. **PEE1401**
Mullen, M. OABLB0104
Muller-Trutwin, M. PEA0004
Mullick, S. PED1204, PED1288
Mullin, S. OAC0605
Mullins, B. OAB0506
Mullins, M. PEC0740
Mullins, T. **PED0864**, **PED0866**, PED1289
Mulu, A. **PEA0080**, PEB0116, PEC0387
Mulubwa, C. **PEC0679**
Mulumba, N. PDD0306, PED1076
Mulwa, E. PDC0206
Mulwa, S. PEE1611, PEE1608
Mulwa, S.N. **PEE1605**
Mulyadi, B. PED0857
Mumba, T. PEE1585, PDF0106
Mumbari, G.T. PEE1594
Mumbwe, c. PEE1426
Mumma, M. PEE1661, PEF1778
Mun, P. OAD0403, PED1040, PED1047, PED1048, PED1067, PED1098
Munangaidzwa, L. PED1010
Munar, D. LBPEC29
Mundhe, T. PEE1698
Munene, K. PEB0129
Mungambe, O. PEE1383
Mungati, M. PEB0137
Muniu, S. PEF1793
Munjoma, M. PEC0744, PEE1548, PEE1558
Muñoz, A. OAC0603
Muñoz, E. PEB0282
Muñoz, M. **PDE0305**, **PED1139**
Muñoz, R. PEC0568
Munsaka, S.M. PEA0068
Muntada, E. PEC0568
Munter, S. OAA0102
Munthali, A. PED1127
Munyanga, C. OAB0404
Munyaradzi, T. PEC0653
Munyonho, L. **PED1207**
Munyonho, L.G. **PEC0591**
Mupambireyi, Z. **PED0816**
Mupanbireyi, Z. PEB0175
Muramatsu, T. **PEB0156**
Murara, J. PDE0402
Murenje, V. **PEC0653**
Murgai, N. **PEC0517**
Muriithi, C. PEC0510
Muroki, D. PED0922
Murokora, D. PEA0073
Murombedzi, C. PDC0402, PEC0658
Murphy, D. PEC0639, OACLB0103
Murphy, D.A. PED1007
Murphy, E.L. PEC0427, PEC0488
Murphy, G. PEC0480
Murphy, M. PED0772, PED0800
Murphy, R. **LBPEA02**
Murray, M. PEB0260
Murray, S. PED0945
Murthy, N. PEC0532
Murthy, S. PEC0499
Murugesan, S PEF1836
Murungi, I. PDC0403
Murungu, J. PED0969
Muruthi, L. PEE1660
Musa, A. PED1313, PEE1607
Musaazi, J. PEB0256
Musah, R. PED0983
Musara, P. PDC0402, PEC0658, PED1158
Musau, A. OAE0704, OAE0705, **PEF1832**
Musau, O. **PEC0428**
Musci, R. OAD0304
Musemburi, S. OAC0102, PEC0477, PEC0682
Musenge, E. PEC0706, PEE1602
Mushamiri, I. PDC0407, **PEE1442**
Mushati, P. OAC0102, PEC0477
Mushavi, A. PEC0660, PED0816, PED1293, PEE1598
Musheke, M. PEC0578, PED1119
Mushi, V. PED1318
Mushimiyimana, S. PEB0130
Mushisha, H. **PEE1426**
Mushlin, A. PEB0294
Mushubira, B. PEC0414
Mushumbamwiza, H. **PEC0705**
Musi, L. PED1145
Musick, B. PED1167
Musiime, V. PEB0322, PEC0549
Musimbi, J. PEC0487, PED0992, PEE1691
Musingila, P. PEC0652, LBPEC19
Musinguzi, A. PED1317, PEE1391, PEE1448
Musinguzi, D. PED1314
Musinguzi, E. PED0867
Musinguzi, F. LBPEF55
Musinguzi, H. **PEE1391**
Musinguzi, J. PEA0033, PEB0300, PEE1537, PEB0310
Musinguzi, L. PED1200
Musinguzi, M. PEE1465
Musinguzi, N. PDB0203
Musinguzi, W. PEE1496
Musoba, N. PEE1327
Musoke, A. PEB0164, PEE1361, PEE1424
Musoke, P. OAB0105, PEB0322
Musonda, M. OAD0202
Musonda, R.M. PEA0077
Mussini, C. PEB0092, PEB0253, PEB0340
Musso, S. PEC0448
Mustanski, B. PED1307, PEE1725
Musuka, G. OAD0104, PEC0447, PED0998, PED1231, PEE1392
Musukwa, T. PEB0304
Musyoki, H. PEC0487, PED0992, PEE1691
Mutabazi, H. PED1064
Mutai, K. **PEB0270**
Mutala, J. LBPEF55
Mutale, J. PEC0752
Mutale, W. PEA0068
Mutambo, C. PED1315
Mutandi, G. PDE0404, PEE1577
Mutasa, C. PED0816
Mutayoba, B. PEB0133, PEC0461, PEC0599, PED1082
Mutch, A. OAD0906
Mutede, B. PEC0744, PEE1460, PEE1558
Muteerwa, A. OAB0507
Muteerwa Pene, A. **PEA0071**
Mutegi, J. **OAE0704**, PEF1832
Mutei, R. PEE1535
Muthoga, C. **PDE0507**
Muthoni, M. PEB0269
Muthulingam, D. **PED1056**
Mutonyi, G. PEC0613
Mutonyi, M. PEE1409
Mutonyi, R. PED1208
Mutsaka, D. PEB0110
Mutseyekwa, T. OAELB0102
Muttai, H. PED1245
Mutyala, M. PEB0252
Muula, A. PEC0681, PEC0683
Muvale, G. PDB0305
Muwanga, A. PEE1693
Muwanga, E. OAELB0101
Muwonge, T.R. PEE1496
Muyama, A. PED0845
Muyanga, N. PEC0553
Muyano, S. PEE1471
Muyaso, M. PEE1431, PEE1440
Muyingo, S. PEE1404, PEE1693
Muyoyeta, M. PEB0128, PEB0135
Muyunga-Mukasa, T. **PDF0106**, **PED1008**, **PEF1771**
Muzaaya, G. **PEC0558**
Muzenda, T. PEE1631
Muzeyi, W. PEC0549
Muzingwani, L. **PEB0176**
Muzondiona, A. PED1169
Muzulu, E. **PED0914**
MVILONGO, D. PED1185
Mvula, B. PDD0403, PEC0474
Mvula, X. OACLB0101
Mvuma, G. PEE1710
Mwadime, E. PEF1897
Mwafimbo, C. PED1135
Mwakipesile, P. PEC0605
Mwale, C. PEB0114
Mwalili, S.M. **PEC0541**
Mwalwanda, M. PED0800

Mwamba, C. OAD0306, PED1179, PED1211, PEE1636
Mwamba, M. PDE0307
Mwamba, R. OAD0106, **PED0869**, PED0938, **PED1242**
Mwamba, R.N. PED0801
Mwamba, T. PEC0651, PEC0654
Mwambi, J. PEC0470
Mwanda, K. PEE1411
Mwandi, Z. PEC0652, PED1318, PEE1539, PEE1540, LBPEC19
Mwanga, D. PEE1384
Mwanga-Amumpaire, J. OAE0806
Mwangi, E. PEE1438
Mwangi, J. PEE1472, PEC0503, **PED1245**, **PEA0070**
Mwangi, J.W. **PEF1814**
Mwangi, S. PEE1432, **PEE1556**
Mwangi, W. PED1167
Mwango, A. PDE0302, PEE1478
Mwango, L. **PEC0571**, PEC0578
Mwango, L.K. OAC0405
Mwangonde, C. PEE1338
Mwangwa, F. **OAB0702**, OAC0203, OAC0805, PEC0708
Mwansa Musonda, J. PEB0114
Mwanza, W. PEC0654
Mwape, F. PEB0114
Mwaura, D. PEE1660
Mwayabo, K.J.-C. PEE1478
Mwayuli, G. PEC0428
Mwebaza, S. PEB0144
Mwebaze, S. PEE1403
Mweebo, K. OAE0102
Mwehire, D. PEE1639
Mwehonge, K. PEF1895
Mwema, J. **PEE1661**
Mwenda, N. OAD0702, **PEB0330**
Mwenda, R. PEE1556
Mwenisongole, D. PEE1363
Mwesiga Desderius, B. OAC0202
Mwesigwa, B. PEC0602
Mwesigwa, J. PEE1327
Mwetulundila, S. PEC0680
Mwijage, A. PED1041, PEC0461
Mwila, A. OAC0405, OAE0102, PEC0571, PEC0578
Mwila, E. **PEE1411**
Mwima, S. PED0908, PED0915
Mwimali, P. PEC0428
Mwinga, A. PEC0679
Mwinike, Y. OAC0805
Mwiraria, R. PEB0129
Mwita, L. PEB0297, PEB0302, PEB0311, PEE1363, PEE1420, PEE1422
Mwondha, R. PEB0332
Myer, L. PDA0107, PDB0205, PEA0086, PEB0323, PED0822, PED0826, LBPEC24, LBPEC25
Myers, J. PEB0211, PEB0357
Myezwa, H. **PED0755**
Myint, H.H. **PEF1811**
Myint, T. PED1061
Myrick, R. PEE1713
Mziray, H. PED1135
Mzobe, G. PEA0050
Mzyece, J. PEB0128

N

Na, S. PED1275
Naamara, F. PEE1693
Naar, S. OAB0102, PED0946, PED1116, PEE1408, PEF1860
Nabagala, M.S. PEB0283
Nabaggala, M.S. PEB0112, PEC0587, PEE1396, PEE1401, LBPEF55
Nabidzhonov, A. **PEC0695**
Nabimba, R. PED1247
Nabitaka, L. **PEA0033**, PED1294
Nabitaka, V. PEB0300, **PEE1424**, PEE1537
Nabitaka Kisaakye, L. PEE1606, PEE1675
Nabor, A. PED1308
Nabukalu, D. PED0882, OAE0806
Nabukenya, S. PEC0613
Nabukenya-Mudiope, M.G. **PEE1590**
Nabulumba, N. **PED1144**
Nabunya, P. PEE1365
Nabwana, M. OAB0105
Nabwire, J. PEE1537
Nachega, J. OAE0304
Nachenga, F. **PEE1673**
Nadig, S. PEA0054
Nadin, I. PEB0172
Naeem, F. PEB0124
Naftal Fernando, A. PDE0104
Nagadasu, J.R. PEC0532
Nagai, H. PEE1461
Nagashima, M. PEC0455
Nagel, K. PEE1720
Naggirinya, A.B. LBPEF55
Nagot, N. PEB0351
Nahirya, P. PEC0435
Nahirya Ntege, P. PEB0310
Nahirya-Ntege, P. PEC0729, LBPEE51
Naholo, S. PEC0680
Naicker, S. PEA0038
Naidoo, D. PEE1700, PEE1715
Naidoo, K. PEC0693, PEB0111
Naidoo, S. PEC0693
Naidoo, T. PEA0047
Naikazi, G.M. PEB0332
Naimhwaka, S. PEE1709
Naing, A.Y. PEE1663
Naing, K.P. PEC0564, PED1039, PED1061
Naini, L. OAB0503
Nair, G. PEA0030
Naitore, D. PEE1535
Najafi, A. **PED0863**, PED1171
Najafi, I. PED1301
Naja-Riese, MSW, G. **PEE1549**
Najarro, J. PED0999
Najera-Avila, M.A. PEA0027
Najjemba, L. PEB0112
Nakabugo, J. OAC0402
Nakabuye, R. PEB0294
Nakagawa, K. PEF1871
Nakalema, S. PEB0283
Nakamatte, L. PEB0332
Nakamura, A. PEC0622, PEE1536
Nakanjako, D. PEB0179
Nakasi, S. PEF1895
Nakasujja, N. PEB0214
Nakate, S. PED1325
Nakate, V. PEB0262
Nakaweesi, J. PEB0144, PEE1562, PEE1645
Nakibuuka, B. PEE1562, PEE1645
Nakibuuka, E. **LBPEF55**
NAKIGANDA, L. **PED0975**
Nakigozi, G. PED1029, PEE1547, PEE1642, PEE1646, PEE1703
Nakirijja, A. PEC0664
Nakitende Kiggwe, L. PEE1639
Nakitto, M. PED1136
Nakityo Bosa, R. PED1294, PEE1676
Nako, S. PDE0505
Nakor, T. PED1090
Nakubulwa, R. PED0955, PED0975
Nakubulwa, S. PEE1645
Nakyanjo, N. PED0880, PED0905, PED0955, PEE1547
Nakyeyune, J. PEF1754
Nalubega, F. PEE1676
Nalugoda, F. PDC0406, PEA0033, PEB0294, PEC0389, PED0880, PED0882, PED0905, PED0955, PED1029, PEE1547
Nalwanga, D. **PEB0322**
Namachapa, K. PEE1431, PEE1440, LBPEC21
Namakhoma, I. PEC0474, PEE1687, LBPEC21
Namale, A. OAE0106, PEE1676
Namale, L. PEE1452
Namane, T. LBPEB11
Namanya, Y. **PEE1648**, PEE1655
Namatovu, D. PED1208
Nambi, R. PED0905
Nambozo, E. **PED0776**
Namimbi, F. PEC0587, PEC0618, PEE1428
Nampaisan, O. PDB0304, PDE0106, PEB0346, PEC0659, PEE1485, LBPED33, LBPEE47
Nampaisarn, O. OAE0702, PEE1542
Nampisarn, O. PEE1469
Namugumya, R. PED1064
Namukanja, P. OAE0106, PEA0033
Namukwaya, Z. **PEB0332**
Namuleme Ddumba, I. **PEE1444**, **PEE1452**
Namusobya, J. **PEE1667**
Namusoke, A. **PED0930**
Namusoke Magongo, E. **PEB0300**
Namutosi, P. PED0845
Namuwenge, N. PEE1676
Namuwenge, P. PEE1537
Namuwonge, F. PEE1365
Namyenya, L. LBPEF55
Nana, R. PEE1717
Nance, R. PEC0450
Nanchito, A.V. **PEE1429**
Nandakumar, A. PEE1345, PEE1349, PEF1751
Nandi, V. OAC0404, PED1286
Nanditha, N.G.A. PEB0218
Nandudu, H. PEC0558, PEE1550, PEE1587
Nanfa, D. PEA0052
Naniche, D. PEC0432, PEE1570
Nankabirwa, C. PED1325
Nannan, N. PDC0303, PEC0509
Nano, G. PEB0097
Nansalire, W. PEC0602
Nantamu, D. PEE1639
Nanyondo, J. PEC0602
Nanyonjo, M. LBPEF55
Naous, J. PEC0392, PEC0401
Napierala, S. OAE0104, PEC0616, PED0791, OACLB0105
Napit, R. PEA0001
Napolean, S. PEC0617
Napravnik, S. PEB0218, PEC0452
Napua, M. PEC0737
Narasimha, K. LBPEA01
Narasimhan, G. PEB0206, PEB0350
Narasimhan, M. PDF0206
Narayanan, E. OAALB0101
Nardone, A. PEB0315
Narokobi, R. PEC0500
Narr, K.L. PEB0331
Nartey, P. PED0995
Nascimento, M.C. OAB0606, PEB0238
Nash, D. PED1013, PEE1564
Nash, K. PEE1338, **PEE1659**
Nash, S. PEC0369
Nasirian, M. PEC0579, PEE1583
Nassali, J. PEE1606
Nassali, M. PEE1403
Nassolo, S. PED0811
Nastouli, E. OAA0406, PEA0024, PEB0315
Nasuuna, E. **PEC0618**
Natali, K.M. **PEB0198**, **PEB0199**, **PEB0252**
Natarajan, V. OAA0404
Nathwani, A.A. OACLB0102
Natt, B.N. PEE1662
Natukunda, E. **OABLB0101**
Natukynda, S. PED0867
Navarrete-Muñoz, M.Á. PEB0273
Navarro, A. PEA0064
Navarro, M.L. PEB0282

Navarro, M. PEB0296, PEB0299, PEB0337
Navarro, V. **PED0777**
Navarro-Alvarez, S. PEA0027
Nawaggi, P. PEB0300, PEE1424
Nawar, E. **PDD0407**, **PEC0734**
Nayebare, B. PED1208
Nazareno, J. PEF1799, PEF1854
Nazareth, M. **PED1129**
Nazarov, D. PEC0411
Nazimera, L. PEE1704
Nazli Zeka, A. PED0981
Nazziwa, E. PEB0300
Ncube, G. PED0969, PEE1460, PEE1586
Ncube, M. LBPEE46
Ndaga, A. PEE1573, PEE1596, PEE1622, PEE1650
Ndagije, F. PEE1525
Ndango, B. PEE1632
Ndarabu, A. PEA0005, PEB0117
Ndarama, E. PEE1704
Ndayizeye, A. **PEB0289**
Ndayizigiye, M. PEB0157
Ndayongeje, J. PEC0414
Ndege, B.W. OAB0404
Ndeh Mboumien Ngang, E. PED1186
Ndeloa, C. PEE1599
Ndep, A. LBPEF56
Ndhlovu, C.E. PEA0079
Ndhlovu, L. PEA0052
Ndiaye, H.D. PEB0109
Ndiaye, M. PEF1750
Ndiaye, P. PEB0109
Ndidde, S. PEB0164, PEE1361
Ndikabona, G. PEE1409
Ndione, A.D. PEF1750
Ndizihiwe, A. PEE1699
Ndjeka, N. OAE0804
Ndjolo, A. PEB0251
Ndlangamandla, M. PED0781, PED1272, PEE1467
Ndlangamandla, P. OAD0206
Ndlovu, B. PEE1532
Ndlovu, K. **PEE1511**
Ndlovu, M. PEE1523
Ndlovu, N. **PEC0396**
Ndlovu, P. PEB0175, PED1016
Ndlovu, S. OAELB0102
Ndoi, H. PEB0129
Ndolo, I. PED1276
Ndondo, H. OAE0506, PEE1460
Ndossi, F. PEE1565, PEE1568
Ndour, C.T. PEB0109
Nduati, R. PEB0330
Ndubuisi, O. PEF1798
Ndubuka, N. PEE1386
Ndukwe, D. OAE0306
Ndungu, M. PEE1719
Ndung'u, T. PEA0020, PEA0038, PEA0058
Ndwapi, N. PEE1498, PEE1688
Ndyanabo, A. PEE1646
Neary, J. **PEC0582**, PED0824, **PED0888**
Neary, N PEA0086
Neblett Fanfair, R. **PEC0721**
Neelamegam, M. PED0783
Neeraj, K. PEE1448
Negredo, E. PDB0105
Negrete, M. OAF0104
Negussie, T. PDE0404
Neilands, T. PEC0709, PED0986, PED1149, PED1152, PED1159, PEE1365
Neilands, T.B. OAC0407
Nekambi, E. **PED0829**
Nel, A. PEE1700
Nel, D. PED0993
Nelson, A.N. **OAALB0102**
Nelson, A. PED1283, PEE1635
Nelson, J. PEA0022
Nelson, L.J. PEC0664
Nelson, N. PEC0442
Nelson, R. OAB0507, PEC0690
Nelson, S. LBPEB13
Nelson Personna, M. **PEC0406**
Nema, V. PEA0001
Nemoto, T. **PED1114**
Nene, F. PEA0047
Neri, S. PEC0680
Nesbitt, R. OAC0806, PEC0485, PEC0732
Nestadt, D.F. OAD0304
Netea, M. PEA0042
Netea, M.G. PEB0183
Neuhann, F. PED1184, PEE1734
Neuman, M. PEC0679
Nevendorff, L. PED1012
Neves da Silveira, L. PDB0407, **PEB0274**, PEC0383, PEC0393, **PEC0519**
New-Aaron, M. **PEA0072**
Newman, P.A. PEC0628, **PED1120**, **PED1278**, PEC0690
Newman, T. PEE1493
Newman Lobato de Souza, T. PEB0160
Newsum, A.M. PDB0306
Neyens, M. PEB0264
Neylan, T.C. PED1164
Ng, C. PED1044, **PED1287**
Ng, C.W. PEE1350
Ng, O.T. PEB0191, PEC0397
N'gambi, J. PEE1704
Ng'ambi, A. PEE1694
Ngampiyaskul, C. OAB0104
Ngando, J. OAF0204
Ngare, C. PEF1897
Ngauv, B. PED1252
Ngayo, M. **PEB0246**
Ngáyo, M. PEB0269
Ngcamphalala, C. PED0781, PED1272, **PEE1467**
Ngcapu, S. PDA0202, PEA0032, PEA0050
Ngcobo, N. PEE1534
Ngcobo, S. **PEA0043**
Ngeno, B. PEE1407, PEE1570
Ngeno, C. **PEE1573**, PEE1596, **PEE1622**
Ng'eno, C. PEE1650
Ngere, S. **PED0768**
Ngeresa, A. PEB0308
Ngidi, J. PDC0202, PDE0507, PEA0035, PEC0462, PED1069
Ngo, H. OAD0603, OAE0802
Ngo, T. OAE0204, OAE0802
Ngobese, H. PEE1620, PEE1683
Ngo Bibaa Lundi, A. PED0911
Ngoc, L.B. PEB0343
Ngocho, J. OAD0106, PED0869, PED0938, PED1242
Ngocho, J.S. PED0801
Ngoc Vu, B. OAD0603, PEC0601
Ngoepe, A. PEA0047
Ngo Giang Huong, N. PEB0192
Ngo-Giang-Huong, N. PEB0120
Ngoie, D. PED1077
Ngom, A. PEF1750
Ngom, N. PEB0109
Ngoma, S. LBPEE44
Ngo Minh, T. OADLB0105
Ngo Nemb, M. PEA0076, PED1185
Ngonzi Muhangi, C. **PEE1553**
Ngorima-Mabhena, N. PEE1631
Ngosa, L. PEF1755
Ngosi, A. **PEE1395**
Ngosi, P. PEE1681
Nguafack, D. PEA0082
Nguah, S. PEC0464
Nguefeu Nkenfou, C. PEA0076
Ngueguim Gnintedem, F. PEE1643
Ngugi, C. PEC0541, PEE1535
Nguimafack, A. PEA0071
Nguimfack, A. PEE1533
Nguluwe, M. PED0977
Ngunu-Gituathi, C. PEE1384
Ngure, K. PEC0686
Nguti, L. PEE1682
Nguyen, A.T. PEE1686
Nguyen, A. **OAF0305**, PED1264
Nguyen, B. OAE0802
Nguyen, C.A. OAE0206
Nguyen, C. OAB0405, OADLB0101
Nguyen, D.B. **PED1214**, **PED1263**
Nguyen, D.P. OAC0502, **PEE1484**
Nguyen, D. OAE0802
Nguyen, G. OAE0802
Nguyen, H. OAE0802
Nguyen, K.V. PEB0191
Nguyen, L.H. OAF0305
Nguyen, M. **PED0850**
Nguyen, N. OAB0103, OAD0802, **PDC0406**, PEC0389, **PED0852**, PED0871
Nguyen, P. OAE0802
Nguyen, P.A. OAF0305, OAE0204
Nguyen, P.T. OAF0305
Nguyen, T.T.H. PEC0511
Nguyen, T. **PEA0016**, **PEA0018**, PEE1459, OAE0802
Nguyen, T.A. PDE0102, PED1263
Nguyen, V.N. PEC0511
Nguyen Kieu, U. PED1264
Nguyen Ly, L. PED1264
Nguyen Mai, T. PEE1370
Nguyen Ngoc, D. **PED0935**
Nguyen Nhat, C. PED1264
Nguyen Thi Lan, A. PEC0505
Nguyen Thi Mai, H. PEE1370
Nguyen Thuy, D. PEE1370
Nguyen Thuy, L. PEC0505
Nguyen Van, T. PED1264
Ngwalle, A.w. **PEE1565**
Ngwalle, A.W. **PEE1568**
Ngwane, M.W. OAB0506
Ngwatu, K.B.G. **PEE1405**
Ngwenya, F. **PEE1569**
Ngwira, E. PED1184
Nhacolo, A. PEC0432
Nhamo, D. PEC0755, **PED1203**
Nhampossa, T. PEB0315, PEC0432, PEE1570
Nhan, D.T. PEC0707
Nhanombe, R. PEE1515, **PEE1618**
Niang, T. PEF1804
Nicastro, T. **OAD0302**
Nicca, D. PEC0596
Nicco, E. PDE0103
Niccolai, L.M. PED0892
Nicholls, J. PEC0446, **PEC0607**
Nichols, B. OAE0503, PEC0641, PEE1499, **PEE1500**, PEE1624, PEE1627, PEE1629
Nichols, B.E. **PEE1626**
Nichols, C. PDC0306, PEE1617, **PEE1619**
Nichols, E. PDC0303, PEC0509
Nichols, L. PEB0153
Nichols, S. **OAB0102**, **PEB0320**, PEB0336
Nicholson, V. PDC0204, PEC0536, PED0767
Nickel, K. **PDB0104**
Nicolas, A. **PEA0057**
Nielsen-Saines, K. PDC0404
Nieuwkerk, P.T. PEB0271
Nightingale, V. PED1265
Nijirazana, B. PEB0289
Nikhare, K. PEB0287
Nilanka, S. PEF1864
Nimkar, S. **PED0813**
Nimpagaritse, D. PEB0289
Ningaiah, N. PEC0702
Ninsiima, C. PEB0332
Ninsiima, S. PEE1404, PEE1401
Niranjan, J. PEE1494
Nirwal, D. PED1292, PEE1492, PEE1575
Nishiura, K. OAA0203
Nisida, I. PEC0669
Nithya, R. **PEA0066**
Nitschke, A.-M. PEE1709

Nitscke, A.-M. PEC0680
Niu, J. PEB0107
Niwagaba, P. PEE1385
Nixon, C. PEA0018
Nixon, D. PEA0013, PEA0067
Nixon, D.F. PED1091
Nixon, S. PED0755
Niyongabo, B. **PEB0185**
Niyongabo, T. PEE1564
Niyonkuru, J. PEB0289
Niyonsaba, C. PEB0289
Njah, J. **PEC0730**
Njai, S. PEC0571
Njala, J. PEE1713
Njau, P. OAD0702, OAE0104, PEC0599, PED0931, PEE1435, PEE1482, PEE1581
Njelekela, M. PEE1563, PEE1579
Njelesani, M. **OAC0606**, OAD0202, PEC0641, **PEC0645**, PEC0735
Njieassam, E.E. **PEF1807**
Njindam, I.M. OAF0403
Njokah, K. **PEF1772**
Njoki, L. PEE1622
Njomo Omam, E. PED0911
Njoroge, A. PEE1472, PEC0510, PEB0179
Njoroge, D. PEC0510
Njuguna, I. PEE1592, LBPEB08
Njuguna, I.N. PEC0582
Njuguna, N. **PEE1432**, PEE1556
Nka, A. PEB0251
Nkale, J. PED1029
N. Kalyango, J. PEC0549
Nkama, C. PEC0362
Nkambule, R. PED0781
Nkenfou, C. PEA0052
Nkhambule, M. PEE1672
Nkhoma, H. PDD0205, PDD0403, PEB0304
Nkhoma, L. PEE1584, PEE1716
Nkhonjera, J. **PEE1695**
Nkomo, B. PDC0202, PEC0462, PED1069, PEE1427
Nkomo, C. PDE0505
Nkosi, M. PEE1437
Nkundanyirazo, P. PEB0140, PEB0157
Nkweleko Fankam, F. **PED0911**
Nkwema, S. PED1163
Nkwemu, K. OAC0405, PDE0302, PEC0571, PEE1478
Nkwonta, C. PEC0516
Nnakate Bukenya, J. PEC0553
Nnko, C. OAE0202
Nnko, S. LBPEC18
N. O. Achia, T. PEC0503
Nogueira, J. PEB0282
Nogueira Damacena, G. PED1073
Noguera-Julian, M. PEB0273
Nolan, S. PED1032
Nomura, T. OAA0306
Nondumiso, D. PEC0689
Nonyana, N. OAD0604
Nonyana, N.M. OAE0704
Nonyane, B.A. PEC0405
Noor, N. PED1043
Noor, S.W. OAD0602
Noori, T. PDC0207, LBPEE53
Noppe, Y. OAA0104
Norcross, C. LBPEB12
Nordstrom, J.L. OAA0202
Nori, A.V. LBPEB09
Norris, S. PDA0106, PEA0046
North, D. PEC0504
Norton, P. PEC0490
Nosaka, S. OAD0406
Nosiphiwo, L. PEC0748
Nosyk, B. PEC0526, PEC0529, PEE1368, PEE1376
Notter, J. PEC0596
Novak, R. PEB0148
Novak, R.M. PEC0358
Novitsky, V. PEA0002, PEB0308
Nowak, R. OAF0403
Nozza, S. **PEB0092**
Nsakala, B. PEE1595
Nsakala, B.L. LBPEB11
Nsame, D. PEA0073
Nsangi, B. **PEE1385**
Nsangi Kintu, B. PEE1639
Nsanzimana, S. PEC0445
Nsoh, M. PEE1427
Ntasis, E. PDE0104, PED0881
Ntinginya, N.E. PED1216
Ntirenganya, P. PEE1720
Ntlantsana, V. **PEB0208**
Ntogwisangu, J. OAD0503, PED1233
Ntshalintshali, N. OAC0806, PEB0088, PEC0732
Ntshuntsha, Z. PEF1810
Ntuli, A. PEA0047
Ntumase, N. PEE1634
Ntwayagae, B. PED1069
Ntwayagae, O. PEE1498
Nuamanya, A. PEE1667
Nugent, J. OAC0805
Nugent, R. PEE1379
Nugmanova, Z. **PED0874**
Nugroho, A. PED1068
Nulah, K. PEB0177
Nume, I. **OAD0904**
Núñez-Saavedra, I. **OAB0202**
Nunn, A. PEC0617, PED0772
Nunnari, G. PEB0119
Nuriana, E.D. PEF1899
Nurov, R. PEC0695
Nussdorf, L. PEC0733
Nussenzweig, M. PEA0060
Nussinov, T. PED1038
Nuwagaba-Biribonwoha, H. PED0781, PED1272, PEE1467
Nwabueze, E. PEC0569, PEE1446, PEE1457, PEE1495
Nwafor, E. PED0912
Nwankwo, G.I. PED0952
Nwankwo, O.N.O. **PED0952**
Nwankwo, O. PED0952
Nwaozuru, U. **PED1202**, PED1313, PEE1607
Nwogu, J. **PEB0244**
Nwokolo, N. PEC0367
Nxiba, X. LBPED31
Nyabiage, L. PEE1622
Nyabigambo, A. PDC0403
Nyabuti, M. **PEC0708**
Nyaga, M. **PED0971**
Nyagura, T. PEE1586
Nyagura-Madziro, T. PED0779
Nyakaana, P. PEB0310
Nyalali, K. **PEC0605**, PEE1685
Nyamatendedza, S. PED0969
Nyamathi, A. **OAD0303**
Nyamayaro, P. **PED0834**
Nyambe, L. PEE1517
Nyambi, N. PEE1431, PEE1440
Nyambura, C. **PEF1777**
Nyamhuno, S. PEC0585
Nyamugisa Ochora, E. PEB0300
Nyamukapa, C. PEB0105, PEC0429, PEE1470
Nyanaro, G. PDC0206
Nyandiko, W. PEB0308
Nyandiko, W.M. PEB0307
Nyanduko, M. PEC0655
Nyangu, S. PEB0135
Nyanjom, M. PED0768
Nyanplu, D. PEE1449
Nyanzi, A. PED1317
Nyarko, T. PEF1852
Nyasa, M. **PED1211**
Nyasulu, P. PEE1447
Nyato, D. LBPEC18
Nyblade, L. OAD0102, PED0769
Nyimbili, S. PEB0128
Nyinoburyo, R. **PDC0305**, PEE1409
Nyirenda, G. PEE1380, PEE1431, PEE1440, PEE1695
Nyirenda, L. PEE1338, PEE1659
Nyirenda, M. PED1223, PEE1652
Nyirenda, R. OAE0502, PDD0205, PEE1380, PEE1447, PEE1713, LBPEC21
Nyogea, D. PED1135
Nyombayire, J. PEC0445
Nyoni, C. **PEE1664**
Nyoni, N. **PDE0205**
Nyoni, T. **PED0820**, **PED1075**
Nyuma, E.J. PEC0473
Nyumbu, M. OAC0606, PEC0645, **PEC0735**
Nzala, S. PEA0068
Nzelu, C. PEC0484, PEC0486, PEC0726, PEE1423
Nzima, M. OAC0806
Nziwa, P. PEE1682
Nzuobontane, D. PEA0082

O

Oakes, W.J. LBPEE49
Oakley, A. PEE1584, PEE1716
Oanh, K.T.H. PEB0351
Obaikol, R. LBPEF55
Obanda, R. PEC0713, PED1290
Obanubi, C. PEB0139
Obase, K. LBPEF56
Obat, E.O. **PEE1560**
Obeng-Aduasare, Y. PDB0106, PEB0113
Obermeier, M. PEA0081
Oberth, G. **PDE0402**, OADLB0104
Obi, C. LBPEF56
Obiero, C. **PED0791**
Obiezu-umeh, C. PED1313
Obiezu-Umeh, C. PED1202, PEE1607
Obionu, C.N. PED0952
Obiora-Okafo, C. LBPEF56
Obizo, M. PEE1433
Obodou, E.-P. OAF0403
Oboho, I. PEB0137
Obong'o, C. PED1290, PEE1557, PEE1678
O'Bra, H. OAD0202, PEC0641
O'Brien, K. LBPEE49
O'Brien-Strain, M. PEE1374
O'Bryan, G. PEB0176
Obulutsa, T. PEB0088
Obwogo, P. PEE1622
Ocampo, L. PED1049
Ocasio, M. PEB0169
Ochanda, B. PEC0384, PEE1407
Ochaya, V. PED1300
Ocheretina, O. PEB0142
Ochiel, D. PEA0017
Ochieng, A. PEC0363, PEE1523
Ochieng, C. PEC0428
Ochieng, M. PEE1539, PEE1540
Ochillo, M. OAC0106, PED1322
Ochoa, A.M. PED0838, **PED0868**
Ochoa, L.E. PEE1724
Ochoa-Sánchez, L.E. PED0861
Ochonye, B. PEF1851
Ochwal, P. PEC0616, PED0791, OACLB0105
O'Cleirigh, C. PDB0203, PEC0665, PED0832, PED0901, PED0999
Ocon, Y. PDD0104
O'Connell, L. PDE0103
O'Connor, B. PEE1665
O'Connor, C. **PED1074**, **PEE1600**
O'Connor, S. PEC0376
Odeke, P. **PED1208**
Odeke, R.M. PEE1394
Odeny, B. **PDD0405**, **PED0828**, LBPEB08
Odeny, T.A. PED1084
Odera, D. PEE1407
Odero, L. PEC0503, PED1245
Odevall, L. OAA0403
Odhiambo, A.J. PED0800
Odhiambo, C. PEE1560
Odhiambo, F. **PDC0206**, PEC0701, **PED0894**, **PEE1630**
Odhiambo, G. OAD0302
Odhiambo, I.D. **PEE1551**, PEE1682
Odiyo, N. PEE1682
Odland, J.Ø. PEB0226
Odlum, M. **PED0904**
Odo, M. PEE1449, PEE1458, PEE1677
Odoh, D. PEC0726, PEE1423

O'Doherty, U. PDA0207
Odoke, W. **PEC0411**
Odondi, J. PEE1407
Odong, K. PEE1587
Odongo, P. PED1325
Odoom, E. PDD0506
Odoyo-June, E. **LBPEC19**
Oduor, P. PED0768, PED1274
Oduor, T. PEC0470
Oduor, T.H. PEC0365
Oetomo, D. **PDF0102**
O Faturiyele, I. PEE1626
Offe, J. PEF1827
Ofori-Atta, R. **PED1072**
Ofotokun, I. PED0854, PED0879
Ogada, F.W. PEC0365
Ogaz, D. PEC0481
Ogbanufe, O. PEB0301
Ogbonnaya, L. PEB0141
Ogbouji, O. OAE0105
Ogbu, O. PEA0008
Ogbuabo, M. PEE1498
Ogero, F. PEE1573
Ogih, A. PEE1483
Ogilvie, E. PEC0627
Ogilvie, K. PEE1410
Oginni, O. **PED0960**, PED1311
Ogirima, F. **LBPED38**
Ogle, R. PED0993
Oglesby, A. PEB0354
Ogolla, I. PEC0701
Ogunbajo, A. PEC0422, PED0772, **PED0966**, **PED1311**
Ogundehin, D. PEE1512
Ogundipe, A. PED0807
Ogwal, D. PEE1433
Ohaga, S. PED1322, OADLB0103
Ohagwu, P. PEE1604
O'Hallaron, C. PEC0369
O'Halloran, c. PEC0507
O'Halloran, C. PEC0481
O'Halloran, J. PEC0395, PED0836
O'Hara, C.A. **PED1034**
Ohler, L. PEB0131, PEB0132, PED1283, PEE1582, **PEE1634**
Ohtsuki, T. OAD0406
Oino, E. PEE1650
Ojamuge, G. PEE1719
Ojamuge, G.W. **PEE1708**
Ojedokun, J.P. PEB0115
Ojiambo, V. PEE1472, PEC0503, PED1245
Ojikutu, B.O. LBPEB13
Ojok, D. PEB0161
Ojoo, S. PED1274, PEF1897
Oka, S. PEB0236
Okafor, E. PEC0718
Okal, J. **PEE1384**
Okanda, J. OAB0404
Okanurak, K. PED1105
Okechukwu, E. PEE1563, PEE1579
Okedo-Alex, I. **PEB0141**
O'Keefe, G. PEA0060
Okeke, C. PED1153
Okeke, N.L. OAE0305
Okello, G. PED0933
Okello, J. PEE1433
Okello, V. OAE0105, PEC0723
Okesola, N. PEC0689
Oketch, C. PED1147
Oketch, D. PEE1551
Oketch, G. PED1164
Okeyo, F.O. PED1322
Okey-Uchendu, E. PEE1445
Oki, F. PEE1445
Okiria, A. **PEC0410**
Okiria, A.G. PEC0475
Okiya, B. **PEF1897**
Okoboi, S. PEB0283
Okochi, H. OAC0805, **PEA0084**, PEB0244, PEB0245, PEB0277, PEC0724
Okoli, C. OAD0903, **PED0773**, PED0787, **PED0808**
Okonko, I. **PEA0008**
Okonkwo, D. **PED1005**
Okonkwor, O. PED1130
Okore, J. PED1322
Okorie, G.S. **PEE1506**
Okorokwu, A. PED0912
Okoye, M. PEB0301
Okoyo, J.A. PEB0307
Okpara, M. PEC0677
Oksana, Z. PEA0018
Oku, A. PED0952
Okui, L. PDC0202, PEC0462, **PED1069**
Okuku, J. OAC0405, PEC0578
Okumu, G. PED1147
Okumu, M. **PED0908**, **PED0915**
Okushin, K. PEB0154
Okutoyi, S. **PED0895**
Okwero, M. PEC0664
Okwi, F. PEE1599
Okwuzu, J. PED1313, PEE1607
Olabarrieta, I. PEB0282
Oladeji, B. PED1130
Oladele, D. **PED1313**, PEE1607
Oladele, T. OAE0306, PED1132
Oladimeji, M. PEC0585
Olagunju, A. PEB0244
Olakunde, B. **OAE0306**, PEB0200, PED0927, **PED1251**
Olaleye, O. **PED1299**
Olango, K. PED0992
Olapeju, B. PED1321
Olarinoye, A. PEB0139
Olatosi, B. PEC0516
Olawepo, J. **PEB0200**
Olawo, A. PEE1556
Olawore, O. **PEC0387**, PEC0445
Olem, D. PED1097
Olender, MD, MS, S. PED1020
Olete, R. **PED1049**
Oletto, A. PEB0315
Oli, S. PEE1339
Olilo, W. OAC0805
Olio, W. OAB0702
Oliveira, A.C.S.d. PED1091
Oliveira, C. PEC0557, PED1303
Oliveira, M.C.P. OAC0505
Oliveira, R. PED0764
Oliveira, R.L.e.S. PED1122
Olivenstein, R. PEA0031
Olivero, R. PED0823, PED0814
Olivier, A.J. PEE1656
Olmedo, B. OAD0804
Olomi, W. **PED1216**
Olowe, O..A. PEB0131
Olsen, F. PEE1499
Olson, A. PEA0069
Olson, W. PEB0211
Olufadewa, I. **PEC0666**, **PEF1872**
Olugbosi, M. **OAB0502**
Oluoch, L. **OAC0106**
Oluoch, R.P. **PEC0649**
Oluwasina, F. PEC0726, PEE1423
O'Malley, G. PEB0176, PEC0474, PEE1687, LBPEC21
O'Malley, G. PEC0582
Oman, N. PEB0347
Oman, R.F. PED0837
Omanga, E. PED1322
Omar, A. PED0840
Omare, A. PEC0470
Ombima, L. **PEE1633**
Omero, S.T. PEE1419, PEE1559
Omgba Bassega, P. OAB0402
Omigbodun, O. PED1130
Omodi, V. PEB0285, PEB0286, PEC0394
Omollo, M. PEB0307
Omoluabi, A. PEE1512
Omondi, V.O. PEC0582
Omony, E. PEE1403
Omoro, G. PEC0503
Omosigho, K. PED1243
Omotayo, A. PEC0680
Omoya, M. OAC0106
Ompad, D. OAD0402
Onaluwa, O. PEB0114
ONANA ONANA, r. PED1185
Ondieki, C. PEC0428
Ondire, M. PED1274
Ondo, D. PEA0033, PEE1606, PEE1675
One, D. PEE1596
O'Neal, J. PEE1412
O'Neil, K. PEC0600
O'Neill, S. PEF1830
Ong, J. PEE1369, PEE1607
Ong, J.J. PEC0426, **PEB0104**
Ongeri, L. PED1164
Ongwen, P. OAE0705
Onifade, B. **PEC0726**, **PEE1423**
Onkware, R. PEE1650
Onokala, O. **PEE1483**
Onokala, O.B. **PEE1457**
Onono, M. PEA0030
Onovo, A. **PEC0586**
Onoya, D. PED0948
Onsomu, J. PEE1551
Onwe, E. **PED1243**
Onwuatuelo, I. PED0765
Onyango, A. PEE1592
Onyango, B. PEC0384
Onyango, M. PEC0613
Onyango, R. PDC0206, PEE1630
Onyango-Makumbi, C. OAB0505
Onyango Nyaywera, C. PEE1486
Onyealisi, K. PEE1512
Onyege, A. PEB0112
Onywera, H. PEA0050
Oosterhof, P. PEB0223
Opanga, B. PEB0129
Op de Coul, E. **PEC0479**, LBPEC17
Opel, F. PEC0655
Operario, D. PEC0422, PED1097, PEF1799, PEF1854
Opiyo, B. PED0840
Opiyo, L. PED1164
Opoku, J. OAC0504, PEC0530
Opondo, P. PED1269
Orchowski, L. OAD0203
Orech, J.B. PEE1433
O'Reilly, K. OAD0503, PED1233
Oreizy, F. PEB0101
Orel, E. **PEC0583**
Oreskovic, A. PEB0120
Orido, M. PEB0308
Orindi, B.O. PEE1605
Orkin, C. **OAB0302**, LBPEB16
Orkin, M. PDE0304
Orlando, M. PED1139
Orlando, S. PEB0129, PED0902, PED1126
Orlova, M. PEA0031
Orlova, T. LBPED37
Ormsby, N. OAD0704, PED0761, PED0770, PED1198
Ornelas Pereira, I. **OAD0605**
Ornstein, J.T. PED0926
Orock, E. PEA0073
Orogbemi, I. **PEE1446**, PEE1495
Orogbemi, T. PEE1483
Orrell, C. PEA0086, PEB0233, OAELB0102
Ortblad, K. PEC0686
Ortiz, D. **PEC0395**, PED0836
Ortiz, G. OAC0404, PED1286
Ortíz, B. PEC0543
Ortiz-Pérez, H. PEC0361
Ortiz Soto, X. PEE1456
Oruganti, G. PEE1491
Orvis, E. PEB0142
Orza, L. **OAF0404**, **PED1155**
Osaki, H. OAD0106, **PED0801**, PED0938, PED1242
Osakwe, C.E. **PED1083**
Osborn, L. PEB0147
Osborne - Smith, M. PEE1567
Osborne-Smith, M. PEE1501, PEE1632
Oseku, E. LBPEF55
Osero, J. PDC0205, PEC0642
Oseso, L. PEC0718
Oshima, N. PEB0236
Osiemo, D. PEE1682
Osilade, A. PEC0609
Osindo, J. PEE1605, PEE1608
Osinubi, M. **PED1260**
Osio, M. PED1297
Osiyemi, O. PEB0238
Oskarsson, J. PEB0211, PEB0357, PEE1641
Osman, F. PEA0050

Osman, M. PEE1390
Osna, N. PEA0072
Osorio, D. PEE1697
Osorio, G. OABLB0104
Osoti, A. PEB0179
Ospina-Norvell, C. PEE1641
Oster, A. PEC0522
Osuri, K. PEC0485
Otage, P. PEE1404
Otani, M. PEC0455
Otchere-Darko, J. PEE1656
Otedo, A. PEB0179
Otene, N.S. PED1183
Othman, A. PEC0415
Othman, A.A. OAC0306
Otieno, A.A. PEC0582
Otieno, B. PEF1800
Otieno, G. PED0768, PEE1557, PEE1678
Otieno, L. PEC0701
Otieno, M. PEE1427, PEE1608
Otieno Masaba, R. **PEE1438**
Otiso, L. PEC0428, PEC0649
Otmar, M. PEC0514
Ottaway, Z. LBPEB12
Otte, F. **LBPEA04**
Otticha, S. **PED1220**, OADLB0103
Otto, M. PEE1343
Otubu, N. PEB0202
Otwombe, K. PEB0315, PEC0398, PED1016
Ouarsas, L. OAF0306
Ouattara, E. PED0885
Ouattara, G. PEE1593
Oucul, L. **OAF0302**
Ouenzar, A. PEC0737
Ouk, V. PED1252
Ouma, D. PEB0294
Ounchanum, P. OAB0104
Ounda, N. OAC0106
Ouvrard, S. PEE1588
Ouya, D. PEC0755
Ouyang, J. PEB0145
Ouyang, L. PEC0656
Overmeyer, R. PEE1520, PEE1523, PEE1656
Overton, E.T. PEB0181, PEB0261, OAXLB0101
Owaraganise, A. OAC0805
Owarwo, N. LBPEF55
Owarwo, N.C. PEB0112
Owczarzak, J. PEC0419
Owembabazi, M. PED0867
Owen, A. PEA0086, PEB0244
Owen, L. PEC0639
Owens, J. PED1006, PED1018
Owhonda, G. PED1309
Owino, E. **OAF0102**, PEE1573
Owino, M. PED1228, PEE1384
Owiti, G. PEE1546
Owolabi, D. OAF0203, PEF1742, PEF1798, PEF1846
Owolabi, D.A. PED0912
OWONA, F. PED1185
Owuor, N. **PEC0652**, LBPEC19
Owuoth, J. OAB0602, PEC0720
Owusu, M. **PEC0594**
Owusu, S.E. **OAC0604**, **PEC0572**
Oyaro, B. LBPEB08
Oyaro, P. PDD0405, PED0828, LBPEB08
Oyebanji, O. PEE1700, **PEE1715**
Oyebanji, O.G. **PEE1718**
Oyedele, T. OAC0605
Oyedemi, T. PEF1790
Oyeledun, B. LBPED38
Oyewusi, L. PEB0140, **PEB0157**
Oyiengo, L. PEC0582, PEE1592
Oyuga, R. PEE1573, PEE1596, PEE1622

P

Pa, C.P. PEA0034
Pacanowski, J. PEB0122
Pacca, J. PEC0737
Packel, L. **PEE1435**, PEE1482
Packer, T. PED1280, PEF1878
Padgett, D. OAB0202
Padhye, N. PEC0716
Padian, N. OAD0702, PED1293
Padian, N.S. PEC0660
Padilla, M. PED0941, PDD0104
Page, K. PED1218, PED1301
Page, S. PEB0179
Pagtakhan, R. OAE0706, PDD0103, **PEE1518**
Pahar, B. OAA0307
Pahwa, S. OAA0406, PEA0024
Paiardini, M. PEA0056
Paige, M. OAC0404
Paine, E.A. **PED0968**, PED0984
Palafox, E. PDC0203, PEC0676
Palanee-Phillips, T. OAC0105, PEA0030
Palee, P. PDE0106
Palella, F. PEB0148, **PEB0215**
Palella, F.J. PEC0358
Palen, J. PEE1323, **PEE1335**, PEE1344, PEE1345, PEE1356, PEF1751, PEF1882
Palermo, T. PED0916, **PEE1657**
Paletta, A. PEA0044
Palich, R. PEB0355, **PEC0498**
Palilonis, A. PEE1722
Palini, S. PED1139
Palla, I. PED0902
Palma, B. **PED0847**
Palma, C. OAC0406
Palma, P. OAA0406, PEA0024, PEB0315
Palmer, S. OAA0403
Palombi, L. PED0902, PED1126
Pals, S. PEE1656, PEF1887
Palumbo, P.E. PEB0328
Pampaloni, A. PEB0119
Panda, S. PEE1555
Pande, G. PEE1496
Pandeli, K. PED0758
Pandey, A. PEE1555
Pandey, D.S. PEE1669
Pandey, L.R. PEC0537
Pandey, S.R. LBPEF56
Pandian, S. PED0812
Pando, M.d.l.Á. PEA0010, PEB0162
Pandu Kumar, G.K. **PEF1809**
Pandya, A. PEC0529, PEE1368, PEE1376
Paneda, C.C. PED0838, PED0868
Panichnantakul, P. PEC0657
Pankaj, P. PED1024
Pankam, T. PDB0304, PEB0103, PEC0657
Panos, Z. PEE1517
Panpet, P. PEE1469
Panpradist, N. OAB0704, **PEB0120**
Pant Pai, N. PEB0124
Panyam, S. PDE0406, PEE1637
Papadopoulou, M. PEC0727
Papamichael, C. PEA0086
Papasavvas, E. PDA0207
Pape, J.W. PEB0258, OAB0405, PEB0121, PEB0142, PEB0203, PEE1519, PEE1647
Pappas, A. PEA0006
Parashar, S. PEF1836, PEC0536
Paraskevis, D. PEB0099, PEC0727
Pardo, J. OAC0703
Pardo, S. PDC0203, PEC0676
Paredes, R. PDB0105, PEB0255, PEB0273
Paree, P. PEE1679
Pareek, P. PEE1669
Parekh, B. PEC0475, PEE1687, PEE1709
Parekh, Y.R. PEE1723
Parienti, J.-J. PEB0240
Parikh, S. PED1075
Parikh, U. PDB0404
Paris, C. LBPEF54
Park, C. **OAALB0104**
Park, J.N. **PEC0419**, PED1281
Park, L.S. **LBPEC23**
Park, S.H. PED0985
Parker, K. PED0868
Parker, R. PED1058, OADLB0102
Parkes-Ratanshi, R. LBPEF55
Parkkali, S. PEC0479
Parks, D. PDB0103
Parlette, A. OAD0602
Parlier-Ahmad, A.B. PEC0556
Parmejani, P. PEC0612
Parmley, L. **PEC0447**, **PED1231**, PEE1525
Parmley, L.E. PED0998
Parodi, A. PEA0025
Parodidi, F.M. **PED0848**
Paroni, L. PEE1570
Parrish, C. PEB0210
Parry, C. PEC0555
Parsons, D. PEE1524
Parsons, M.R. PEC0749
Parthasarathy, M.R. PEC0754, PDE0204, PED1099
Paruk, S. PEB0208
Pasansai, T. PDE0106, PEC0757, LBPED33
Pascale, J.M. PED0917, PED1146
Pascal Nji, A. PEC0512
Paschalaki, K.E. PDA0105
Pascoe, S. PEE1500, **PEE1534**, **PEE1624**, PEE1627, PEE1629
Pascom, A.R. PEB0222
Pascom, A..R.P. PEB0274
Pascom, A.R.P. OAC0704, PEB0220
Pashtoon, S.J. PEC0375
Pasipamire, M. PEC0723
Pasquereau, S. PEA0048
Passaes, C. PEA0004
Passavanti, G. PEB0253
Passawe, A. PEE1449
Passmore, J.-A. PDA0202
Passmore, J.-A.S. PEA0030
Passmore, J.S. PEA0050
Pasteur, J. **PEF1792**
Pastor-Ibáñez, R. **PEB0273**
Pastory, L. PEB0303
Patamasingh Na Ayudhaya, O. PEB0192
Patankar, P. **PED1316**
Patel, D. OAF0203, PEF1742, PEF1846
Patel, E.U. PED0890, **PED1037**
Patel, H. PEC0484
Patel, K. PEB0188, PEB0312, PEB0333
Patel, M. PEE1394, PEE1727
Patel, M.R. **OAB0504**
Patel, P. OAA0106, **PEC0480**, **OAC0803**, PEC0649, PED0932, PED1145, PEE1434, OAC0205
Patel, R. PDD0405, PEB0284, PEB0285, PEB0286, PEC0394, PED0828, LBPEB08
Patel, S.K. PED1238, PEE1367
Patel, S. **PEC0359**, PEC0567
Patel, V. PEC0492
Patel, V.V. PED1224, **OABLB0102**, PEC0637, PED0973
Patel-Abrahams, S. PEE1635
Paterson, J. PEE1520, PEE1656, PEE1523
Pathak, N. **PEE1669**
Patil, A. PEA0001
Patil, H. PEE1658
Patil, V. **PEF1825**
Pati Pascom, A.R. OAD0605, PDB0407
Patpeerapong, P. PEE1469, PEF1856
Pattanachaiwit, S. PDB0304, **PEB0103**
Pattanasin, S. PDC0105, **PEC0376**, PEC0409
Patten, G. **PEC0438**
Patterson, J. PEC0755
Patterson, P. PEB0344
Patterson, S. PED0873
Patterson, T.A. PED1277
Patterson, T.L. OAC0302, PEC0431

Patton, M. PEE1520, PEE1523, PEE1656
Pauchari, A. PDF0206
Paul, M. PEB0309
Paul, M.E. PEE1420, PEE1422
Paul, R. OAB0104, PDB0206, PED0893
Paula, V. OAB0507
Paulin, H. PEB0137
Paulino-Ramirez, R. **PED1116**
Paulo, R. PEC0574
Paulraj, A.K. PDE0204, **PEC0754**
Paul-Schultz, J. **PED0858**
Pavlakis, G.N. **OAA0304**, OAA0307
Pawar, A. PED0813
Pawong, K. PEC0409
Payne, D. PEC0474, PEE1687, PEE1713, LBPEC21
Payne, K. PEE1723
Paynter, H. OAC0802
Paz-Bailey, G. OAC0504, PED0926
Peacock, D. OAC0407, OAD0305, PED1157
Pearce, M. PDC0204
Pearce, M.E. PDD0106, PED1227
Pearson, C. PEB0267
Pearson, S. PDE0506
Peay, H.L. **OAD0704**, PEB0271, PED0761, **PED0770**, **PED1198**
Pebody, R. OAD0504
Pedrana, L. **PED0764**, PED1122, PED1304
Pedrola, M. PDF0204, PED0907, PED1166
Pedrosa, M. PEC0604
Peelay, J. PDB0304, PEB0346, PEC0659, PEE1469, PEE1485, LBPEE47
Peeler, D. PEF1763, PEF1875
Peeling, R. PEB0168
Peer, A.D. **PDC0405**
Peeters, M. OAB0402
Peifer, N. PEA0081
Peixoto, E. **PEF1838**, PEF1839
Pekon, S. PEC0500
Peluso, M. **OAA0102**, PEC0483, OABLB0104
Pemba, L. PED1188
Pembleton, E. PEC0631
Penchala, S. PEA0086
Penda Diagola, T. PED1306
Peng, J. OAB0702, **OAC0203**, OAC0805, PEC0655, PEA0061
Peng, L. **PED0961**, PED0997
Peng, X. PEB0145
Peng, Y. PEC0385
Pengnonyang, S. **PEF1856**
Penna Braga, L. PEA0078, PEC0449, **PED1073**
Pennington, M. LBPED37
Peratikos, M. LBPEC27
Pereira, E. PEC0574
Pereira, G. PEB0222
Pereira, G.F.M. OAC0704, PEB0220, PEB0274, PEC0519, PEF1889
Pereira, I. PEE1383
Pereko, D.D. **PEE1489**
Perez, C. PEB0344
Perez, G. PED0925, **PED1079**
Perez, M. PEC0513, PEF1878, PED0959
Perez, P. PEA0044
Pérez, J.C. PEC0543
Pérez, M. PEC0471
Perez Barragan, E. **LBPEB14**
Perez Elias, M.J. PEB0233
Pérez-Figueroa, R.E. PEC0550
Perez-Gilbe, MLIS, MPH, H. PED1096
Perez-Guzman, P.N. **PEE1352**
Pérez Orozco, B. LBPEB14
Perez-Patrigeon, S. PEA0027
Pericleous, C. PDA0105
Pericles, E.J. PEC0635
Permana, L. PEF1820, PEF1898
Permar, S.R. OAALB0102
Perno, C.F. PEB0253
Perno, C.-F. PEB0251
Perraut, C. PEF1802
Perrier, A. PEE1351
Perrin, G. PEE1728
Perrineau, S. OAB0402
Perrone, L.A. PEE1593
Perry, S. OAB0106, PEB0167, **PEB0298**, PED1125
Perry, T. PED0940
Person, A.K. OAB0202
Pessoa, C. OAALB0103
Peter, M. PEE1552, PEE1731
Peter, T. PEE1598
Peters, K. PED1049
Peters, P. PEC0506, **PEC0622**
Petersen, I. PEE1487
Petersen, M. OAB0702, OAC0203, PEC0655, PEC0708
Petersen, M.L. OAC0805
Peterson, J. PED0970
Peterson, M. PDC0306, PEE1617
Peterson, N. PEC0748
Petit, B. PEF1826
Petlo, C. PDC0202, PEC0462, PED1069
Petrash, O. **PED1259**
Petretti, S. **PED0794**
Petropoulos, C. PDB0402
Petropoulos, C.J. PDB0406
Petros De Guex, K. PED0900
Petrus, J. OAB0106, PED1125
Petrus, R. PEE1487
Pettifor, A. OAC0407, OAD0305, PEC0524, PED0958, PED1157, PED1282
Pettifor, A.E. PED0886, PED1142, PED1143
Pettifor, J.M. OAB0105
Peytavin, G. PEB0122, PEC0703
Pfeiffer, E.J. PED1167
Phaengnongyang, C. PED1206, PEF1856, OAELB0103
Phaladze, N. **PED1273**
Pham, K.O. OAE0204
Pham, L.Q. PDE0102
Pham, S. OAE0204
Pham Thai, H. **PEE1370**
Phan, H. OAE0802
Phan, H.T.T. OAF0305
Phan, L. PED0937
Phan, T. OAE0802
Phanengnongyang, C. PEE1469
Phan Minh, T. OADLB0105
Phan Thi Thu, H. PEC0505
Phanuphak, N. OAD0704, OAE0702, PDB0204, PDB0304, PDC0106, PDE0106, PEB0325, PEB0346, PEC0444, PEC0657, PEC0659, PEC0757, PED0761, PED0770, PED1187, PED1198, PEE1469, PEE1485, PEE1542, PEF1856, OACLB0101, OAXLB0101, LBPED33, LBPEE47
Phanuphak, P. OAE0702, PDB0204, PDB0304, PDE0106, PEB0103, PEB0123, PEB0346, PEB0353, PEC0444, PEC0659, PEC0757, PED1187, PEE1469, PEE1485, PEE1542, PEF1856, LBPED33, LBPEE47
Pharr, J. PEB0200, PED1251
Pharris, A. PDC0207, LBPEE53
Phaswana-Mafuya, N. PEF1844
Phate, R. PEE1544
Phatsoane, M. PEE1717
Phau, M. PED1252
Phelanyane, F. **OAC0705**
Phelps, B. OAB0703
Phengrasamy, T. PEE1484
Phetlhu, D. PED1076
Phetlhu, R. PDD0306
Philbin, M.M. **PUB002**, **PUB003**
Philibert, P. PEB0165
Philip, S. PEC0391, PED1280
Philippe, S. PED1305
Phillips, A. PEB0096, PEC0367, PEC0477, PED0951
Phillips, A.N. OAD0504
Phillips, L. PEE1362, PEE1382
Phillips, N. **PDA0107**, PDB0205, PEB0323, PED0821
Phinius, B.B. PEA0077
Phiphatkhunarnon, P. PED0990
Phiri, A. PEE1584, PEE1716
Phiri, B. PEC0571
Phiri, I. PEB0304
Phiri, K. PED1223, **PEE1402**, PEE1652
Phiri, M. PEB0161, **PEF1774**
Phiri, M.E. PED1127
Phiri, M.M. **OAE0504**, **PEC0580**
Phiri, S. PDD0205, PEC0753, PED1127, PED1184
Phohole, M. PEC0650
Phokojoe, M. LBPEE44
Phonphithak, S. PEB0204
Phorng, C. **PEF1871**
Phoso, M. **PDD0205**
Photisan, N. LBPED33
Phuengsamran, D. PED1078, OAELB0103
Phuka, J. PEE1402
Phunkron, A. LBPED33
Pialloux, G. PDB0302
Pialoux, G. PEB0342
Pichardo, J.I. PEF1833
Picho, B. PEE1401
Pichon, L. PEE1480
Pick, N. PED0767, PED1165
Picone, C. PEC0612
Pienaar, J. **PEC0717**
Pierone, G. PEB0234
Pierotti, C. PED0816
Pierre, C.P.J. OAB0405
Pierre, L. PEE1519
Pierre, S. **OAB0405**, PEB0121, PEB0258, PEE1519, PEC0418
Pierson, A. PEE1720
Pierz, A. PEA0073
Pietersen, I. **PEE1577**, PEE1709
Pietersen, I.C. PDE0404
Pikora, C. OABLB0101
Pilcher, C. PEB0267, PEC0483
Pilic, L. PEA0068
Pilkinton, M. PDB0102
Pillay, D. OAE0505, PED1288
Pillay, L. **PEF1776**
Pillay, M. PED1172
Pillay, S. PEB0094
Pillay, Y. PEE1520, PEE1523, PEE1656, PEE1729, PEE1733
Pilotto, J.H. PDA0103
Pilusa, S. PED0755
Pimenta, C. PEC0715, LBPED35, LBPED36
Pimenta, M.C. PEC0393
Pimental De Gusmao, E. PEE1387
Pimentel, E. PED1135
Pimentel, G. PEC0612
Pimentel De Gusmao, E. PED0817, PED0822, PED0826
Pimentel De Gusmão, E. PEE1383
Pina, C. PEE1347
Piña, C. OAE0206
Pineda Antunez, C. **PEE1330**
Piñeirúa-Menéndez, A. PED0980
Pines, H. PEC0431
Pinheiros, L. PEF1869
Pinho, R.E.G.G. OAC0704
Pinsky, B. PEB0105
Pinto, J.A. OAC0704
Pinto, R. PEE1533
Pinto, V. PEC0368
Pintye, J. PEA0084, **PEB0277**, PED1173, **PEE1546**
Pinzon, R. PEC0395, PED0836

Piper, J. PEC0688, PED1128, PED1158
Pipkin, S. **PEC0472**, PEC0501
Piqueras, A. PEB0299
Pires, J. PEE1515, PEE1613, PEE1618
Piske, M. PEC0529
Pitasi, M. PEC0359, **PEC0567**
Piwowar-Manning, E. OAXLB0101
Piwowar-Manning, E.M. PEC0707
Planelles, V. OAA0204, PEA0064
Plankey, M. PEC0463
Platt, L. **PEC0364**, PEC0413, PEC0426, PEC0477, PEF1843
Pleaner, M. OAC0105
Plenel, E. PEB0342
Pliakas, T. OAF0303
Plotko, M. **PEE1538**
Ploton, J.-R. PEF1829
Plummer, F. PDA0205
Poblete, G. PDA0102
Podlaha, O. OAB0205
Podzamczer, D. PDB0105
Poirier, C. PEB0227
Poitevien, V. PED1237, PED1239
Poku, N. PEE1341
Poku, O.B. PED1269
Pol, S. PEB0342
Polanco, D. PEB0169
Poli, A. PEB0250
Policarpo, S. **PEB0207**
Policek, N. PEF1862
Pollack, L. OAD0703, PEC0709, PED0970
Pollack, T. OAF0305
Pollard, R. PEE1642, PEE1703
Pollock, B. PEC0752
Pollock, K. OAA0106
Polo, M.L. **PDA0102**, PEA0028
Polon, M. PEC0368
Poluektova, L. PEA0072
Polyak, C. OAB0602
Polyak, C.S. PEC0720
Ponatshego, P. PDE0507
Ponde, T. **PEF1753**
Pondi, J.-E. PEB0106
Pons, M. OAB0304
Poole, V. **PEC0701**
Pooler-Burgess, M. **PEE1408**
Poortinga, K. **PEC0471**, PEC0513
Pooyak, S. PDD0106, PED1227
Popoola, V. PEE1446
Popson, S. OAB0706, PEB0293
Pornpaisalsakul, K. **PEC0673**
Porter, J. PEE1451
Porter, S. PEE1520, **PEE1523**, OAD0902
Portes Ozório Coelho, L. PEB0090
Portilla, J. OAB0304
Porto Bispo, G. PEC0552
Posada, M.P. OAC0703
Posita, P. PDB0304, PDE0106
Post, F. **LBPEB12**
Poteat, T. **PEC0405**
Potterton, J. PEB0327, PED0755
Potts, W. PED1274
Poultreniez, E. PEF1792, PEF1823
Pourette, D. **PED1255**
Pourhassen, N. OAALB0103
Pousada, B. PED1241
Power, C. OAC0205
Powers, S. LBPEF58
Powis, K.M. PEB0313
Poynten, M. PED0975
Pozniak, A. OAC0202, PEE1621
Prabakar, M. PED1108
Prabhakaran, M. OAALB0101
Prabhakaran, S. PEE1328
Prabhu, S.M. PED1120
Prabjunteuk, C. LBPEE47
Prado, I. PED1138
Prado Generoso, I. **PEC0694**, PED1011
Pradsarakee, C. PED1123
Prahbu, V. PEE1517
Prainito, A. OAB0705
Prajapati, A. **PEF1867**
Prajapati, G. OAB0604
Prajapati, H. PEA0054
Pramono, R.A. LBPEF60
Prandini, M. PEC0612
Praptoraharjo, I. **PED1012**
Prasad, D.R. PED0949
Prasad, N. PEA0054
Prasad, R. PED1310, **PDD0206**, PEC0684, PED0996, PED1053, PEE1413
Prasad, V.S. PED1254
Prasarakee, C. PEB0317, PEB0318
Prata Menezes, N. **PED0890**, PED1037
Prayuda, A. **PEF1773**
Préau, M. PEC0448
Preko, P. OAE0405, PEE1625, **LBPEE44**
Prem, K. PED1040, PED1298
Prencipe, L. PEE1657
Prendergast, A. OAA0105
Presanis, A. PEC0507
Prestage, G. OACLB0103
Pretanvil, J.-A. **PED1305**
Pretorius Holme, M. PEE1371
Prevelato Athaide Filho, E. PEB0160
Price, J. PDC0303, PEC0509
Price, K. PEC0548, PEC0627
Price, M. PEA0017, PED1058
Price, N. PEE1704
Priest, J. PEB0354
Prieto, L. PEB0282, PEB0299, PEB0337
Prieto, P. PEA0064
Primbetova, S. **OAE0805**, PED0887, PED0968, PED0978, PED0984, PED1035, PED1038, PEE1436
Prins, J.M. PEB0271
Prins, M. OAC0303, PDB0303, PDB0306, PED1101
Proenca, N. PEC0711
Prokhorova, T. OAE0605
Prokopczyk, I.M. PEA0063
Promjantuek, K. OACLB0101
Promthong, S. PDB0304, PDE0106, LBPED33
Protiere, C. **PED0865**
Prudden, H. PEE1352
Pruden, H. PDC0204
Prueksakaew, P. OAD0704, PED0761, PED0770, PED1198
Prusente, S. PEE1656
Pry, J. OAE0102, **PDA0104**, **PEC0752**, PEE1443
P. Sakthivel, S. **PEC0423**
Psaros, C. PEC0600, PED1285, OAXLB0101
Psichogiou, M. PEC0727
Puangmala, P. PEC0388
Puccinelli, B. PED1138
Puffer, E.S. PEE1671
Puga, A. PEB0309
Pugh, D. PED0780, PED1175
Puhlmann, I. PED1095, PED1106
Puig, J. PDB0105
Pui Li, W. PEB0213
Pujari, S. PEB0191
Pujol, F. PEC0360
Pule, P. PED1180
Pulerwitz, J. OAC0407, OAD0102, OAD0305, PED0778, **PED1157**, PEE1672
Pulido, F. PEB0260, PEB0337
Pullen, S. **PEA0069**
Punekar, Y. **PDB0103**, PDB0104
Pungpapong, G. OAE0702
Pungpapong, N. OAELB0103
Puntiel, D. PEB0198, PEB0199
Puoti, M. PEB0092
Puren, A. PEC0520, PEC0528
Puri, A. PED1028
Puri, A.K. PEC0661, PEE1494, PEE1653
Purinton, S. PEC0358
Puriton, S. PEB0148
Puthanakit, T. OAB0104, PDB0206, PDC0106, PEB0325, PEC0657, PEC0673, PED0893, PEE1603
Putoto, G. OAC0202
Putri, S. PEF1899
Puttkammer, N. PEB0210, PED0828, PEE1728
Pyra, M. LBPEC29

Q

Qavi, A. OABLB0103, OAXLB0104, LBPEB07
Qayiya, Y. LBPEC24
Qazizada, R. PEC0375
Qian, H. PEC0656, PEC0518
Qian, H.-Z. PEC0573, **LBPEC27**
Qian, Y. PEC0364
Qiang Yao, Z. PEA0039
Qiao, S. PED0799, PED0855, PEF1755
Qin, C. PEA0085
Qiu, L. OAC0706
Qiu, T. PED1289
Qiu, Y. PEA0009
Qiu, Z. PEB0197
Qiya, B. PEC0600
Quame-Amaglo, J. PDE0105
Quaye, S. **PEC0464**
Queiroz, A. **PED0918**
Queiroz da Silva, A. **PEF1869**
Quilantang, I. PEF1799, **PEF1854**
Quilantang, M.I. PEC0422
Quillet, C. PEB0351
Quinn, C. PDE0202, PEE1479
Quinn, E. PEB0348
Quinn, K. LBPEB12
Quinn, T.C. PDC0405
Quiroga, C. PEB0180
Quiroga, F. PEA0040
Quiros-Roldan, E. PEB0340
Quynh, B.X. PED1170

R

R, S. PEE1653
Raberahona, M. **PEC0496**
Rabezanahary, H. **OAA0402**, PEA0026
Rabie, S. PEC0678
Rabinovich, R.D. PEA0010, PEB0162
Rabkin, M. OAD0104, OAE0405, PDD0204, PDE0307, PEE1379, PEE1383, PEE1392, PEE1535, PEE1625, LBPEE44
Rabold, E.M. **PEB0095**, **PEE1727**
Racine, G. OAA0402, PEA0026
Radebe, F. PEC0520
Rademaker, T. LBPEC26
Rademeyer, M. PEE1717
Radich, N. LBPED37
Radix, A. PED0889, PED0898
R Adler, M. PEE1646
Radtchenko, J. PEB0354
Radusky, P. PED1095, PED1100, PED1106
Radusky, P.D. **PED1092**, PED1107
Rae, A. PED1175
Rafanomezantsoa, E. PEC0496
Rafeeq, F.N. PEE1381
Raffi, F. PDB0302, PEB0355, PEB0240
Rafful, C. PEC0527
Raghavan, S PED1028
Raghavan, S.S. PED0928, PED1108, PEE1494, PEE1653
Raghunathan, P. PEE1527
Ragone, L. PEB0217
Rahane, G. PDD0406
Rahman, L. PEC0559
Rai, A. PEC0402, PED0924, PED0953
Rai, M. PEB0166
Raifman, J. PED0987
Raizes, E. PEE1656
Raj, A. PEB0348
Raj, D. PEB0213
Rajab, S. PEE1700

Rajabiun, S. **PED0899**
Rajakumari, T PED1108
Rajan, S. PED0928, PEB0287, PEC0423, PEC0499, PEC0546, PEC0671, PED1249, PEE1566, **PEE1637**
Raj Anand, V. PEF1836
Rajasuriar, R. **PEB0213**, PED0783
Raj Pandey, S. PEB0139
Rakhmanina, N. PDB0403
Rakotoarivelo, R.A. PEC0496
Rakotomalala, R. PEC0496
Rakotomijoro, E. PEC0496
Rakshasae, B. PEC0423
Rakshase, B. **PEC0546**
Ralayo, N. PEC0748
Ralfe, Y. **PEC0600**
Rallón, N. PEB0273
Ralph, L.J. PEC0660
Ramaabya, D. PEE1498
Ramadhan, A. PEC0461, PEC0599
Ramadhani, A. PEC0414, PED1082
Ramadhani, H.O. PEE1573, PEE1650
Ramakrishnan, L PED0928, PED1028, PEE1494, PEE1653
Ramakrishnan, L. PEE1494, PEE1653, **PED1108**
Ramanlal, N. OAB0507
Ramapepe, M. PEE1543, **PEE1544**, PEE1545
Ramathebane, M. PED1195
Ramautarsing, R. OAE0702, PDB0204, PDB0304, PDE0106, PEB0325, PEB0346, PEC0444, PEC0659, **PEC0757**, PED1187, PEE1469, PEE1485, PEE1542, LBPED33, LBPEE47
Rambarran, N. **PEC0674**
Ramendra, R. PEB0145
Ramgopal, M. OAB0205, **OAB0403**
Ramirez, B. OAF0104
Ramirez, C. PEB0180, PEA0053
Ramirez, M. PEB0216
Ramirez, S. PDE0305
Ramirez Hinojosa, J.P. **PEB0259**
Ramírez Rodríguez, I.R. PEA0027
Ramko, K. PEC0470
Ramogola-Masire, D. PEB0163
Ramontshonyana, K. PEB0163
Ramos, A. **PEC0692**, LBPED35
Ramos, J.T. PEB0282, PEB0337, PEB0296, PEB0299
Ramos, M.E. PED0925, PED1079
Ramos, M. PEC0622, PEF1878
Ramos, O.L. OAC0703, PEB0180
Ramos, R. PED0925, PED1079
Ramotsababa, M. PEE1498
Rampa, S. PED1269
Rampogal, M. PEB0354
Ramroth, H. PEB0229
Ramsuran, V. PDA0202
Rana, D.R. PED1027
Rana, D.R.K. LBPEE50
Rana, R. PED0831
Rana, S. PEE1539, PEE1540
Ranatunga, D. PEE1516
Randall, L. PEC0721
Randi, A.M. PDA0105
Randria, M.J.d.D. PEC0496
Ranebennur, V. PED1077, PEE1530
Rang, C. PED1252
Ranga, U. PEA0054
Rangel, G. PEC0527, PED1277, PEF1741
Rangel, H. PEC0360
Ranji, K. PEF1897
Rannard, S PEA0086
Ransome, Y. PED0985
Ranville, F. PED0877, PED1165
Rao, A. OAE0104, **OAELB0104**, LBPEE53, PED1133
Rao, C. PDC0303
Rao, D. PED0798
Rao, M. OAA0304, OAA0307
Rao, S. PED0973, PEC0400, PEC0620, PEE1653
Rapaport, R. PEB0094
Rapiti, R. PEE1700, PEE1715
Rapley, M. PEC0674
Rapolai, L.M. **PEC0465**
Rapoud, D. PEB0351
Rapues, J. PDC0203, PEC0676
Rasheed, A. PEC0375, PEC0495
Rasi, M. PEC0596
Rasiah, R. PEE1350
Rasmussen, T. PEA0060
Rassokhin, V. PED0835
Ratanalert, W. **PEB0346**, LBPED33
Rattue, M. **PED0793**, PED0794, **PED0804**
Ratzlaff, A. PED1165
Raulfs-Wang, C. PEE1339, PEE1451
Ravelomanana, N. PDD0404
Ravi, K. PDA0106, PEA0046
Rawat, N. PED0831, PED1027
Rawat, S. **PEC0628**, PEC0665, PEC0690, **PED1224**, PED1232, **PED1249**
Rawlings, M.K. **PEB0354**
Rawstorne, P. PED1085
Raybin, J.L. PEB0338
Raychaudhury, S. PEC0440
Raymond, H. PED0806
Raymond, H.F. PED0926, OAC0504
Raymond, J. OAB0103, OAD0802
Raymond, J.F. PED0871
Razafinambinintsoa, T. PEC0496
Razak, M.H. PED1265
Razeek, R. PEB0238
Read, P. OAC0205
Reagon, V. PEF1887
Reback, C.J. PDD0302
Rebchook, G. PEC0747, **PED0970**
Rebeiro, P.F. PEB0218
Reberintwari, M. PED0977
Rebombo, D. OAC0407, OAD0305
Rech, D. PEE1520, PEE1523, PEE1656
Reddy, A.K. PEC0532
Reddy, D.C.S. PEE1555
Reddy, K. **PEA0058**, PED1158
Reddy, N. PEA0058
Reddy, S. PEE1658
Redmond, S. PED1131
Reed, J. OAE0704, PEB0294, OAALB0103, LBPEC18
Reed, N. PEE1386
Reed, S.G. OAA0307
Reepalu, A. PEB0275
Rees, K. OAE0404, PEC0381, PED1248, PED1266, **PEE1707**
Reese, H. OAC0105
Reese, M. PED1019
Register, H. PEA0006
Regner, R.S. **OAF0105**
Regonamanye, T. **PEC0751**
Rehema, N. PED0788
Rehman, A. PEB0175
Rehman, A.M. PEB0331
Reid, M. **PEE1342**, PEE1466
Reidy, W. OAE0405, PEC0730
Reif, S. **PED0798**
Reifeis, S.A. PEC0707
Rein, S. **PEB0096**
Reina, G. PEA0005, PEB0117
Reinacher, M. PEC0596
Reinikainen, K. LBPEA01
Reis, J. **PEC0737**
Reis, P. PEC0411
Reis, R. PEC0723
Reiss, P. LBPEC17
Remeeva, J. LBPEA02
Remes Lenicov, F. **PEA0044**
Remien, R. PED0797
Remien, R.H. PED0871, PED0987
Ren, X. PDA0205
Renatus, K. PEB0133
Renaud, C. PEB0334, PEB0335
Rendina, H.J. PED0923, PED0982
Renju, J. OAD0106, PED0801, PED0938, PED1242
Rennie, S. OAD0704, PEB0271, PED0761, PED0770, PED1198
Rentrope, C.R. OAE0305
Rentsch, C.T. LBPEC23
Resch, S. **PEE1371**
Resino, S. PEB0150
Restar, A. **PEC0422**, PED0966, PED1311, PEF1799, PEF1854
Reswana, W. PED1012
Reswana, W.A. PED1090
Reuben, E. PEE1344, PEE1345, PEE1349, PEE1356, **PEE1360**
Revivo, S. LBPEC26
Reyes, L. PED1087
Reyes-Díaz, E.M. **PED0962**, **PED0963**
Reyes-Teran, G. PEB0120
Reyes-Terán, G. PEB0258
Reynes, J. OAB0402, **PEB0241**
Reynolds, A. PED1046
Reynolds, G. PEE1696
Reynolds, L. **PED0775**
Reynolds, S.J. PEE1646, PDC0405, PEE1547
Reynolds, Z. PEE1672
Rezaei, E. PED1171
Rezai, R. PED1031
Rezvan, P.H. PED1031
R. Friedman, M. PED1138
Rhee, M. PEB0265
Ribaudo, H. PEB0181
Ribeiro, A.L.P. PEC0412
Ribeiro, R. PED1304
Ribeiro-Alves, M. PDA0103
Ribera, E. PDB0105
Rice, B. PEC0413, PEC0477, PEC0510
Rice, M. PED1131
Rich, K. PEC0538, LBPED37
Richardson, B. OAB0704, PED1084, PEE1592
Richardson, C. PEB0168
Richardson, P. PEC0707, OAXLB0101
Richer, A. PEF1780
Richman, B. PED0773
Richterman, A. PEB0232
Rick, F. PDF0204, PED0907, PED1166
Riddington, D. PED0794
Ridgeway, K. PED1284
Riegel, L. PEC0629
Riese, S. PEE1639
Rieß, F. PEC0425
Riffenberg, K. OAE0203
Rifkin, M. PED0993
Riger, K. OAE0506
Rijnders, B. PEB0240
Rijnders, B.J. PDB0306
Rijsdijk, F. PED0960
Riley, E.D. **PEB0352**
Riley, E.R. OAE0406
Rinaldi, S. PEA0024
Rinehart, A. OACLB0101, OAXLB0101
Rinke de Wit, T. OAC0202, PEE1621
Rinke de Wit, T.F. PEC0365
Rio, P.d. PEA0056
Rista Aditya, E. PEF1820
Ritter, N. PED0942, LBPEF61
Ritterbusch, A. PDD0302
Rittiwong, N. **PED1206**, PEE1469, OAELB0103
Ritz, J. PEB0245
Ritzenthaler, R. PED1070
Rivadeneira, E. OAB0504, OAB0703, PEE1727
Rivas, J. PED0847
Rivera, A. PED1057
Rivera, K. **PEF1747**, PEF1749

Rivera, V. PEB0142
Riviere, C. PEB0094, PEB0142
Riyadi, A. PEF1773
Rizk, C. PEB0153
Rizzardini, G. OAB0403, PED0833
R. Kekitiinwa, A. PDC0408
Roan, N. PDA0203
Robbins, G. LBPEB13
Robbins, R. **OAB0104**, OAD0802, PED0871
Robbins, R.N. **OAB0103**, **PDB0206**, PED0893
Roberts, A. **PEE1375**
Roberts, E. OAELB0102, LBPED31
Roberts, J. OAC0605
Roberts, O. PEF1872
Roberts, P. PED1172
Roberts, S. PED1220
Roberts, S.T. **PEC0688**, **PED0769**, **OADLB0103**
Roberts, T. PEE1352
Robertson, K. PEB0244
Robertson, M. OAB0302, OAB0305
Robineau, O. PDB0302, **PEB0229**
Robinson, D. PED0889, PED0898
Robinson, S. PEC0622
Robinson, W. PEC0597
Robison, E. PEA0053
Robledo, J. PED0777
Robles, G. PED0946
Robson, I. OAE0503, **PED1223**, PEE1454
Roca, C. PDE0503
Rocha, C. PEA0049
Rocha, F. PEC0417
Rocha, M. PEC0463, PEC0468, PEC0508
Rocha, S. PEC0368
Rocha-Jimenez, T. PED1277
Roche, M. PEA0060
Rock, A. **PED0959**
Rodes, B. PEB0212
Rodger, A. PEB0096, PEC0367
Rodger, A.J. OAD0504
Rodrigues, J. PEF1863
Rodriguez, B. PEC0450
Rodriguez, C.A. PEF1775
Rodriguez, C. PDC0203
Rodriguez, C.S. PEC0676
Rodriguez, E. PDC0203, PED1265
Rodriguez, K. **PED1013**
Rodriguez, M. PDB0402
Rodríguez, D. PEB0180
Rodriguez-Barradas, M. LBPEC23
Rodriguez-Centeno, J. PEB0212
Rodríguez-Díaz, C.E. PED0913, PEF1788
Rodriguez-Galet, A. PEB0117
Rodriguez-Lauzurique, R.M. PED1116
Rodríguez-Mora, S. OAA0204, PEA0064
Rodríguez Pérez, V. LBPEB14
Rodriguez Sherman, H.R.S. PED1077
Rogawski McQuade, E. LBPEF58
Rogers, A. **PEC0736**, **PEF1879**
Rogers, B. PEC0617
Rogers, D. OAALB0101
Rogers, J.H. PEC0447, PED0998, PED1231
Rogers, R. **PEB0089**
Rohamare, H. PEB0101
Rohr, O. PEA0059
Roingeard, P. PEA0021
Rojas, J. PEC0468, PDB0105, LBPEB15
Rojas Castro, D. OAF0306, PEC0629, PEC0646, PED0759, PED0865, PED0942, LBPEF61
Rojas-Rojas, M.M. PEB0180
Rojo, P. PEB0315
Rojo Conejo, P. OAA0406
Rokx, C. PEB0240
Rolla, V.C. PDA0103
Rolle, P. PED0878, PED1197
Rolon, M.J. PDA0102
Rolón, M.J. PEA0028
Rolston, M. PEA0049
Romanelli, M. PEE1468
Romano, P. PEC0568
Romero, C. PEC0563
Romero, L. PEF1775
Romero, M. PED1095, PED1100, PED1106, PED1107, **PEF1900**
Romero-Espinoza, A. PEB0169
Rompalo, A. PEA0050
Romyco, I. LBPEF60
Ron, R. PEB0189, PEB0225, PEB0237
Ronan, A. PEC0706, PEE1382, PEE1602
Rondinelli, I. PEE1383
Ronen, K. **PED0819**
Rongram, N. PED1187
Ronoh, A. PEB0129
Rooney, J. OACLB0101, OAXLB0101
Roos, A. PEB0331
Roos, R. PED0755
Roose-Snyder, B. PEF1815, PEF1880
Rorie, M. PEC0400, PEC0620
Rosa, A.L. **PED1194**
Rosadiño, D. PDC0102
Rosadiño, J.D. **OAE0706**, OAF0105, **PDD0103**
Rosapep, L. PED0760
Rosati, M. OAA0304, OAA0307
Rosca, P. LBPEC26
Rose, S.M. PEC0707
Rosen, J.G. PED1062, PED1063, **PED1281**, **PED1321**, PEE1547
Rosen, M.A. PEB0280
Rosen, S. PEA0065, PEB0151, PEB0348, PEE1500, PEE1624, PEE1626, PEE1627, PEE1629
Rosenara, H. PDD0206
Rosenberg, A. PED0762, PED0892, **PED1162**
Rosenberg, N. PEE1607
Rosenberg, N.E. PEE1694
Rosenberg, P. PED1204
Rosen-Metsch, L. PEC0529, PEE1376
Rosenthal, E. PEC0733
Rosenzvit, M.C. PEA0010
Roshchupkin, G. PEC0623
Ross, C. PEE1721
Ross, J. PEB0191, PEC0397
Ross, L.E. PED0780, PED1175
Ross, R. **PEC0534**
Ross, Z. PED0926
Rossenu, S. PEB0264
Rossetti, B. PEB0250
Rossetto, M. PEB0143
Rossi, C. PEB0194
Rossi, M. PEB0173, PEB0190
Rossi, P. OAA0406, PEA0024, PEB0315
Rossi, S. PED1036, PEB0172
Rossotti, R. PEB0201
Rossouw, T. PEB0120
Rostom, G. PED0942, **LBPEF61**
Rota, G. PED1164
Rota, R. PED1164
Roth, E. PEC0434
Rotheram, M.J. PED1031
Rotheram-Borus, M. **PEC0678**, **OAC0702**
Rotheram-Borus, M.J. PEB0169
Rouhani, S. PEC0419
Rouleau, D. PEB0227
Roungprakhon, S. PEC0628
Rourke, S. PEB0124
Rourke, S.B. **PED0800**, PED1175
Rousseau, A. OAB0203
Routledge, I. PED0793
Routy, J.-P. **PEB0145**
Rouveau, N. PED1255
Roux, H. **PEA0055**
Roux, P. **OAC0305**
Rouzier, V. OAB0405, PEB0121, PEB0258
Rouzioux, C. OAA0103, PEA0004, PEB0342, PEC0448, PEC0703
Rovinskyi, M. PEF1747
Rowe, C. PEB0347, PED1004, PEC0399
Rowe, E. **PEE1325**
Rowley, C. PDB0405
Royal, A. **PEC0547**
Roybal, R. OAC0602
Roychoudhury, P. **OAA0405**
Rozanova, J. PED0786, PED1042, LBPED37
Rozanova, Y. **PED0859**
Rozario, A. OAD0604, OAE0704, PED1302, PEE1543
Rozental, Y. OAE0805, PEE1436
R. Pâquet, M. PEB0227
Ruan, Y. PEC0456, LBPEC27
Ruanto, J.D. PEE1518
Ruark, A. PED1159
Ruballos, G. PED0838
Ruberintwari, M. PEC0575, PED0843
Rubin, L.H. **PEB0171**, PEB0170, PEB0214
Rubin, P. PED1030
Rubio-Garrido, M. **PEA0005**, **PEB0117**, PEB0296, PEB0337
Rucinski, K. **PEC0373**, **PEC0407**, OAELB0104
Rudd, D. OAB0302
Ruderman, S. **PEC0450**
Rudgard, W. PDE0304
Rudgard, W.E. PED0818
Rudolph, D. OAA0203
Rueannak, J. PEB0346, PEC0444, PEC0659, PEE1485, LBPED33
Ruel, T. OAB0702, OAB0706, **PEB0293**
Ruel, T.D. OAD0806
Rufai, Z. **PEC0569**, PEE1446, PEE1495
Ruffner, M. PEE1323, PEE1335, **PEE1344**, PEE1345, **PEE1356**, PEE1360, PEF1751, PEF1882
Rufino, E. PEC0552
Rufino, É. PED1140
Ruggiero, A. **PEA0024**
Ruggiero, C. **PEE1434**
Ruiter, R.A. PED0948
Ruiz Riera, R. PEC0662
Rujumba, J. PEE1465
Rukmi, D.K. **PED0872**
Rukyalekere Kekitiinwa, A. PEE1394
Ruone, S. OAA0203, PEA0087
Rurangwa, A. PEE1429
Rusakaniko, S. PEB0093
Rusch, B. OAC0806, PEB0088, PEC0732
Rusconi, S. PEB0250, PEB0255, PEB0340
Rusie, L. LBPEC29
Russell, A. PDB0106, PEF1887
Rustanti, L. OAA0206
Ruta, T. PED1233
Rutahiwa, M. PEB0292
Rutaihwa, M. PEB0306, LBPEE44
Rutayuga, T. OAD0503
Ruth, P. PEB0120
Rutherford, G. PEC0510, PEC0511, PEE1713
Rutsaert, S. PEA0042
Rutseart, S.L. OAA0104
Rutter, L. PEF1895, PEF1896
Ruxrungtham, K. PEB0123, PEB0245, PEB0353, PEE1603
Ruzagira, E. PEA0017, PEC0613
Ruzicka, D. **PEB0236**
Rwabigayo, O. PED1135
Rwamugyema, P. PEE1690
Rwangoga, D. PEE1448
Rwebembera, A. PEB0306
Rwegerera, F. PED1318
Rwegyema, T. PED1317, PEE1391, PEE1589, PEE1667

Rwigyema, T. PEE1448
Ryan, C. PEE1387
Ryan, J. **PED1158**
Ryan, K. **PEC0639**, PED1007
Ryan, P. PEB0150, PEB0216, PEB0282

S

S, A. PEC0423
S, S. PEF1821
Saad, E. PDC0404
Saag, M. PEC0450
Saathoff, E. PEC0425
Sabasaba, A. PEC0414
Sabastine Anye, C. **PEC0512**
Sabbatini, F. PEB0190
Sabde, Y. PEE1555
Sabe, Z. **PEB0248**
Sabela, S. PEE1634
Saber, R. PEE1725
Saberi, P. PEC0709
Sabino, T. PED1091
Sacdalan, C. OAD0704, PED0761, PED0770
Sacha, J. OAALB0103
Sachdev, D. PEC0466, PEC0482, PEC0483, PEC0501
Sacko, F. PEC0406
Sacks, J. PEE1598
Sacks-Davis, R. PEC0441
Sacktor, N. PEA0088
Sacktor, N.C. PEB0171
Sadamasu, K. PEC0455
Sadeghniiat, K. PED0863, PED1171
Sadia, C. PEC0691
Saeed, Q. OACLB0102
Saeng-aroon, S. PEA0081
Saenyakul, P. **PEE1732**
Saez-Cirion, A. OAA0103, OAB0203, PEA0004, PEA0059
Safonova, P. PED0835
Safren, S. OAXLB0101, **PDB0203**, **PEC0665**, PED0832
Sagaon-Teyssier, L. PEC0629, PED0865, PED0957, PED1058
Saggese, G. PEC0417, PEF1833
Saggurti, N. PED1238
Sagno, J.B. PED1126
Saha, A. OAF0203, PEF1742, PEF1846
Saha, M.K. PEE1555
Saha, P. PED1134
Sahabo, R. PED0781, PED1272, PEE1467
Sahali, S. PEB0229
Saharan, S. PED1316
Sahay, S. PDD0406, PEC0671
Saheng, J. PEB0318
Sahoo, A. **OAA0305**
Sahu, D. PEE1555
Saichuk, N. **PED1042**
Said, C. OAC0306, **PEC0414**, PEC0415, PEC0511
Said, R. PED1043
Saillour, F. PEE1351
Saing, C.H. **OAD0403**
Saintyl, G. PEB0142
Sainvil, G. OAB0405, PEB0121
Sainz, T. **PEB0282**, PEB0299
Saisaengjan, C. PDC0106, **PEB0325**
Saito, M. PEB0154
Saiwaew, S. PEE1469
Sakawaki, H. OAA0306
Sakowitz, J. **PED1014**
Salabarria-Pena, Y. PEC0740
Salas, J. OAF0104
Salata, R. OAB0404, PEB0245
Salazar, L. PEB0165
Salazar, M.G. PEA0017
Salazar-Gonzalez, J.F. PEA0017
Salem, S. PED1155
Sales, J. PED0835
Salido, J. PEA0040
Salifu, M. OAF0206
Salimu, S. PED0902
Saliuk, T. **PED1055**
Salmona, M. PEA0055, PEA0057
Salomón, H. PEA0040
Salters, K. OAC0302, PEC0451, PEC0454, PEC0494
Salvadori, N. PEB0192
Salvana, E. PEE1600
Salyuk, T. OAC0304
Samadoulougou, S. PEC0420
Sam-Agudu, N.A. PEE1604
Samandari, T. PEC0721
Samaneka, W. OAB0404
Samayoa, B. PEC0543, PED0956
Samayoa, J. PEC0395, PED0836
Samba, B. PEC0701
Samba, C. PEE1460
Sambu, V. PEC0599
Samer, S. **PEA0056**, OAXLB0105
Samet, J. **PEB0348**
Samet, J.H. PED1036
Samim, N.M. PEC0375
Samitpol, K. PEB0346, PEC0444, **PEC0659**, PED1187, PEE1485, LBPED33
Samoel, K. PEE1565, PEE1568
Sampathkumar, V. PDD0403
Samreth, S. PED1252
Samri, A. PEA0016
Samudio, T. PEC0379
Samuel, K. PEA0019
Samuel, L. PEB0110
Samushonga, T. PED0779
San, E.J. PEA0050
Sanchez, A. PEE1519
Sanchez, J. OAB0503
Sanchez, J.E. PEE1724
Sanchez, N OAF0104
Sanchez, R.I. PEA0083
Sanchez, S. LBPEB13
Sanchez, T. PED1086
Sánchez, D. PEA0014
Sánchez, M. PEC0458
Sanchez-Chico, A. PEB0203
Sanchez-Conde, M. **PEB0216**
Sanchez Karver, T. PEB0260
Sánchez-Ochoa, J.A. LBPEE52
Sánchez-Palomino, S. PEB0273
Sánchez Pardo, D. PDE0503
Sande, L. PDE0505
Sande, L.A. **PEE1380**
Sanders, C. PEA0065
Sanders, E. PEC0470, PEE1585
Sanders, E.J. PEC0365, PEE1397
Sanders, R. PED1121
Sanders, R.W. OAALB0102
Sandoval, C. **OAD0706**
Sandoval, M. PEE1532
Sandøy, I.F. OAC0103
Sane, S. PEE1555
Sanena, M. PED1223
Sang, F. PEB0308
Sang, J. OAD0602, PEC0434
Sang, Z. PEC0385
Sangadi, G. PEC0576, PEE1433
Sangadi, G.E. PEC0581, **PED0974**, **PEE1591**
Sangarè, H. PED0902
Sangle, S. PEB0191, PEC0397, PED0813
Sangma, M. PDC0304
Sangpasert, T. PDE0106, LBPED33
Sangprasert, T. OAE0702, PEC0757, PEE1542
Sanguankwamdee, M. PEE1732, PEF1856
Sanjase, N. PEB0135
Sankaran-Walters, S. **PEA0049**
Sanne, I. OAC0407, PEB0151, PEB0152
Santa Maria, D. **PEC0716**
Santana, B. PED1304
Santa Roza Saggese, G. PEB0209
Santella, A.J. **PEC0550**
Santelli, J. PDC0406, PEC0389
Santelli, J.S. PED0880, **PED0882**, PED0905, PED0955
Santiago, S. PEB0354
Santiago Rodriguez, E. OAD0103
Santiago-Rodríguez, E.I. **PEF1788**
Santiuste, C. PEB0127
Santoro, A.F. OAB0103, PDB0206, **PED0893**
Santoro, M.M. PEB0250, PEB0251, PEB0253
Santos, B. PEB0181, PEB0245, OACLB0101, OAXLB0101
Santos, B.R. OAB0404
Santos, D. PEC0604
Santos, G.-M. **PDC0102**, PEB0347, PED1004, OAELB0104, LBPEE53
Santos, J. OAB0606
Santos, M. PEB0299, PEC0612
Santos, P. PEA0067
Santos, T. PED1308
Santos AR, L. PEC0437
Sanwo, O. LBPEF56
Sanz Rodriguez, C. PED0884
Sanz Sanz, J. PEB0150
Sao, S. OAD0106, **PED0771**, PED1242
Sao, S.S. PED0801
Saoyo, T. OAF0406
Sapkota, Y.R. OAD0505
Sapphira, N. **PEF1816**
Sarachai, S. PEB0317, PEB0318, PED0815
Saracino, A. PEB0092, PEB0201
Saranchuk, P. PDB0305, PEB0125
Saravanamurthy, P. PEC0546, PEC0671
Saravanan, S PEA0054
Saresella, M. PEA0023
Sarfo, B. PEA0075
Sarfo, E.K. OAALB0101
Sari, I.W.W. PED0872
Sarker, M.S. PEF1843
Sarkin, L. **OAE0304**
Sarmento Campos, F. PEC0552
Sarna, A. PEE1384
Sarrazin, J. PEF1829
Sarsembayeva, L. PED1038
Sarteschi, G. PEB0340
Sartorius, B. PEC0544
Sashindran, V.K. PEB0193
Sathan, S. PEC0388
Sathane, I. PDE0405, PEB0108, **PEC0743**, PEE1714
Sato, K. OAC0803
Satre, D.D. OAC0807
Satumay, K. PEC0376, PEC0409
Sauceda, J. OAD0103
Saul, J. OAC0803, PED0932, PED1145, PEE1337
Saulle, I. PEA0023
Saunders, G. PED1239
Saunders, J. PEC0481
Saunders, K.O. OAA0307
Saunders, P. **PEF1834**
Sausi, K. PEE1375
Savarino, A. OAXLB0105
Savchuk, N. LBPEA02
Savory, T. PED1211, OAE0102
Sawe, F. PEC0728
Sax, P.E. PDE0504, PEB0354
Saxton, P. OACLB0103
Sayedzai, S.A. PEC0375
Sayikanmi, C. PEE1539, PEE1540
Sayor, G. PEE1464
Sazonova, Y. OAC0304, PEC0467, PED1055, PED1246
S. Benzaken, A. PDF0204, PEC0393, PEC0411, PED1166
Scanlon, M. PEB0308
Scarlett, I. PEC0480
Scarpa, R. PEC0628
Schaafsma, T. PEE1375, PEE1554
Schaafsma, T.T. OAE0505
Schaap, A. OAE0504, PEC0580, PEE1628

Schacht, J.-M. PED0926
Schackman, B. PEC0529, PEE1376
Schackman, B.R. PEE1368
Schafer, T. PEF1774
Schalkwyk, M.V. PEB0245
Schatz, E. OAC0305
Schechter, M.T. PDD0106, PED1227
Scheepers, E. PEC0706, PED0844, PED1295, PED1296, PEE1437, PEE1602, PEE1651
Scheer, S. PEB0267, PEC0489, PEC0490, PEC0501, PEC0517
Scheibe, F. **PEE1734**
Scheim, A. PED1086, **PEE1612**
Schell, E. **PEE1338**
Scherer, MD, M. PED1020
Scherrer, R. **PEC0675**
Schexnayder, J. OAE0305, **PEC0710**
Schim van der Loef, M. PEC0470
Schinkel, J. PDB0306
Schitmz, K. PEE1437
Schlesinger, P. PED0762, PED0892, PED1162
Schlosser, L. PEB0172
Schlupp, A. PED1121
Schmeler, K. PEE1514
Schmid, P. PEB0239, PEB0172
Schmidt, A.J. PED0962, PED0963, **PEC0646**, PED1089, PED1093, PEC0596
Schmidt, C.N. **PEE1671**
Schmitto, C. PEB0267
Schmitz, K. **PEC0706**, PED0844, PED1295, PED1296, **PEE1602**, PEE1651
Schnall, RN, MS, R. PED1020
Schneeweiß, S. PEC0518
Schneider, J. PEB0242, PEC0727, PED0809, LBPEC29
Schneider, K. OAD0304
Schneider, L. PEC0498
Schnoll, R. PEB0224, LBPEB10
Schoep, J. PED0951
Scholar, E. OAC0803
Scholten, S. OAB0606
Schoof, N. OAA0202
Schooley, R.T. OAB0404
Schörner, M.A. PEF1855
Schreiber, S. PEB0229
Schroeder, T. PEA0053
Schrooten, W. PEE1441
Schumacher, C. PEC0619, PEC0621
Schurr, E. PEA0031
Schwarcz, S. PEC0489, PEC0490, PEC0491
Schwartz, J. PEB0186
Schwartz, K. **PED1284**
Schwartz, S. **PED0940**, PDD0306, PEC0387, PEC0407, PED1076, PEF1844
Schwartz Benzaken, A. PED0907
Schynkel, T. OAA0104
Scirto, K. PEB0302
Scott, A. PEA0060
Scott, C. PEE1656
Scott, H. **OAC0605**, PDC0203, PEC0483, PEE1493, OACLB0101, OAXLB0101
Scott, J. PEE1371
Scott, J.A. PDE0504
Scott-Algara, D. PDA0103, PEA0027
Scoville, C. PEA0030
Scrimieri, F. OAA0404
Scroggins, S. PED1054
Scruggs, L.H. **PEF1873**
Scuderi, D. PEB0119
Sculier, D. PEB0239
Seage III, G.R. PEB0312, PEB0336
Seatla, K.K. PEA0077
Sebastian, J.L. PDE0305
Sebina, K. PEE1498
Sebuliba, I. PEC0664
Sebyatika, E. PEE1404, PEE1693
Secours, R. OAB0404, PEE1519, PEE1647
Seden, K. PEA0086
Seeh, D. PED0819
Seekaew, P. PDB0204, LBPEE47
Seeley, J. OAC0104, PDE0306, PEC0689, PED1064, PED1136, PED1192, PED1325, PEE1388, PEE1666, LBPED34
Segal, K. PEF1880
Segawa, P. **PED1189**, **PED1205**
Seguin-Devaux, C. LBPEC26
Segurado, A. PEC0612, PEC0669
Seid, E. PEE1439
Seidman, D. PED0878, PED1197
Seidner, M. PEE1554
Seifried, J. PEC0725
Seixas, M. **PED1017**
Sejake, P. PEE1499
Sejana, M.V. PEE1626
Sekabira, H. LBPEE51
Sekabira, R. **PDC0408**
Sekaggya, C. PEB0256
Sekajoolo, H. PED1200
Sekani, A. PEE1659
Sekeso, T. PEF1753
Sekiya, R. PEB0156
Sekome, K. PED0755
Sekoni, A. PED0896
Sekule, P.W. PEC0605
Seleme, J. PEB0108, PEC0743, PEE1714
Selfridge, M. PEC0648
Sellers, C. PEE1430
Selohilwe, O. PEE1487
Seloilwe, E. PEE1427
Selvey, C. OAC0205, PEC0627
Semchuk, N. OAC0304
Semeniuk, M. PEF1859
Seminario, L. PEB0205
Semitala, F. PEB0186
Semo, P. PEE1438
Sempa, J.B. **PEC0478**
Sen, S. PED1224
Sendagala, S. PEE1529, OAE0106, PEE1404, PEE1699
Sendaula, E. PED0811
Sendiwala, J. PEE1537
Sene, P. PEB0109
Seng, S. PED1252
SenGupta, D. OAB0205
Senkouji, T. PEB0154
Senkusu, J. PEB0322
Sensalire, S. PEE1537
Sensoy Bahar, O. PEE1365
Senteza, I. PEE1396, PEE1590
Senyama, G. PEB0164, PEE1361
Senyana, B. PDE0307, PED1135, PEE1535
Senyimba, C. PEB0144, PEE1403
Senzanje, B. PED0816
Seolwane, B. PDE0404, PEE1577
Septime, H. PEC0406
Seravalle, A. PEB0276
Serebryakova, L. PEE1336
Sereda, P. OAC0302
Serenata, C. OABLB0103, OABLB0105, OAXLB0104
Sereyvisith, S. PED1252
Serna, M. PEA0024
Serna-Pascual, M. PEB0315
Serrano, P.A. **OAC0603**, OAC0605
Serrano Pinto, Y. LBPEB14
Serrano-Villar, S. **OAB0304**
Seru, M. PEE1699
Seruwagi, D.G. PEE1667
Seruwagi, G. PED1317, PEE1391
Serwadda, D. OAC0402, PDC0403, PEA0033, PED0882, PED0975, PEE1646
Sessa, L. OAA0406
Sethi, R. PEA0009
Setia, M. PDE0406, PEC0532, PEE1637
Setlhare, D. PEA0035
Settaala, R. PEE1404, PEE1693
Setyani, R.A. **PED1066**, **PED1196**
Setyawan, M. PEF1820
Setyawan, M.A. **PEF1898**
Seung, K. PEB0157
Sevelius, J. PEB0209, PEC0416, **PEC0595**, **PED1176**
Sevelius, J.M. PED1097
Severe, K. PEE1647
Severe, P. OAB0405, PEB0121, PEB0142, **PEB0203**, PEB0258
Sévère, K. PEE1519
Sévère, P. PEE1519
Severson, J. PEB0171
Sewankambo, N. PEE1646
Sewell, J. PEC0367
Sey, E.K. OAC0504
Seyama, L. PED1158
Seyedkazemi, S. PEB0089
Sfalcin, J. PEB0276
Sha, Y. PEC0584
Shabalala, F. **OAD0206**
Shabalala, F.S. PEC0544
Shabangu, P. PEE1672
Shacham, E. PED1054
Shacklett, B. OAB0205, PED0812
Shade, S. PEE1630
Shadwick, C. OAD0804
Shaefer, M. PEB0217, PEB0261, PEB0263
Shah, M. PDE0302, **PEE1478**
Shah, S. PEC0661, OAB0503, PEB0245, PED0824, PED0888, PEF1850
Shah, S.K. OAD0806
Shahesmaeili, A. PED1301
Shahmanesh, M. OAC0104, **PDE0306**, PEC0689, PED1192, PEE1375, PEE1608, **PEE1611**, PEE1666, LBPED34
Shahul, E. PEE1527
Shaibu, W. PEC0569
Shaikat, S. **PEF1801**
Shaikh, S.A. OACLB0102
Shaikh, S. PEC0684
Shakarishvili, A. OAB0705
Shalhav, O. PED0982
Shalit, P. OAB0205, **PEB0165**
Shally, M. PEC0470, **PEE1397**, PEE1585
Shamo, F. PED1271
Shamsudin, A. **PED0840**
Shanaube, K. OAC0204, OAE0504, PEC0580
Shankalala, P. PED1163
Shanmugam, V. PEC0475, PEE1687, LBPEC21
Shannon, K. PDD0307, PEC0418, PED0877, PED1165
Shao, A. LBPEC18
Shao, Y. PEC0456, LBPEC27, PDB0303, PEB0165, OABLB0101
Shapiro, A.E. **OAB0506**, OAE0505
Shapiro, D. LBPED30
Shapiro, R. OAXLB0102
Shapley-Quinn, M.K. **PDD0506**
Sharifi, H. PEC0375, PEC0459, PED1060, PED1301
Sharma, A. OAD0306, PEE1636, PEC0560
Sharma, G. PED0831, LBPEE50
Sharma, M. **PEE1324**, PEB0179, **PED1250**, **PEE1372**, PEE1505, PEE1557, PEE1678, PEC0598
Sharma, R. PDD0106, PED1227
Sharma, S. PEC0402, PED0924, PED0953, OAA0302
Sharon Kitibwakye, N. **PED0947**
Sharp, J PEA0086

Shavchenko, K. OAE0605
Shaw, E. PED0951
Shaw, G.M. OAA0202, OAA0307
Shaw, L. LBPEE45
Shaw, P. OAD0606
Shaw, S. PDE0202, PEE1479
Shayan, Z. PEC0521
Shayo, A. **PEB0324**
Shebl, F. PEC0364, PEE1371
Sheehan, D. PEC0460
Shehada, M. PED1262
Sheira, L. PED1148
Shen, G. **PED0989**
Shen, S. OAA0305
Shen, X. OAA0307
Shen, Y. PEB0290, PEB0326
Shen, Z. PED0855
Shenderovich, Y. PDE0304
Sheng, S. PEB0089
Sheng, Z. PEC0513
Shenoi, S. PED0786, PED0859, LBPED37
Shenoi, S.V. PEC0577
Sheobalak, N. PED1204, PED1288
Sheoran, B. OAE0703
Shepherd, B. LBPEC27
Shepherd, B.E. OAB0202
Sherbuk, J. **PED0900**, **LBPED39**
Sheria, L. PED0854
Sheriston, C. PEA0085
Sherman, B. OAA0404
Sherman, E. PEB0107
Sherman, G.G. PEB0281
Sherman, H.R. PEE1662
Sherman, K. PEB0349
Sherman, S. PEC0419
Sherman, S.G. OAD0304, PDD0303, PED0915, PED1281
Sherr, L. OAD0506, PDE0304, PEB0096, **PEB0175**, PEC0689, PED1025, PED1192
Sherriff, N. PEB0168
Sherwood, J. **PED1078**, PEF1759
Shet, A. PEA0054
Shi, B. PEA0053
Shi, C.X. **PEE1473**
Shi, Q. PEA0053
Shi, Z.-Y. OAD0705
Shiau, S. PEB0188, PEB0290, **PEB0312**, **PEB0326**
Shibaeva, M. PEE1354
Shibwela, O. PEE1628
Shieh, J. PED0879
Shields, M. PEB0357
Shiels, M. PEB0211
Shigayeva, A. PEB0131, PEB0132, PED1283, PEE1634
Shiino, T. PEA0015, **PEC0455**
Shikongo, L. PEC0680
Shimiyu, K. PEC0414
Shin, K. OAXLB0101
Shipley, S. **PED0906**
Shipunov, O. LBPED37
Shoko, N. PEE1729, PEE1733
Shokoohi, M. PED1060
Shokouhi, M. PEC0521
Shongwe, M.C. PED1272, PEE1467
Shongwe, S. PEE1387, OAE0405, LBPEE44
Shook-Sa, B. PEC0707
Shoptaw, S. OAD0404, PDE0303, PEC0718, PEC0529, PEE1376
Short, D. OAD0903, PED0787, PED0849, **PED1275**
Shouse, R.L. PEC0442, PED0941, PED1124
Showers, K. PED0800
Shoyemi, E. PED1005
Shozi, H. PEE1620
Shreenivas, G. PDE0406, PEC0532, PDD0305, PEC0696
Shreenivas, G.S. PEE1637, PEC0754, PDE0204
Shrestha, A. OAD0505, **PDE0206**, PEC0560, PEC0598, PED1253
Shrestha, B. OAD0505, PDE0206, PEC0560, PEC0598, PED1253
Shrestha, M.K. PEC0537, PED1253
Shrestha, P. OAE0704
Shrestha, R. **PEC0590**, PEC0632
Shrestha, U. PED1090, OAD0505
Shrinivasa, B.M. PEE1555
Shriver, M. PEE1493
Shu, T. OAA0306
Shu, W. PEC0531
Shubert, V. PED1237, **PED1239**
Shumba, K. PEC0706, PEE1602
Shunmugam, M. PEC0628, PEC0690, PED1249
Shuper, P.A. PED0780, PED1175
Shuter, J. PED1274
Shweh, P. OAB0205
Shwetambera, S. **PEE1658**, PEF1825
Shwe Yee, N. PEE1398
Shytaj, I.L. OAXLB0105
Siachobe, J. PDD0503
Siamba, S. PEE1438
Sibanda, B. OAELB0102
Sibanda, E.L. PEC0660
Sibanda, J. PEE1532
Sibandze, D. PEB0088
Sibindi, M. PEE1460
Sibiya, M. PEB0208
Sichamba, M. **PEE1567**
Sichamba, S. PEB0161
Sicro, S. PED0884
Sie, M. **PEE1723**
Siedner, M.J. PDE0504
Siegel, D.A. **PEA0051**
Siegel, E. OAB0103
Siegfried, N. PDF0206
Siegler, A. OAC0804, PEC0670
Siegler, A.J. PDC0107
Sierra-Madero, J. OAB0202, PEC0542
Sierra-Madero, J.G. PEA0027
Sigande, L. PEC0580, PEC0679
Sigauke, H. PEB0178, PED0858, PED1150
Sigauke, V. PEE1715
Sigel, K. LBPEC23
Sigrist, M. PEF1802
Sikazwe, C. PEE1502
Sikazwe, I. PEC0752, OAD0306, OAE0102, PDA0104, PED1179, PEE1443
Sikdar, O. PEE1364
Sikombe, K. PEE1443, OAE0102, PED1179
Sikorskii, A. PEB0170, PEB0214
Sikukula, W. PEB0097
Sikwese, S. PEC0575, PEE1681
Sikwese1, S. PEC0634
Sila, J. PEE1546
Silassie, A. PEE1721
Silenzio, V. LBPEE53
Silfverberg, D. PED0807
Silhol, R. PED1255
Silk, R. PEC0733
Silva, A.P. PEC0624, PED1015
Silva, E. PEC0617
Silva, J.C.V.P. **PEF1828**
Silva, L. PED0764, PED1304
Silva, M.A. PEC0437
Silva, S. PEE1342
Silva, W. PEE1533
Silva-Alves, A.P. PEC0612
Silvain, C. PEC0448
Silva-Santisteban, A. PEC0538, **PEE1462**
Silveira, L. PEB0222
Silveira, P. PEC0417
Silverberg, M. **OAB0603**, PEB0187, PEC0452
Silverberg, M.J. OAC0502, OAC0807, PEB0218
Silverman, J. PEC0431, PEC0433
Silvestri, G. OAA0202, OAA0402, PEA0056
Silvia Facciolla Paiva, V. PEF1819
Simbeye, D. PEC0605, PEE1685
Simbeza, S. PED1179
Simbi, R. PEE1598
Simbine, E. PEE1383
Simbiri, C. PEE1472
Simelane, M. PED1125
Simelane, T. OAB0106
Simeon, K. PEE1372
Simister, R. LBPEF54
Simjee, M. PEE1717
Simkin, A. PEC0533
Simmons, B. OAXLB0104
Simms, V. PEB0175, PEC0705, PED0816, OACLB0102
Simon, K.R. PEE1694
Simon, M. PEB0177
Simoncini, G. PEB0148
Simoni, J. LBPEC27
Simoni, J.M. PED1084
Simons, R. LBPEB09
Simonson, R.B. PDB0202, PEB0089
Simo-Wambo, A.-G. PEA0073
Simplice, A. OAF0403, PEF1844
Simpson, C. **PEE1697**
Simpungwe, J. PEB0114
Sims, O. **PEB0149**
Simuyaba, M. PEC0580, PEE1569
Simwanza, P. PED1319
Simwenda, M. **PEE1578**, **PEE1632**
Simwinga, M. PEC0580, PEC0679
Simwogerere, A. PEB0332
Sinate, R. **PED0929**
Sinchek, K. PEB0347
Sinclair, G. LBPEE42
Sindarreh, S. PEC0579
Sindhu, R. **PEC0661**, PED1028, PEE1494
Sindunata, E. PED1012
Sineke, T. **PED0948**
Singa, B. PEC0384
Singano, V. **PEE1437**
Singer, S. PEC0630
Singh, A. PEA0047, **PEB0193**
Singh, B. OAD0503, PED0928
Singh, K. OAA0404
Singh, M. PED1174, PEE1492
Singh, M.K. PED1292
Singh, N. PDD0305
Singh, R. **OAB0706**, PEB0293, OAA0302, PEE1364
Singh, R.N. PEC0696
Singh, S. PEC0671, PEC0522, PEA0054
Singh, Y. **PED1235**, PEF1836, PEF1867
Singhal, H. OAD0804
Singh Kharayat, L. PEE1637
Singh Kushwaha, B. PEE1637
Singla, N. PED1249
Singsakul, K. LBPED33
Singtoroj, T. PEC0753
Sintupat, K. PEB0317, PEB0318
Sinyange, N. PEC0654
Sinyangwe, N. PEB0114
Sionean, C. OAC0504
Siqueiros, E. **PEF1779**
Siraprapasiri, T. PEC0376
Sircar, N. **OAF0406**
Sirili, N. PEE1427
Sirivichayaku, S. PEB0103
Siriwachirachai, T. PEB0192
Siroya, A. **PED1232**, PEF1821, PEE1658
Sishekanu Liche, G. PDD0503
Sisto, A. PDA0102, PEA0028
Sithole, B. OAD0803
Sithole, H. OAE0506
Sithole, K. PED1059, PEE1598
Sithole, N. **OAE0505**, PEE1375, **PEE1554**
Sittikarn, S. PEE1469, PEE1679
Siufi, C.M. PDB0305, PEB0125
Sivaraj, V. LBPEB09
Sivashanmugam, A. PEB0228
Sivasubramaian, M. PED1235

Sivasubramanian, M. PEE1658, PEF1825
Sivro, A. PEA0043
Siwamogsatham, S. PEB0182
Siwela, M. PEE1584
Skakoon-Sparling, S. OAD0602
Skala, P. PEF1859
Skalland, T. OAC0204
Skarbinski, J. OAC0807
Skeen, S. OAD0506, PEF1860
Skinner, D. **PED1320**
Skinner, S. PEE1386, LBPEC26
Sklar, P. OAB0302, OAB0305, OAB0605, PDB0406
Sliep, Y. PED1080
Slim, J. PEB0198, PEB0199, PEB0252
Slinger, N. PED1016
Slingers, N. PEC0398
Slone, J. PEB0316, PEE1705
Slurink, I. PEC0479
Slyker, J.A. PEC0582
Small, A. **PEB0314**, **PED1125**
Small, W. PED1044, PED1287
Smart, I. LBPEE46
Smedley, J. OAALB0103
Smedley, M. PED1215
Smit, C. PDB0306
Smit, J. PEC0611, **PED1059**
Smit, J.A. PED1285, PEC0600
Smit, M. PEE1352
Smit, T. PDE0306
Smith, B. OAB0503
Smith, C. PEC0658, LBPEC26, PEB0096
Smith, C.J. LBPEB09
Smith, D. PDB0102, PEC0627, OAB0606, **PED0993**
Smith, D.K. PED1003
Smith, H. OAC0405, **PEC0578**, PED1211
Smith, J. OAC0105, **OAF0202**
Smith, J.A. PEC0523
Smith, J.P. PEF1866
Smith, J.C. PED0926
Smith, K. PEB0261, PEB0104
Smith, L. PEE1456, PEC0431
Smith, L.R. PUB002, PUB003
Smith, L.A. PEE1386
Smith, M. PEE1390, PED0934, OAA0404
Smith, M.K. **PED1170**
Smith, N. PEE1713
Smith, P. PED0867
Smith, P.M. PEC0600, PED1285
Smith, P.J. **PEC0672**
Smith, R. PEB0309, PEB0312, PEB0320, PED1131
Smith, S. PED0800, PEC0635
Smith, T. PED0838, OAC0104
Smith-Anderson, C. **PEB0333**
Smith-Hughes, C. PDC0402
Smithson, K. PEC0685, PEF1738, PEF1758, PEF1830, PEF1861
Smithuis, F. LBPEE43
Smolianets, N. PEF1747
Smyrnov, P. PEE1334
Snedecor, S. PDB0104
Snell, L.B. LBPEB09
Snoyman, G. PEC0465
Snyman, K. OAC0805
Snyman, L. PEE1497, PEE1635
Soares, F. PEC0552, PEC0643
Soares, M. PEA0067
Soares Linn, J. **PEE1515**, **PEE1614**, PEE1618
Socha, E. PED1146
Socree, K. PEE1464
Soehoed, R. PEE1328
Soeung, S. PEC0436
Sohail Ahmed, D. PEB0145
Sohn, A.H. PEC0753
Sokhela, S. OABLB0103, **OAXLB0104**
Solai, L. PEC0691
Solanki, S. PED1028
Solanky, D. **PEB0126**
Solares, D. PED0988, LBPEF59
Soler, J.H. PED0772
Soler-Carracedo, A. PEC0710
Solleveld, P. OACLB0104
Solomon, S.S. PED0890, PED1037, PED1249
Solomons, A. PEF1808
Somasunderam, A. PEA0041
Sombredero, A. **PEE1459**
Some, V. PEF1823
Somerville, C. PED0902
Somian, A. PEF1804
Somwe, P. OAE0102, PEB0135
Son, V.H. PEC0511
Song, K. PEA0012
Song, R. OAC0206
Song, W. **PEC0400**, PEC0620
Song, X. PEB0197, PEB0230
Songok, J. PED1167
Songsamphan, C. OAELB0103
Songtaweesin, W.N. **PDC0106**, PEB0325, **PEC0657**, PEC0673
Soni, N. **PEC0497**
Sönnerborg, A. PEB0255
Soo, L. PED1245, LBPEC19
Soogun, A. **PEC0504**
Sookthongsa, S. PEF1856
Sopha, N. PED1252
Sophononphan, J. OAB0104
Sophonphan, J. PEB0123, PEB0204
Sorfleet, P.A. **PEF1883**
Soria, A. PEB0190
Soria, M. PEB0159
Sorrentino, I. PED1122
Sosa, G. PEF1874
Sosnowy, C. PEC0617
Sotelo, C. PED1297
Sotelo, J.A. PED1139
Sothearidh, S. PED0778
Soto-Ramírez, L.E. PEA0027
Soudeyns, H. PEB0334, PEB0335
Soulié, C. OAB0203, PEC0498
Soumaoro, S. PEC0703
Sousa, Á.F.L. PED0918
Sousa Mascena Veras, M.A. PED1138
Souza, C. OAD0105, PEC0711, PED1308, PEF1838, PEF1839
Sovershaeva, E. **PEB0226**
Sow, A. PED0957, PEB0109
Sowaprux, T. **PED0990**
Spadaccini, L. **PEB0344**
Spagnuolo, J. LBPEA04
Spagnuolo, V. **PEB0250**
Spano, J.-P. OAB0203
Sparling, N. PED0785, **PEF1783**, **PEF1862**
Speakman, A. OAD0504, PEB0096, PEC0367
Speare, N. PEC0446, PEC0607
Spec, A. PEC0395, PED0836
Spector, S.A. PEB0312
Speers, S. PEB0153
Spencer, E. PED0926
Spicer, B. PED0864, PED0866, **PED1289**
Spiegel, H. LBPEC27
Spiegelman, D. PEC0723
Spielman, K. OAD0305
Spina, A. PDC0304
Spindler, E. PED0882, PED0955
Spindola Luciano, C. PEB0209, PEC0416
Spinelli, F. **OAD0903**, **PED0787**, PED0849
Spinelli, M. PEC0489, PEC0490, PEC0491
Spinelli, M.A. PEC0724
Spinner, C. PEB0229, PEC0518
Spinner, C.D. PEB0242
Spire, B. PDB0302, PEC0629, PEC0741, PED0759, PED0865, PED0957, PED1058
Spiri, J. PEF1792
Spittal, P.M. PDD0106, PED1227
Spivak, A. OAA0204, PEA0064
Sponseller, C.A. PEB0181
Sposito Tresse, A. PDB0407, PDE0407, PEE1450
Sprague, L. OAD0102
Spreen, W. OAA0203, PEB0261, OACLB0101, OAXLB0101, LBPEE42
Springstubb, N. PEC0414, PEC0415
Spyer, M. PEB0315
Squillace, N. **PEB0190**
Srey, P. **PEC0436**
Srikrishnan, A.K. PED0890, PED1037, PEE1698
Srikrongthong, D. PEF1856
Srimanus, P. PEB0346, PEC0444, PEC0659, **PED1187**, **PEE1485**, LBPED33
Sripaipan, T. PED0850, PED1170
Sripanjakun, J. LBPEE47
Sriphetcharawut, S. PEC0388
Sriplienchan, S. PEC0409
Srivachiraroj, P. PDB0304
Srivastava, G. PEB0196
Ssali, A. **PED1325**, PEE1388
Ssamula, K. PEE1708
Ssebunya, R. PEE1574, **LBPEE51**
Ssegujja, E. **PEE1414**
Ssekamatte, T. **PEC0553**
Ssekasanvu, J. PEE1642
Ssekiswa, L. PEE1590
Ssekubugu, R. PDC0405
Ssekyewa, C. PED0880
Ssempijja, V. PEE1646
Ssendiwala, J. OAE0106, PEE1606, **PEE1675**
Ssengooba, F. PEE1414
Ssennyonjo, R. PEB0186
Ssenyimba, C. PEE1562, PEE1645
Ssenyonga, W. PEE1388
Ssesanga, T.T. PEB0322
Ssewamala, F.M. PEE1365
Ssinabulya, I. PEB0186
Ssonko, M. PEB0214
Ssuna, B. PEC0549
Ssuna, M. PEC0618
Ssuuna, M. PEB0332, PEC0587, PEE1401
Stackpool-Moore, L. OAF0404, PEE1352
Stafford, A. PEB0096
Stafford, S. **PEC0561**
Stalenhoef, J.E. PEB0223
Stamper, P.D. OAE0804
Stand, J. OAC0703, PEB0180
Stangl, A. OAF0303
Stanislaus, V. PED1114
Stankard, P. PDE0202, PEE1479
Stanley, R. OAE0206
Stanton, A. **PED0832**
Stapleton, J. PEF1851
Stark, W. PEC0648
Stassek, L. LBPEE42
Staton, M. PED1033
St. Denys, R. PEE1410
Stebliankin, V. PEB0206, PEB0350
Stecher, D. PEA0044
Steegen, K. PEC0502
Steegmann, J.L. OAA0204, PEA0064
Steele, S.J. PEB0131, PED1283
Stein, D. PDA0107, PDB0205, PEB0323, PED1282
Stein, D.J. PEB0331, PED0821
Stein, E.S. PED1097
Steinau, M. PEC0500
Steinberg, H. PEC0439
Steiner, M. PEA0022
Steinert, J.I. **OAE0105**
Steinhauer, L. PEE1722
Stella-Ascariz, N. PEB0212
Stelmach, R. PEE1379
Stender, S. PEE1503, PEE1615
Stepanov, V. PEE1538
Stepanova, A. PEE1343
Stephan, C. PEB0229
Stephanie, M. PEB0157
Stephens, D. PDD0104
Stephens, M. PEE1665
Stephenson, N. PED1085
Stephenson, R. PED1149
Sterling, M. OAA0203
Sterling, T. OAB0505
Sterling, T.R. OAB0202

Sternberg, D. PEC0733
Sterrantino, G. PEB0250
Steve, W. PED1252
Stevens, G. PED0967
Stevens, J. PEC0733
Stevens, W. PEE1499
Steward, W. PEF1866
Stewart, C. PEC0452
Stewart, J. OAC0702, PEC0678
Stewart, K. PED1286
Stewart-Isherwood, L. **LBPEE46**
Stijnberg, D. **PEE1441**
Stillson, C. PEE1431, PEE1440, PEE1695
St-Jean, M. **OAC0302**
Stoch, A. PEA0083
Stockman, J.K. **OAF0304**, **PED0934**, PEF1849
Stocks, M. PEA0065, PEA0085
Stoeckle, M. PEB0172, PEB0239, PEC0596
Stoehr, A. PEC0518
Stone, J. OAC0304, PEC0426, PEC0431, PEC0433
Stoner, M.C.D. **PEC0524**
Stoner, M.C. PED0886, PED1142, PED1143
Stoove, M. PEC0441, PEC0639
Stopka, T. PED0772
Stopolianska, Y. PEB0151, PEB0152
Stöver, S. PEA0028
St Preux, S. PEE1519
Strachan, M. OAD0604, OAE0705, PEF1832
Stranix-Chibanda, L. OAB0505
Stranz, R. OAC0305
Strathdee, S. PEC0527, PEC0529, PEE1376, PEF1741
Strathdee, S.A. PEC0433, PEE1368, PEC0431, PED1277
Stratigos, A. **PEF1739**, **PEF1837**
Stratton, T.G. PEC0749
Strauss, M. OAD0104, PDD0204, PEE1425
Streeck, H. PEC0518
Strehlau, R. PEB0290, PEB0326, **PEB0327**, OABLB0101
Stringer, K. PEF1780
Stromdahl, S. PEE1547
Strömdahl, S. LBPEE53
Strong, C. OAC0506, PDC0103, **PEE1616**, LBPEE53
Strongylou, D.E. **PEC0562**
Struthers, H. OAE0404, PEC0381, PED1266
Struthers, H.E. PEE1707, PED1248
Stuardo, V. PEC0694, PED0962, PED0963
Stuart, R. PEF1843
Styles, T.M. OAA0305
Su, Y. PEC0589
Su, Y.C. PEB0219
Suarez, R. PEF1761
Suárez Peña, J.M. PED0907
Subedar, H. PEC0689, PED1204, PEE1729, PEE1733
Subhani, H. PDE0206, PEC0598, PED1253
Subi, L. PED1082
Subira, S. PED1318
Subramanyan, S. PEC0754
Subramoney, S. PEB0331
Sucahya, P.K. PEF1899
Sucupira, M.C. OAXLB0105
Sudjaritruk, T. **PEB0317**, **PEB0318**, PED0815
Sued, O. **PEB0098**, PEB0344, PED1092, PED1094, PED1095, PED1100, PED1106, PED1107, OACLB0101, OAXLB0101
Suetrakul, K. PEC0388
Suffrin, D. PEE1704
Sugandhavesa, P. OAB0404
Sugarman, J. **PEF1848**, OAXLB0101
Sugimori, E. **PEC0597**
Suico, S. PED1114
Sukhaphan, U. PEC0388
Suksawas, P. PEC0388
Sukthongsa, S. OAELB0103
Sukwa, A. PEB0114
Sukwicha, W. PDC0105, PEC0376, PEC0409
Sulami, S. PED0883
Sulbaran, Y. PEC0360
Sullivan, K. LBPEF57
Sullivan, P. OAC0404, OAC0605, OAC0804, PEC0445, PEC0631, OAXLB0101
Sullivan, P.S. PDC0107
Sumalu, S. PEC0757, OAELB0103
Sumire, S. PEC0437
Sumner-Williams, M. PED0800
Sumsunder, N. PEA0043
Sumuelson, J. PEE1541
Sun, E. OAB0502
Sun, H.Y. PEB0219
Sun, K.S. PED0796
Sun, N. PDF0202
Sun, S. PED0997, OAD0203, PEE1365
Sun, Z. **PED0967**
Sundararajan, R. **OAE0806**
Sungsin, T. PEC0757
Sungsing, T. PEF1856
Sungsongkiat, R. PEB0346, PEC0659
Sunguti, J. PDD0403, PEB0304
Sun Ly, P. OAB0104
Supakawee, K. PEB0123, PEB0353
Supanan, R. **PEB0353**
Supanun, R. PEB0123
Supparatpinyo, K. PEB0094
Suppi, M. PEA0029
Surapuchong, P. **PEC0444**
Surawase, S. PED0813
Surratt, H. **PED1033**
Suryavanshi, N. PED0813
Susami, H. PEC0707
Sussman, O. PEB0180
Sussmann, O. OAC0703
Sutton, N. PEC0691
Sutton, R. PED0817, PEE1383, PEE1515, PEE1618
Suwajo, P. PEB0346
Suzana, M. PEE1381
Suzan-Monti, M. PEC0448
Suzuki, H. OAA0306
Svedhem, V. PEB0275
Swai, M. PDD0504
Swain, C.-A. PED0874
Swaminathan, S. OAXLB0101, PEC0665
Swanepoel, P. LBPEE46
Swaneverlder, R. PEC0427
Swanstrom, R. PEA0018
Sweat, M. OAD0503, PED1233
Swendeman, D. PEB0169
Swindells, S. OAB0503, PEB0261
Swygard, H. PEE1430
Sy, F. PEB0200
Syed Omar, S.F. PEB0213
Sykes, C. PED0854
Sykes, D. PEC0506
Sylla, O. PEE1588
Sypsa, V. PEC0426, PEC0727, LBPEC26
Szadkowski, L. PEB0231
Szumilin, E. PEC0485

Š

Šmajs, D. PEB0162

T

Taasi, G. PEE1394
Taback-Esra, R. PEE1523, PEE1656
Tabala, M PDD0404
Taban, A.I. PEC0410, PEC0475
Tabbaa, L. OAE0203
Tadeu, B. PEE1533
Tafuma, T. PEE1586, PEE1631
Tafuma, T.A. **PED0779**
Tagarro, A. PEA0024, PEB0315
Taghavi, K. PDA0104
Tagoe, H. PEF1805
Tagurum, Y. PEC0545
Tahlil, K. **PEE1607**
Tai, R. PDC0104
Taillefer, S. PEB0334, PEB0335
Tailor, J. OAE0405
Tait, C. PEC0381
Taiwo, B. PEB0244, PED1130
Taj, L. **PEC0579**, **PEE1583**
Takada-de-Souza, M. PEC0612
Takarinda, K. PEE1631
Takarinda, K.T. PEE1541
Takou, D. PEB0251
Talakgale, R. PEA0043
Talam, N. PED1245, LBPEC19
Talan, A. PED0982
Talan, A.J. PED0923
Tallarico, R. **OAF0106**
Tallerico, R. PEB0244
Tallerico, R.M. PEC0724
Tallmadge, A. **PEE1431**, **PEE1440**, PEE1695
Talwar, S. PDE0406
Tam, C. PEC0494
Tamanna Gupta, S. PED1235, **PEF1836**
Tamargo, J. PEB0205, PEB0206, PEB0350
Tamargo, J.A. **PEB0349**
Tamayo Antabak, N. PDB0305, PEB0125
Tamayo-Jimenez, N. PED0906
Tambatamba, B. PEB0114
Tamilarasan, M. PED0812
Tamirat, M. PEB0157
Tamoufe, U. OAD0102, OAF0403, PEE1643, PEF1844
Tamraz, B. PED0854
Tan, A. PED0964, PED0965, PED1034
Tan, C. PED0964, PED0965, PED1034
Tan, D. PEC0714
Tan, D.H.S. PEC0533, **PEC0648**
Tan, J. PEB0211, **PEB0357**, PED0970
Tan, R.K.J. **PED0964**, PED0965, PED1034, **PED1298**
Tan, X. PEE1709
Tanaka, T. PEF1797
Tancredi, M. PEC0368
Tancredi V, M. PEC0437
Tang, H.-J. PEB0184, PED0830
Tang, T. PEE1473
Tang, W. OAD0502, **PEC0584**, PED0976, PED0989, **PEE1369**, PEE1607
Tang, X. PEB0146
Tang, Y.-W. PDC0103
Tangkijvanich, P. PEB0204, PEB0353
Tangmunkongvorakul, A. PED1123
Tanguay, P. PEE1333
Tankittiwat, K. PEB0182
Tanko, R.F. PEA0030
Tanner, A.E. PUB003
Tan Nguyen, T. OAD0603, OADLB0105
Tanprasertsuk, S. PEB0353, PEF1856
Tanser, F. LBPED34
Tansey, C. OAA0203
Tanuma, J. PEB0191, PEE1564
Tao, J. **PEC0617**, LBPEC27
Taole, M. PDE0505
Taonga Msiska, S. PEB0114
Tapdiyel, J. PEC0484
Tapia, L. PED1116
Tapsoba, J.D.D. PED1290
Taramasso, L. **PEA0025**, PEB0201
Tarantino, N. **OAD0203**
Tarek, M. OAXLB0105
Taresco, V. PEA0065
Tarr, P. PEB0172

Taruberekera, N. OAE0506, PEC0744, PEE1460, PEE1548, **PEE1558**
Tarui, M. OAD0406
Tarumbiswa, T. PEE1545
Taruno, B. LBPEF60
Tassi, N. PEB0134
Tassiopoulos, K. PEB0215, PEB0309, PEB0320, **PEB0336**
Tate, J.P. LBPEC23
Taung, K. **PED0802**
Tauzin, A. PEA0057
Tavakoli, F. PEC0375
Tavelli, A. PEB0092
Taweehorm, W. PEB0317, PEB0318
Taya, C. PEC0444
Tayag, J. PEE1349, PEE1638
Taylor, B. OAC0503, PEE1526
Taylor, C. LBPEB12
Taylor, G.P. OAA0106
Taylor, J. PED1030
Taylor, K. PEE1427
Taylor, K.A. PDA0105
Tayra, A. **PEC0368**, **PEC0437**
Tchissambou, T. PEE1527, PEE1614
Teasdale, C.A. **PEE1387**, **PEE1407**
Tebas, P. PDA0207
Tebbetts, S. PED0970
Technau, K.-G. PEC0753
Tedaldi, E. PEB0148, PEC0358
Tedla, Y. PEE1513
Teegee, M. PDD0106
Teeman, C. **PEB0205**, PEB0350
Teeraananchai, S. **PEE1603**
Teerasakulpisal, S. OAE0702
Teeratakulpisarn, N. LBPED33, LBPEE47
Teeratakulpisarn, S. LBPEE47, PEC0657
Teffo, M. PEE1715
Tegile, N. PED1318
Teh, M.F. OAE0205
Teitelman, A. PED1286
Teitelman, A.M. OAD0606
Teixeira, C. PEE1618
Teixeira, L.B. PEB0143
Teixeira, S.L.M. PDA0103
Tekirya, E. PEA0020
Telela, D. **PEE1447**
Telnov, A. OAC0806, PEB0088, PEC0732
Tembo, A. PEE1717
Tembo, K. PEE1584
Tembo, N. PEE1610
Tembo, R. PEC0571
Tembo, T.A. **PEE1694**
Temgoua, E. PEE1588
Temime, L. PED0885
Temple, W. PED1240
Temu, T. PEB0179
Tendo, C. **PEE1471**
Tendo, F.F. **PDD0502**
Tenforde, M.W. PDE0507
Tengku Ismail, T.A. PEC0380
Tengra, Z. PEC0648
Tenn, S. PEC0691
Tenorio, A. OAB0606, PEB0217, PEB0233, PEB0238
Tenza, S. PEC0693
Teo, A.K.J. PED1298
Tepjan, S. PED1120, PED1278
Tepmongkol, S. PEC0673
Terahara, K. OAA0306
Teran, G.R. PEA0056
ter Horst, R. PEA0042, PEB0183
Terlikbayeva, A. OAE0805, PED0887, PED0968, PED0978, PED1035, PED1038, PEE1436
Terlikebayeva, A. PED0984
Termvanich, K. PED1187
Terris-Prestholt, F. PDE0505, PEE1380
Tersbøl, B. PEC0461, PED1041
Tesfaye, F. PEB0288
Tesha, G. PEE1692
Tesha, S. PED1318
Teshale, E. PEC0421
Teti, M. **PED1019**
teto, G. **PEB0251**
Tetsa Tata, D. OAB0402
Tetteh, E. PEE1466
Thabeng, M. PEC0748
Thahane, L.K. PEE1420, PEE1422
Thai Nguyen, H. OADLB0105
Thakar, M. PEA0054
Thakkar, D. PDA0206
Thakkar, N. **PEB0291**
Thakur, P. PEC0598, PED1253
Thakur, P.K. **OAD0505**, PEC0560, PEE1458, PEE1677
Thakur, R. PEE1555
Thammajaruk, N. **PDB0304**, **PDE0106**, LBPED33
Thammatacharee, J. PEE1603
Thandar, M.P. PDC0304
Thang, N.T.T. PEB0351
Thanh, C. OAA0405, PEA0051
Thanh, T.D. OAF0305
Thao, V.P. PEA0006
Thapa, N. PEC0598, PED1253
Thapa, R. **OAF0405**
Thapwong, P. PDB0304, LBPED33
Tharao, W. PED0873, LBPEE49
Thaung, Y.M. **PEC0564**, PED1039, PED1061
Theall, K. LBPED41
Thedinger, B. LBPEE42
Theerawit, T. PEB0325, PEC0657
Thein, S.T. **PEC0476**, PED1193
Thekiso, N. PEE1700, PEE1715
The Linh, V. PEF1853
Theodore, D. **PEF1866**
Théodore, H. PEE1519
Theron, G. OAB0505
Theu, J. PEC0474, PEE1687, LBPEC21
They Mar, H. PDC0304
Thiago Felix Pinheiro, T. PED1011
Thigpen, M. PDC0105
Thiim, A. PED0901
Thilothama, M PED1108
Thi Nhat Vinh, D. **PEF1853**
Thiomi, J. PEC0649
Thior, I. OAE0606
Thi Phuong, D. PEF1853
Thirumurthy, H. OAC0106, PEC0616, PED0791, PED1164, **OACLB0105**
Thisayakorn, P. PEB0325
Thit, P. PDC0304
Thi Thuy Nguyen, V. PEC0505
Thitipatarakorn, S. PDB0204
Thi Tran, T. OAD0603, OADLB0105
Thi Tuyet Nhung, V. PEF1853
Thi Tuyet Vo, N. OAF0305
Thivalapill, N. OAB0106, **PEB0167**, PEE1532
Thoemmes, L. PEE1493
Tholanah, M. **PEF1894**
Thomann, M. PED0992
Thomas, A. PEE1703
Thomas, B. PEC0665, **PED1271**
Thomas, E. PEC0736, PEF1879
Thomas, K. PEE1372
Thomas, L. PEB0228
Thomas, S. PED1315
Thomas, V. PED1227
Thomas-Ferraioli, A. PED1237
Thompson, A. PEE1488
Thompson, R. PEE1640
Thompson, S. PEE1461, PEF1805
Thomsen, S. PED1320
Thomson, E. PEA0031
Thomson, M. **PEC0458**
Thongpibul, K. OAB0104
Thorne, J. **PEB0284**, PEB0285, PEB0286, PEC0394
Thornicroft, G. PEE1487
Thorpe, D. PEB0229
Thorwat, M. PEB0287
THORWAT, M. PEE1566
thu, l. **PEF1757**
Thu, L. PEC0698
Thu, N.T. PEA0006
Thu Huong, P.T. PEC0601
Thukur, P. PEE1541
Thulare, H. OADLB0102
Thumath, M. **PEC0418**, **PEC0473**, PEE1612
Thune, F. PEF1829
Thura, S. PEC0564
Thwe, T.T. PDC0304
Thwin, H.T. PED1039, PED1061
Thwin, S.S. PEB0168
Tiam, A. **PDB0403**, PEB0137
Tibana, K. PEC0432, PEE1570
Tibenderana, H. PEB0300
Tibingana, B. PEE1639
Tichacek, A. PED1058
Tie, Y. PED0941, PED1124
Tiemann, C. PEC0518
Tiemessen, C.T. PEB0290
Tien, P. PED0879
Tien, P.C. PEB0352
Tietz, D.E. PED0951
Tieu, H.V. **OAD0606**, **PED1286**
Tiffany, T. OAB0507
Tih M., P. PEC0512
Tilahun, E. PED1070
Timberlake, S. OAF0402
Timbigamba, J. PEE1396
Timelli, L. PEB0092, **PEB0138**
Timothy Idipo, D. **PEE1606**
Tinajeros, F. **PEC0439**
Tindikahwa, A. PEC0602
Tinsely, J. LBPEC26
Tipsuk, S. PED0770
Tique, J.A. PEE1533
Tiraboschi, J. PDB0105
Tiwari, R. PEE1555
Tjaronda, A. PEE1489
Tlale, J. **PEE1688**
Tlhajoane, M. PEE1470
Tlhako, N. PED1180
Tlhomola, M. PDE0505
Tobian, A.A. PDC0405
Tobon, W. PEB0180
Tobón, J.W. OAC0703
Todd, H. PED1188
Todd, J. PEB0133, PEB0136
Toefy, Y. PED1320
Toghoua Tseuko, D.G. PEA0076
Toh, H.S. **PEB0184**, **PED0830**
Tohme, J. LBPEF59
Tokusumi, T. OAA0306
Toledo, C. PEC0605, PED1236, PEE1502, LBPEC19
Tollera, G. PEE1721
Tomaras, G.D. OAA0305
Tombo, M.L. PEB0088, PEC0732
Tombo, M.-L. OAC0806
Tomini, S. PEB0256
Tomioka, R. PEC0687
Tomita, A. PEB0208
Tomko, C. **OAD0304**, PDD0303
Tomlinson, M. OAC0702, **OAD0506**, PEC0678
Tonelli, M. **PEE1418**
Tonen-Wolyec, S. **PEC0592**, **PEC0593**
Tong, L.H. OAF0305
Tongo, M. OAB0402
Tonguino, T.K. PEE1588
Tonkin-Crine, S. PEE1620
Toomey, C. **PEC0466**
Toosi, K. **PEC0514**
Topp, S.M. **OAD0306**, PED1179, **PEE1571**, PEE1572, **PEE1636**
Torbunde, N. **PEE1604**
Torelli, G. OAC0202
Torillus, C. PEE1647
Toromo, J.J. PEB0307
Torralba, M. PEB0216
Torre, P. PED1131
Torrents, D. PEB0273
Torres, B. LBPEB15
Torres, I. PDE0104
Torres, J. PEC0716
Torres, L. OAA0102
Torres, M. PEE1514
Torres, S. PEE1641
Torres, T. OAC0505, PEC0604, PED1308

Torres, T.S. **PDD0507**, PEC0557, **PEC0715**, PED1303, **LBPED35**, LBPED36
Torres Cornejo, A. PEB0229
Torres-Fernández, D. PEB0296
Torrilus, C. PEE1519
Toska, E. PDE0304, PEC0748, PED0818, **PED1025**, PEE1382
Toskin, I. PEB0168
Tossonian, H. PEB0229
Tosswill, J. OAA0106
Toullier, A. PEF1765, PEF1792, PEF1823, PEF1826, PEF1829
Toussova, O. PED1036
Tout, S. PED1252
Tovar Sanchez, T. OAB0402
Towe, S. PED1178
Towner, W. OAB0603, PEC0619, PEC0621
Townley, E. OAB0706, PEB0293, LBPED30
Tozan, Y. **PEE1365**
Trabattoni, D. PEA0023
Traeger, M. PEC0441, PEC0639
Traite, S. LBPED30
Tralla, M. PED0794
Tram, K.H. **PEE1455**
Trammell, R. PED1087
Tran, A. OAE0802
Tran, H. PED0850
Tran, H.B. OAF0305
Tran, L.T. PEC0538
Tran, N. PEC0514
Tran, P. OAE0802
Tran, T. OAE0204, OAE0802, PED1237
Tran, T.M.T. PEC0511
Trang, N.T. **PDE0303**
Tran Khanh, A. PEC0601
Traore, A. PDE0402
Trapence, G. PEC0575
Treloar, C. PEE1510
Tremblay, C. PDB0302, PEB0145
Tremblay, L.-K. PEB0335
Trémeaux, P. OAA0103
Trepka, M.J. PDD0104, PEC0460
Tretiakov, V. PEB0151
Triant, V. **PEB0187**
Triant, V.A. LBPEB13
Triantafyllou, I. PEA0083
Trickey, A. **OAC0304**, PEC0426, PEC0433
Trifone, C.A. **PEA0040**
Trigg, J. PEC0536
Trinh, H.V. OAA0304, OAA0307
Tripsteen, W. PEA0042
Triulzi, I. **PED0902**
Trivino Duran, L. PEE1582
Trivino-Duran, L. PEE1634
Trofimenko, M. PEF1747
Trofymenko, M. **PEF1762**
Truc, T.T. PEB0343
Trujillo, D. PED0884
Truong, D. PEB0149
Truong, V. PEB0348
Trypsteen, W. OAA0102, **OAA0104**
Tsai, A.C. PED0944
Tsayem, I. PEA0052
Tseka, J. PEE1571
Tseka, J.M. **PEE1572**
Tseng, A. LBPEC23
Tseng, T.-Y. **PDD0107**
Tshibambe, C. PEE1471
Tshimanga, M. PEC0653
Tshisumpa, L. PEE1471
Tshivuila-Matala, C. PDA0106
Tsholo, K. **PED1180**
Tsiakou, T. OAC0305
Tsidya, M. PEC0693
Tsikhutsu, I. PEC0728
Tsima, B. **PEB0224**
TSIMENE, F. PED1185
Tsiouris, F. PDE0307, **PEE1383**, PEE1535
Tsoeu, N. PED0993
Tsoka-Gwegweni, J. PEC0544
Tsondai, P.R. **PEC0753**
Tsong, R. PDC0406, PEC0389
Tsukada, K. PEB0236
Tsutsumi, T. PEB0154
Tsuyuki, K. PED0934
Tsybovsky, Y. OAALB0101
Tuaillon, E. PEB0241
Tubert, J. **PEE1482**
Tubiana, R. PEC0498, PEC0703, PEE1588
Tucker, J. PED1218, PED0976, PED1313, PEE1607
Tucker, J.D. OAD0806
Tudor-Williams, G. OAA0105
Tuen, M. PEA0008
Tugumisirize, F. PEB0310, PED1229, PEE1528
Tuinier, K. PEB0341
Tukei, B. PEE1626
Tukei, V. **PEB0137**
Tumbu, P. PEC0435
Tumkosit, M. PEB0182
Tumusiime, A. PEE1391
Tumwebaze, R. PDB0403
Tumwesigye, N. PDC0305, PED1208, PEE1385, PEE1639
Tun, N.N. **LBPEE43**
Tun, T. PEC0699
Tun, W. PED1062, PED1063, PED1071
Tunkam, C. PEC0388
Tuot, S. OAD0204, OAD0403, OAF0404, PED1040, PED1047, PED1048, **PED1067**, PED1098, **PED1151**
Tupinambas, U. PEC0624, PEC0643, PEF1847
Turan, J. PED0854
Turchetti, G. PED0902
Turk, G. PDA0102, PEA0028, PEA0040
Turk, T. PEB0240
Turner, C. PDC0203, PEC0417
Turner, C.M. **PED1081**
Turner, K. PEC0446, PEC0607
Turville, S.G. PEA0062
Tusiime, J. PEE1401
Tuwayenga, R. PEE1394
Tuyishime, S. PEB0185
Twahirwa Rwema, J.O. OAF0403, **PEC0445**
Twine, R. OAC0407, OAD0305, PED0886, PED0958, PED1142, PED1143, PED1157
Twinomujuni, E. PEE1424
Tyler, A. PED0964, PED0965, PED1034
Tylleskar, T. PEC0384
Tymejczyk, O. PEE1564
Tyndale, R. LBPEB10

U

Uakuramenua, C. PEC0680
Ubarhande, B. PED0949, **PED1053**
Ubolyam, S. **PEB0123**, PEB0204, PEB0353
Ude, W. PEF1847
Udoh, I. **PEE1730**
Ueaphongsukkit, T. PEB0182, **PEB0204**
Ugaz, J. **PED0807**
Ugege, O. PEF1851
Ugwu, C. PED0952
Ukuahamba, A. PEE1618, PEE1515
Ukwaja, K. PED1156
Ulenga, N. OAD0702
Umaipalan, A. LBPEB16
Umasa, S. PEE1469
Umboh, L. LBPEF60
Umlisa, M.M. PEC0691
Umoh, F. **PEF1790**
Umoh, P. PEC0609
Umoren, M. PEE1512
Umviligihozo, G. **PEA0020**
Underwood, M. PEB0238
Ung, P. PEF1871
Unger, N. PEB0359
Ungsedhapand, C. PDC0105, PEC0409
Unwana, P. PEE1483
Urasa, P. PEC0599, **PED1082**
Urbaeva, J. PED0874
Uribe-Zúñiga, P. OAE0603
Urio, A. PEC0425
Urioste, A. PDA0102, **PEA0028**
Urquhart, G. PEC0419
Urry, MPH, M. **PED1020**
Urso, M. PEC0432, PEE1383, **PEE1514**, PEE1570
Usher, D. OAC0404
Ussene, E. PEE1383
Utama, H.P. PEF1899
Utay, N. **PEA0041**
Uthman, I.F. PEC0570
Uthman, M. PED1260
Uttayananon, J. PED1187
Uukola, T. PEC0680
Uy, M.M. PEF1818
Uzoaru, F. PED1202

V

V, B. PED0831
Vaccher, S. PEC0627, PEC0636, OACLB0103
Vadaq, N. **PEA0045**
Vaewsorn, A. PED1168
Vahey, S. LBPEE45
Valadés-Alcaraz, A. PEB0117, **PEB0337**
Valadés-Alcaraz A, A. PEB0296
Valantin, M.-A. PEC0498
Valderrama-Beltrán, S. OAC0703, **PEB0180**
Valdez, C. **PEE1347**, PEF1874
Valdez Madruga, J. OACLB0101, OAXLB0101
valencia, j. **PEF1775**
Valencia, E. PEB0212, PEB0337
Valencia, J. OAB0404
Valencia Huanami, J. OACLB0101, OAXLB0101
Valentin, A. OAA0304, OAA0307
Valenzuela-Lara, M. **OAE0603**
Valeriano, T. PEB0153
Vallejo, A. PEB0127
Vallejo, E.P. OAB0705
Vallely, A. PEC0500
Valles, J.S. PEE1728
Vallo, R. PEB0351
Valmorbida, M. PEF1855
Valois, S. PEB0334, PEB0335
Vameghi, M. PEE1583
Van, H.T.H. PEB0343
Van, H. OAE0802
Vana, L. PEC0448
van Aar, F. PEC0479
van Aswegen, T. PEB0327
van Beekum, I. PDD0304
van Benthem, B. PEC0479, LBPEC17
van Bilsen, W. PED0950
Van Cutsem, G. PEB0131, PED1283, PEE1582, PEE1634
Vandekerckhove, L. OAA0104, PEA0042
van de Kerkhof, M. PDB0306
van de Laar, T. PEC0479
van de Laar, T.J. PDB0306
van den Berg, K. **PEC0427**, **PEC0488**
van den Berk, G.E. **PEB0223**
van den Hombergh, J. PEB0185, PEC0411, PEE1708
van der Elst, E. PEC0470, PEE1585
van der Elst, E.M. PEC0365, PEE1397
Vanderford, T. OAA0202
van der Heijden, W. PEA0045
van der Heijden, W.A. **PEB0183**
Van der Heijden, W. PEA0042
van der Meche, N. PEB0223
van der Merwe, L.L.A. PEC0405
van der Merwe, N. LBPEE46
van der Straten, A. PDD0506, PEA0087, PEC0688, PED1158
van der Valk, M. PDB0306
van der Ven, A. PEA0042
van der Ven, A.J. PEB0183
Van der Ven, R. PEB0303
VanderWal, E. **PEC0647**, **PEE1576**

VanderWal, H. PEC0647
van der Wijer, L. PEA0045
VanderZanden, L. PED0809
Van de Van, R. PEB0292
van de Ven, R. **OAE0202**, **PEE1692**
Van de Ven, R. PEB0295, PEC0722
van de Vijver, D. PEC0641
Van de Wijer, L. PEA0042, PEB0183
Van Duffel, L. OAC0202
van Duin, D. PEB0218
Vandy, A.O. LBPEE44
Van Dyke, R. PEB0312, PEB0333, PEB0336
van Eeden, A. PDB0306
Van Enk, L. PEE1665
Vanetti, C. PEA0023
Van Eygen, V. PEB0263
Van Eygen, V.V. OAA0203
van Griensven, F. PDC0102, PDC0104, PEC0376
Van Hecke, C. OAA0104
Van Heerden, A. PEE1375
Vanhulle, C. PEA0059
Van Laeken, D. PDE0103
Van Landuyt, E. PEB0263
Vanleeuw, L. PEC0398, PED1016
Van Lint, C. **PEA0059**
Vannakint, R. PEE1469
Vannakit, R. OAE0702, PDB0204, PDB0304, PDE0106, PEB0346, PEC0444, PEC0659, PEC0757, PED1187, PED1206, PEE1485, PEE1542, PEE1732, PEF1856, OAELB0103
Vannappagari, V. PEB0217, PEB0234
Van Ngo, H. PEC0601
Vanobberghen, F. LBPEB11
van Oosterhout, J. OAE0503, PEE1652
van Rensburg, C. PEC0641
Van Rompaey, S. PDE0104, PED0881, PEE1533
Van Rompay, K. PED0812
Van Rompay, K.K.A. OAALB0102
van Rooijen, M. PED1101
Van Rooyen, H. PEE1375
van Santen, D. PEC0441
van Santen, D.K. **OAC0303**
van Schalkwyk, M. OAB0404
Van Schalkwyk, M. PEB0181
van Sighem, A. **LBPEC17**
van Solingen-Ristea, R. PEB0261
Van Solingen-Ristea, R. PEB0263, PEB0264
Van Tieu, H. PEC0718
Vanveggel, S. PEB0261
van Weert, Y. PEC0479
van Welzen, B. PEB0229
van Wyk, J. **OAB0606**, PDB0103, PEB0233
Van Zyl, G.U. PEA0035
van Zyl-Smit, R. PED0832
Varangrat, A. PDC0105, PEC0409, PED1105
Varela, A. PED0925, PED1079
Varentsov, I. **PEE1336**
Varetska, O. OAC0304
Varloteaux, M. OAB0402
Varsaneux, O. OAF0202
Vasan, S. PED0761, PED1198
Vasconcelos, R. PED1241
Vasconcelos da Silva, L.A. PED0764, PED1304
Vasireddy, V. **PEE1323**, PEE1335, PEE1344, PEE1345, PEE1356, PEF1751, **PEF1882**
Vasques, S.C. PEB0143
Vásquez Chávez, O. PEF1761
Vasudevan, C.K. PED0890
Vatish, M. PDA0106, PEA0046
Vaughan, M. PEC0548
Vavala, G.M. **PEB0169**
Vavro, C. OAB0706, PEB0293
Vaz, P. PEB0315
Vaze, A. PEC0547
Vazquez, M.J. OAF0104
Vázquez, M. PED1139
Veazey, R. PDA0206
Vedapuri, S. PEE1713
Vega, H. PEC0738
Vega, I. PEB0170, PEB0214
Vega-Ramirez, E.H. PEC0692, PEC0715
Vega-Ramírez, E.H. OAC0505
Vela, C. OACLB0101
Velasco, T.C. PEB0237
Velasque, L. PEF1838, **PEF1839**
Velazquez-Pastrana, R. PEC0542
Veloso, D. **OAD0405**, PEC0551, PED0939
Veloso, V. OAB0303, PEC0604, PEC0692, PEC0711, PEC0715, PEC0738, PED1308
Veloso, V.G. OAD0105, PEC0557, PED1303, PDD0507, **OAC0505**, LBPED35, LBPED36
Velthausz, D. PED1213
Velu, V. OAA0305
Venables, E. PEE1497
Vendramini, G. PED1015
Venkatakrishnan, S.S. PEC0661
Venter, F. PEE1717, OAXLB0104
Venter, W.D.F. OABLB0103, OABLB0105
Venzon, D.J. OAA0307
Vera, J. PEB0168
Verani, A. **PEF1887**
Veras, M. PED0962, PED0963
Veras, M.A. PEC0417, PEC0694, PED1011, PEF1833, PEB0209, PEC0377, PEC0416
Veras, M.A.M. PED0856
Verdeli, H. PED1164
Verdes, L. OAC0305
Verdier, R.I. PEB0121, PEE1647, PEB0258
Verdier, R.-I. PEE1519
Verdikt, R. PEA0059
Vergas, J. PEB0216
Vergori, A. PEB0253
Vergus, G. PEE1354
Verma, A. **PDD0406**, PEC0671, **PED0831**
Verma, V. PEB0287, PEC0423, PEC0499, PEC0546, PEC0671, PED1249
VERMA, V. PEE1566
Vermandere, H. PED1291, LBPEE52
Vermeulen, M. PEC0427, PEC0488
Vermund, S. LBPEC27
Vermund, S.H. PEC0656, PEC0531, PEE1473
Vernandere, H. OAC0505
Vernazza, P. PEB0239
Veronese, F. PED1128
Verpillot, E. PEE1351
Vervisch, K. OAA0104
Vetrova, M. **PED1036**
Veyri, M. OAB0203
Vhembo, T. OAB0505, PEB0293
Vianna Brizolara, R. PDB0407, **PDE0407**, PEC0383, PEE1450
Vibert, B. PEF1792
Vicart, M. PEF1829
Viciana, P. OAB0304, PDE0503
Vickerman, P. OAC0304, PEC0426, PEC0431, PEC0433, PEC0539
Vickie, K. OAC0205
Vickroy, W. **PED1121**
Victorianne, G. PED0838
Vidal, L. PED0957
Vidda, G. **PEC0745**
Vieira, R.G. PEC0643
Vieira, V. **OAA0105**
Viens, L.J. **PEC0704**
Viet Anh Kha, H. PEF1853
Vigón, L. **OAA0204**, PEA0064
Vi-Le, L. PDC0102
Villafranca, R.A. **PEF1818**
Villamil, L. PEB0180
Villanueva, M. PEB0153, PEC0721
Villares, M. **OAC0403**, PEF1855
Villaseñor, Y. PEC0731
Villes, V. OAF0306, PED0942
Vinayak, P. PDC0306, **PEE1617**, PEE1619
Vincent, W. **PEC0551**
Vinh, V.H. PEB0351
Vinicius Lacerda, M. PEC0692
Vinogradov, V. PED0968, PED0978, PED0984
Vinson, J. OAC0605, PEC0676
Vinson, Q. **PED0937**
Vinuelas, M.d.C. PEB0282
Violari, A. PEB0315, PEB0326, PEB0328
Violet Enid, N. **PEC0540**
Violette, L. **PDE0105**, PEE1372
Virk, M. PEB0238
Vissoci, J. PED0771
Vitale, M. PED0817, PEE1383
Vitiello, P. PEB0190
Vittinghoff, E. PDC0203, PEB0347, PEB0352
Vivancos, M.J. PEB0189, PEB0225, PEB0237
Vizcarra, P. PEB0127, **PEB0189**, **PEB0225**, **PEB0237**
Vlasiuk, O. **PEE1508**
Vleeshouwers, E. PED0829
V Machado, M. PEB0207
Vo, A. PEC0527, **PEC0712**
Voget, J. PEE1497, OAELB0102
Vo Hai, S. OADLB0105
Volk, J. **OAC0807**
Volk, J.E. OAC0502
Vollmer, S. OAE0105
von Delft, A. PEE1390
von der Heyden, E. PEE1497
von Felten, P. PDC0203
von Stockenstrom, S. OAA0403
Vorontsova, L. **PDF0203**
Vos, D. PED0803
Vo Thi Tuyet, N. PED1264
Vrazo, A. PEB0289
Vrbova, E. PEB0162
Vreeman, R. **PEB0308**
Vreeman, R.C. PEB0307
Vrolings, E. PEE1465
Vu, A. PEC0472
Vu, B. OAE0204, **OAE0802**
Vu, H. OAE0802
Vu, Q. PEC0442
Vu, T. PEE1430
Vu, Y. **OAE0204**
Vu Gia, L. PED0935
Vundamina, N. PED1288
Vundi, N. PED1033
Vu Ngoc, B. OADLB0105
Vu Ngoc, P. PED1264
Vuoti, S. **LBPEA01**
Vu Quoc, D. **PEC0505**
Vu Thu, G. PED0935
Vyktyuk, N. LBPED37

W

Wabiri, N. PEC0464
Wacharachaisurapol, N. PEC0657
Wachira, J. PED1167
Wadonda-Kabondo, N. LBPEC21
Wadri, R. PEE1401
Waetjen, M. **PEC0727**
Waewklaihong, S. PEF1856
Wagar, N. PEC0500
Wagenaar, B. OAE0803
Wagner, A.D. PEE1546, PEC0582
Wagner, R. OAC0407
Wagner, S. PEC0604
Wagner, T. PEC0688
Wagude, J. LBPEB08
Wahab, R. PED1155
Wahle-Knight, C. PEE1451
Wailagala, A. **PEB0112**
Waiswa, P. PEE1734
Waite, D. PEC0557, PED1303, PED1308
Waitt, C. PEA0086, PEB0262
Wakabayashi, C. OAD0406
Wakdok, S. OAE0306

Wakhutu, B. OAE0704
Wakoli, A. PEE1535
Walakira, G. **PED1200**, **PED1201**
Walensky, R.P. PDE0504
walia, s. **PED1027**
Walia, R. PED0877
Walia, S. PED0831
Walimbwa, J. PED0988
Walker, B. PEA0058
Walker, J.G. OAC0304, PEC0426
Walker, L. PDE0307, PEE1383, PEE1535
Walkup, J. PEF1891
Wallace, M. PEE1362
Wallach, S. OAELB0104, LBPEE53
Waller, C. OAA0202
Walles, J. **PEB0288**
Wallin, J. **OAB0205**
Wallis, C. PEB0245
Wallis, C.L. OAB0404
Walmsley, S. **PEB0231**, **PEB0233**
Walner, K. PDB0403
Walsh, F. OAE0105, PEC0723
Walters, M.W. **PEC0739**
Walters, N. PEB0260
Walters, R. **PEF1752**, **PEF1808**, **PEF1810**
Walworth, C. PDB0402, PDB0406
Wamala, R. PED1300
Wamalwa, D. PEC0582, PEE1592
Wambiya, E. PEE1611
Wambiya, E.O. PEE1605
Wamboko, D. PEE1665
Wambua, J. PEF1832, LBPEC19
Wambura, M. LBPEC18
Wamoyi, J. PEC0691
Wamundu, C. PED1317, PEE1391, PEE1589
Wamundu, c. PEE1448
Wamundu, C.C. PED0845
Wamuti, B. PEE1505, **PEE1557**, PEE1678
Wa Mwanza, M. OAE0102
Wan, E. PEA0051
Wananda, M. PED1208
Wandawa, P. PEE1587
Wandeler, G. PEB0239
Wandina, D. PEE1650
Wandonda, N. PDD0403
Wang, C. PDC0407
Wang, D. PEA0086
Wang, F.-X. **PEC0386**
Wang, H. PED1199, PEC0573, OAB0403, PEA0061
Wang, H.-C. PED0830
Wang, J.-Y. PEC0386
Wang, J. OAB0204
Wang, J.-D. PEC0403
Wang, L. PDC0107, PEC0670, **PEC0533**, PEC0494, PEC0536
Wang, M. PEA0022
Wang, P. **PED0806**
Wang, R. **PEB0238**
Wang, S.F. **PEA0034**
Wang, S. **PED1280**
Wang, T. **PED1141**
Wang, W.H. PEA0034
Wang, X. **PEC0378**
Wang, Y. PED1298, OAB0204, PEC0582, PEB0261, OAB0204
Wang, Z. PED0797, PEC0589
Wangari, E. PED1245
Wango, G.-N. OAC0106
Wanjala, S. PEC0485
Wanje, G. **PED1084**
Wanless, S. PEE1420, PEE1422
Wannamaker, P. LBPEE42
Wanyama, J. PEC0618
Wanyenze, R. PEC0553, PEC0663
Wanyenze, R.K. OAC0402, PDC0403
Wanyungu, H. PEE1432
Wara, N. OADLB0102
Warapornmongkholkul, A. PDC0105, PEC0409
Ward, D. PED0798, OAD0504, OAB0403, PEC0358
Ward, J. PDC0204, OAE0106
Ward, J.A. PEE1699
Ward, Z. PEC0426
Wardhana, A. **OAE0604**, PEE1328
Wardman, D. PEE1386
Ware, N.C. PEC0600, PED1250
Waringa, V. PEF1897
Warr, A. PEB0147
Warren, M. PEC0755, PEF1863
Warrick, J. OAB0506
Waruiru, W. PEC0487, PEC0510
Waruru, A. PEC0384, **PEC0503**, PED1245
Washington, T. **PEC0371**, **PEC0372**
Washington, T.A. PED1006, PED1018
Wasike, S. **PEE1699**
Wasswa, H. PEB0332
Wasswa, J. PEE1639
Watanabe, G. PEF1797
Watkins, D. PEE1503, PEE1615
Watoyi, S. PED1173
Watson, C. PED1176
Watson, J. PED0800
Watson, R. PEC0373
Watson, S. PEE1430, PED1271
Watt, M. **OAD0106**, PED0771, PED0869, PED0938, PED1242
Watt, M.H. PED0801
Wattanayingcharoenchai, S. PEF1856
Watts, D.H. **OAB0705**
Watts, H. PDB0106, PEB0113, PEE1514
Watya, S. PED1029
Wawer, M. PEB0294, PED0882, PEE1642
Wawer, M.J. PDC0405
Wazee, H. PEE1565, PEE1568
W. Cardoso, S. PED0954
Weatherburn, P. OAD0504, PEC0646, PED1089, PED1093
Webb, G. OAALB0103
Webel, A. **OAE0305**
Webel, A.R. PEC0710
Weber, S. PEC0563, PED0878, PED1176, PED1197
Wedderburn, C.J. **PEB0331**
Wedmedyk, S. PEE1524
Weed, J. OAA0203
Weerasinghe, G. **PEE1516**
Wegener, M. PEB0153
Wei, C. PED0806
Wei, D. PED0961, PED0997
Wei, L. PED0989, PEB0197, PEB0254
Wei, S.-Y. PEE1616
Wei, W. PED0967
Wei, Y. PDC0406, PEC0389
Weicker, N. PEC0419
Weidle, P.J. PEC0721
Weidlich, S. **PEB0242**
Weikum, D. PEE1599, PEE1712
Weinberg, A. OAB0505, PEB0333, LBPED30
Weiner, B. PEE1557, PEE1678
Weiner, J.A. OAA0307
Weinheimer, S. PEB0122
Weinstein, L. OAD0804
Weinstein, M.C. PDE0504
Weir, B. PDC0105, PEC0409
Weiser, B. **PEA0053**
Weiser, J. **PEC0442**
Weiser, S. PED0854, PED0879
Weiser, S.D. OAD0302, PED0903, PED1148
Weiss, D. OAALB0101
Weiss, H. PEB0175, OACLB0102
Weiss, S. PED1092
Weiss, S.M. PEB0098
Weissman, S. **PEC0516**, PEE1434, PEF1755
Wejnert, C. OAC0504, PEC0421, PED0926, PED1057, PEF1737
Weke, E. PED0903, PED1148
Wekesa, P. PED0903, PED1148
Welborn, L. PEC0595
Welbourn, A. PEF1894
Welch, J. OAC0105
Wells, C. PED1135, **PED1265**
Welsh, D. LBPED41
Welte, A. PEC0478
Welty, S. OAC0306, PEC0414, PEC0415, **PEC0510**, PEC0511, PEE1713, PEE1709
Welu, B. PEB0129
Weng San, J.F. PEB0125
Wentz, E. PED0854
Were, D. OAE0704, **OAE0705**, PEF1832
Were, E. PED0876
Wermuth, P. PED1057
Wersching, G. PED1237
Wesolowski, A. PEC0535
Wesonga, A. PEE1397, PEE1585
Wesseling, T. PEC0494
Wesson, J. PEC0410, PEC0475
Wesson, P. PEC0375
West, B.S. PUB002
West, R. OAC0407, OAD0305, PED1157
West, S.K. PEB0265
Wester, C.W. PDE0104, PED0881, PEE1533
Westin, M. PEC0624, PEC0643
Westmoreland, D. PEC0492
Westmoreland, D.A. PEC0637
Westreich, D. PEC0524
Wetshikoy, D. PEC0498
Weyenga, H. PEE1472
Wheeler, J. PED1257
Whelan, R. PED1039
W. Hendrix, C. PDC0408
White, J. **PED1218**
White, K. PEB0257
White, K.L. PEB0254
White, R.H. OAD0304, PED1281
Whiteley, L. LBPED30
Whiteman, A. PEF1737
Whiteson Kabudula, C. OAC0407
Whiting, A. PEE1382
Whitney, B. PEC0450
Wibaraba, Y. PEE1529
Wichser, M.E. PEC0608
Wickersham, J. PEC0632
Wickremsinhe, M. LBPEF57
Widihastuti, A. PED1068
Wiener, J. PEB0356
Wiessing, L. LBPEC26
Wieten, C. OAD0204
Wigan, R. PEB0104
Wiginton, J.M. **PED0945**, PED1086
Wilberg, M. LBPEC26
Wilbourn, B.C. PED0973
Wilcher, R. **OAF0103**, PEC0560
Wilford, J. PED1207
Wilkin, T. PDC0408
Wilkinson, A. PEC0441
Wilkinson, L. PEE1497, OAELB0102
William, W. PED1216
Williams, A. LBPEA05
Williams, B. LBPED39
Williams, C. **PEC0548**
Williams, E.C. LBPEC23
Williams, J. PEE1730
Williams, P. PED1131
Williams, P.L. PEB0312, PEB0313
Williams, R. PED0966, PED1311
Williams, R.J. PEC0617
Williams, S.L. PED0943
Williams, T. PEC0721, PED0878, PED1197
Williams, V. PEC0706, PEE1602
Williams, W.B. OAA0307
Willie, B. PEC0500
Willie, T.C. PED0772
Willig, A. PEC0450
Willis, N. PED0816
Willkom, M. PEB0254
Wills, G. OAB0502
Wills, R.S. PEC0439
Wilson, D.P.K. OAB0506

Wilson, E. PED0798, PEC0417, PEC0517, PEC0711, PED0856, **OAC0204**
Wilson, E.C. **OAD0105**, PED0924, OAD0806, PDC0203, PEC0402, **PEC0676**, PED0884, **PED0953**, PED1081
Wilson, I. PED0852
Wilson, K. **PED0824**, PED0888, PEE1592, PEF1850, PED0878, PED1197
Wilson, N. PED1115
Wilson, T. PED0854, PEF1881
Wilson, W. PED0878, **PED1197**
Wilton, L. OAC0404
Win, K.S. PEF1803, PEF1811, **PEF1813**
Win, Y.N. **PEE1663**
Winaitham, S. PEC0376
Wingood, G. PEF1881
Winkler, G.B. PEB0143
Winstock, A.R. PED1050
Wipaporn, N. PDB0206
Wirawan, G.B.S. **PEF1888**
Wirth, K. PEE1371
Wirth, K.E. PEC0600, PED1285
Wirtz, A. PDC0105, PEC0409, PED1021, PED1105
Wirtz, A.L. PEC0405
Wirtz, M. PED0832
Wiseman, V. PEE1510
Witte, S. PED0887
Wittesaele, C. PED1025, PEE1382
Wittwer, J. PEE1351
Wittwer, T. OAB0506
Witzel, T.C. **OAD0504**
Wiwa, O. PEB0202
Wiznia, A. OAB0103, OAB0706, OAD0802, PEB0293, PED0871
Wlazly, D. PEB0168
Woelk, G. PDD0403, PEB0304
Wohl, D.A. PEB0218
Wohlfeiler, D. PEC0746
Wohlfeiler, M. OAB0604, OAB0606
Woldegiorgis, M. PEC0441
Wolf, E. PEB0242
Wolf, H.T. OAB0504, **OAB0703**, PEB0305
Wolfe, B. PEB0280
Wolfe, M.E. PED0926
Wolfe, M. PEC0578
Wolfeiler, M. LBPEE42
Wolkon, A. PDC0302
Wollmer, M. PEE1335
Wollmers, M. **PEE1345**, PEF1751, PEE1323, PEE1344, PEE1356, PEF1882
Wonderlik, T. PEE1717
Wong, A. PEB0229
Wong, B.C. PEC0443
Wong, C. OAE0105, PEC0452, PED0883
Wong, C.S. PED0964, PED0965, PED1034, PED1298
Wong, E. OAB0507, **PDC0306**, PEE1617, PEE1619, PED0964
Wong, H.M. PED1234
Wong, J. PEC0434, PEC0709, **PED1090**, **PED1102**, PED1103, PED1104
Wong, J.P. **PED1228**
Wong, L.P. PEC0590
Wong, M.L. PED0964, PED0965, PED1034
Wong, N.S. PEC0443, PEC0606
Wong, P. PDB0303, PEB0165
Wong, P.L. PED0783
Wong, S.S. **PEE1456**
Wong, S. PEC0451, PEC0454, PEC0633
Wong, T. PEE1386
Wong, V. PEE1477
Wongharn, P. PDC0106, PEB0325, PEC0673
Wongnum, N. PED0815
Wongsabut, J. PEB0353
Wongsri, T. PEC0757
Wood, B. PEC0450
Wood, J. PED1006, PED1018
Wood, R. PDE0504
Woodring, J. PEC0376
Woods, R. PEC0451, PEC0454
Woodworth, A. PEF1897
Wools-Kaloustian, K. PEB0307, PEC0394, PED0876, PED1167, PEE1564
Worthington, C. PEE1410
Wosornu, S.K. OAC0604, PEC0572
Wouters, K. **PEB0129**, **PED1126**
Wozniak, R.J. PED1091
Wright, E. PEC0639, **PED1007**, PED0889, PED0898
Wright, I. PEE1604
Wright, J. OAB0606, PEB0238
Wright, M. PEE1584
Wroe, E. **PEE1704**
Wu, A.H. PEB0352
Wu, D. OAD0502, PEC0584, **PED0976**
Wu, E.S. PED0838
Wu, E. OAE0805, PEC0667, PED0968, **PED0978**, PED0979, PED0984, PED1035, PEE1436, PEF1780
Wu, G. PEC0656
Wu, H. OAALB0103, PEC0531, PEE1353
Wu, H.-J. **PDC0103**, PEE1366
Wu, J. PEB0121, PEB0258
Wu, K. PEC0622, PEE1536, PEB0215
Wu, P.Y. PEB0219
Wu, S. PED1002
Wu, T.-H. OAC0506
Wu, X. OAB0503
Wu, Y. PEC0447, PED0781, PED0998, PED1272, PEE1467
Wu, Z. PEE1473
Wulandari, L.P.L. PED1217
Wulf, S. PED0878, PED1197
Wurtz, H.M. PUB003
Wut Yee Kyaw, K. PEE1398
Wuyke, MSc, G. PED1096
Wyatt, C. PEB0217
Wyen, C. PEA0064
Wyka, K. PED1013
Wynn, A. PEB0163
Wynne, B. OAB0606, PEB0233
W. Young, P. PEC0503

X

Xaba, S. PEC0653, PEE1541
Xia, J. PEE1333
Xiao, S. PDA0206
Xiaoming, L. PEC0516
Xie, H. OAD0405, PDC0203, PEC0402, PED0924, PED0939, PED0953
Xien, H. PED0856
Xing, H. PEC0456
Xiong, R. PED1110
Xiong, Y. PED0989
Xu, G. PEB0155
Xu, Y. PED0837, PED1178, LBPEC27
Xu, Z.J. OAB0605
Xuan, D. PEE1377
Xuan, J. PEE1377
Xulu, S. PEC0689
Xulu, T. PEB0151, PEB0152
Xun, J. PEB0243

Y

Yabadile, L. PEE1527
Yadav, V. PEC0661
Yager, J. PEC0724
Yahaya, H. PED1132
Yakub, M.M. PEB0158
Yakubova, E. LBPEA02
Yakubu, A. PEB0301, PEC0484
Yakusik, A. PED1001, PED1113, PEE1343, LBPEE53
Yalley, C. PEC0572
Yam, E. PED0778
Yama, S. PEC0388
Yamaguchi, M. OAD0406
Yamakami, L. PEC0687
Yamatani, M. PEB0236
yameogo, B. PEC0406
Yan, H. PEC0610, PEC0531
Yan, Z. **PEC0610**
Yanet, M. PEE1326
Yang, C. PED1218, PEB0249
Yang, D.W.J. **PED0965**
Yang, D. **PED0991**, PDB0406
Yang, E. PED0976
Yang, L.H. PED1269
Yang, N. **OAD0502**
Yang, X. PED0855
Yang, Y. PEC0716
Yang, Z.S. PEA0034
Yang, Z..S. **PEA0036**
Yansaneh, A. PEB0289
Yao, J. PDE0203
Yao, T.-J. **PED1131**
Yao, Y. PDE0203
Yap, A. PDC0104
Yapa, M. LBPED34
Yapo, D. PEE1588
Yarcia, L. OAF0105
Yariy, V. LBPED37
Yaryy, V. PED0786, PED0859
Yates, T.C. PED0780
Yawa, A. PEF1895, **PEF1896**
Yaya, I. PEC0629
Yayra Bonney, E. PEA0015
Yazdanpanah, Y. OAB0302, OAB0305
Ye, J. **PEE1353**
Ye, M. PED1275
Yee, K.L. PEA0083
Yee, N.S. PEE1663
Yeh, C.S. PEA0034
Yeh, P.T. PEE1547
Yeh, R. **OAA0205**
Yekeye, R. PED0909, PED0914, PED1010, PEE1460
Yeldandi, V. PEE1491
Yelverton, V. **PEF1755**
Yem, S. PED1151
Yemane Berhan, A. PEE1438
Yen, C.-C. PEE1616
Yenbhar, N. PDD0406
Yende-Zuma, N. **PEB0111**
Yeni, P. PEC0448
Yerly, S. PEB0239
Yeshitela, B. PEB0116
Yesypenko, S. PED0842
Yeung, B. PEC0627
Yeung, S. PEB0331
Yewale, K. PEE1698
Yi, S. OAD0204, OAD0403, PED1040, PED1047, PED1048, PED1067, PED1098, PED1151
Yi, Z. OAD0502
Yiannoutsos, C. PED1167
Yiannoutsos, C.T. PEE1564
Yin, M.T. PEB0326
Yin, X. PDA0207
Yindom, L.-M. PEB0226
Ying Ru-Lo, J. PDC0104
Yokota, K. PEB0156
Yoksan, S. PEB0318
Yola, N. PEC0755
Yonga, I. PEC0384
Yonge, S. PED0840
Yoon, S. PED0904
Yoshimura, K. PEC0455
Yoshioka, E. **PEF1799**, PEF1854
Yotebieng, M. PDD0404, PEB0174
Yotsumoto, M. PEB0156
Yotsuyanagi, H. PEB0154
You, X. PED0997
Young, B. PED0773, PED0808
Young, C. PED1090, PED1102, PED1103, PED1104
Young, K. PDD0306, PED1076
Young, P. LBPEC19
Young, S. PEC0749
Young Karris, M. OAF0304, PEF1849
Youngleson, M. PEE1718
Yu, A. PEC0451, PEC0454
Yu, F. **PEC0670**

Yu, H.H. **PEF1824**
Yu, L. PEE1371, LBPEE53
Yu, M. PEC0656, PEC0517, PEC0595
Yu, W. PEB0188
Yuan, Q. OAB0603
Yuan, R.Y. PEA0034
Yuan, T. PEC0656, PED1137
Yue, F. PEA0012
Yufenyu, E. PEC0475
Yufenyuy, E. PEE1709
Yuhas, K. PDC0408
Yun, J. PEC0457
Yu Naing, A. **PEC0699**, PEE1398
Yunihastuti, E. PEB0191, PEC0397
Yusoff, H. PEC0380
Yusuf, R.U. PED0840

Z

Zablotska, I. PEC0627
Zablotska-Manos, I. PEC0636
Zacharias, K. OAF0203, PEF1742, PEF1846
Zachary, K.C. LBPEB13
Zahiruddin, W.M. **PEC0380**
Zahralban-Steele, M. PEA0002
Zaidi, S. PED1102
Zakharchenko, D. PED0994
Zakumumpa, H. PEE1414
Zalazar, V. PEB0344, PED1092, **PED1095**, PED1100, PED1106, PED1107, PED1139
Zalwango, S.K. PEB0170
Zamani, O. PED0805
Zambezi, P. PED0969
Zamboni, R. PEC0565
Zambrano Numa, T. PED0907
Zamikhovska, Z. **PEF1876**
Zana, D. PEE1588
Zang, X. PEC0526, PEC0529, PEE1368, PEE1376
Zangari, P. PEA0024, PEB0315
Zani, B. **PEE1487**
Zaniewski, E. PEE1564
Zanni, M. PEB0181
Zapiola, I. PEB0276, PEA0014
Zar, H. PDA0107, PDB0205, PEB0323
Zar, H.J. PEB0331, PED0821
Zarekar, K. PED0813
Zarini, G. PEB0350
Zash, R. **OAXLB0102**
Zaviriukha, I. PED0786
Zaviryukha, I. PED0859, **LBPED37**
Zayasaikhan, S. PEF1864
Zazzi, M. PEB0250
Zea, M.C. PED0973
Zech, J. OAD0104, PEE1379, PEE1392, **PEE1625**
Zech, J.M. PDD0204
Zeggagh, J. **PDB0302**
Zeh Akiy, Z. PEE1643
Zeh Meka, A. PEA0076
Zekiros, O. **PEE1476**
Zelt, S. **PEE1377**
Zen, C. **PED0799**
Zeng, C. **PED0855**
Zeng, G. PEC0539
Zeng, Y. **PEB0101**
Zepeda, J. **PDD0105**, PEF1779
Zerbato, J. PEA0060
Zerbe, A. PED0817, PED0822, PED0826, PED0852
Zewotir, T. PEC0504
Zeziulin, O. PED0786, PED0859, LBPED37
Zghidi-Abouzid, O. OAA0402, PEA0026
Zhabokritsky, A. PEB0231
Zhai, X. PEC0582
Zhakupova, G. PED0968, PED0978, PED0984
Zhang, A. PDC0406, PEC0389, PEE1604
Zhang, C. PEF1788, PEC0573
Zhang, D. PEC0670
Zhang, F. PEB0191, PEC0397, PEC0589
Zhang, H. PED1110
Zhang, J. PEC0516, PEC0452, PED1131
Zhang, K. OAC0805, PEB0277
Zhang, L. OAB0205
Zhang, P. OAALB0101
Zhang, S. PEE1473
Zhang, T. OAB0204
Zhang, W. PDA0106, PEA0046, PEA0011
Zhang, X. **PED0837**, **OAC0706**
Zhang, Y. **PEE1510**, LBPEA04
Zhang Kudon, H. PEC0400, PEC0620
Zhao, G. PDD0402
Zhao, J. PED0989, PEE1524, PDD0402
Zhao, Q. PEE1689
Zhao, X. PEC0385
Zhou, F. PEE1353
Zhou, H. PEC0619
Zhou, L. PEE1353
Zhou, S. PEA0018, PDE0304, PED1025
Zhou, Y. PEC0584, PEE1369, PEB0155, PED0855
Zhou, Z. PED0837
Zhu, H. OAA0405
Zhu, T. PEB0230
Zhu, W. PEB0356, LBPEC22
Zianta, V. PEC0480
Zicari, S. PEA0024
Zidana-Ndovi, S. PEE1515, PEE1614, PEE1618
Zide-Ndzungu, S. PEE1497
Zienkiewicz, A. PEC0433
Zifodya, J. PEB0179
Zimba, S. PDD0403
Zimet, G. PED1289
Zimmerman, E. PDD0504
Zimmermann, H. **PED0950**
Zimunya, P. PEE1709
Zink, A. PEB0242
Zinnah, B. PEE1458
Ziraba, A. PEE1605, PEE1608, PEE1611
Zishiri, V. PEE1717
Zlotorzynska, M. **PED1086**
Zobrist, S. PED1290
Zokufa, N. PEE1497, OAELB0102
Zolla-Pazner, S. OAA0304
Zolopa, A. PED0849
Zondlo, J. **PEE1412**
Zorzi, A. PEB0168
Zorzi, N. PEF1886
Zou, H. **PEB0155**, **PEC0656**, **PED1137**
Zou, J. PEA0012
Zou, X. PEE1353
Zoung-Kanyi Bissek, A.-C. PEE1643
Zucchi, E. **PED1122**, **PEF1847**
Zucchi, E.M. PEC0643
Zucker, MD, J. PED1020
Zulu, A. PDE0307
Zulu, C. OAC0405
Zulu, I. PDE0302, PEE1478
Zulu, J. PEC0651, **PEC0654**
Zulu, J.M. PED1163, PEE1569
Zulu, T. PED0779, PEE1586
Zuma, T. OAC0104, PDE0306, PED1192, **PEE1666**
Zumbika, E. PEA0077
Zuniga, J. **PED0839**
Zunt, J. PEC0374
Zurashvili, T. PED1052, PEF1857
Zverkov, K. **PED0842**, PEF1784
Zwane, M. PEC0723
Zwangobani, N. PEE1541
Zyongwe, N. PDE0307

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